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NATIONAL CFC AND HALON PHASE-OUT PROJECT (P083593)

Vietnam Methyl Bromide Phase-out component

Pest Management Plan

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Ministry of agriculture and rural development

**Submitted for Compliance with World Bank Operational Policy on
Pest Management (OP 4.09, BP 4.01 Annex C)**

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Pest management plan (PMP) for Methyl Bromide

Executive Summary

Methyl Bromide (MB) is a broad spectrum chemical used to control pests in the soil, commodities and structures. MB has been identified as an ozone depleting substance (ODS) controlled under Annex E of the Montreal Protocol. The protocol established a multilateral fund to provide technical and economic support for developing countries to phase-out these substances. To assist the Government of Vietnam to phase out methyl bromide consumption for non-Quarantine and Pre-Shipment applications in accordance with the schedule stipulated in the Montreal Protocol, the World Bank agreed to help the country develop a MB Phase – out plan at a total cost of US\$1,098,284. However, since MB has been highly effective in controlling a wide spectrum of pests, alternatives will have to be identified for the various uses of methyl bromide in Vietnam. Fortunately, there are a number of very effective alternatives that enable the government to achieve the stated objectives. The selected alternative pest control measures need to be effective, practically feasible, economically affordable and environmentally sound.

The project is preparing a Pest Management Plan (PMP) to deal with pest management issues for the various uses of methyl bromide (soil, commodities and structures). This will help the project meet the World Bank Operational Policy) objectives on Environmental Assessment (OP 4.01) and on Pest Management (OP 4.09 and BP 4.01 Annex C). This comprehensive PMP outlines the various elements and actions needed to be taken to adequately address pest management concerns during project implementation.

Methyl bromide use in Vietnam is classified in four major applications: (i) pre-harvest applications; (ii) post-harvest applications; (iii) structural fumigation; and (iii) Quarantine and Pre-Shipment applications. This PMP will not address methyl bromide use or its potential alternatives for QPS applications as this is still allowed under Montreal Protocol.

Methyl bromide has recently been introduced for soil fumigation in Vietnam. Such applications are still limited to few highland provinces producing crops dedicated to the export market (i.e. Lam Dong, Dong Nai, Ho Chi Minh City). The major crops relying on soil fumigation include strawberries, peppers, flowers, tobacco, vegetables and other high value crops, mainly for export to Australia, Japan and Taiwan.

Demonstrations and training on IPM approaches for pre- and post-harvest applications will be conducted, focusing on farmers and licensed fumigators. Farmers will be trained in pest and storage management using the Farmer Field School (FFS) and Training of Trainers TOT) methods. A more targeted approach will be used for training the licensed fumigators as their interest will be on chemical control and more specifically the use of alternative fumigants. Field and storage demonstrations will focus mainly on Integrated Pest/Crop Management in pre-harvest applications and on storage pest management for farmers and export company staff.

The use of MB and all other fumigants in Vietnam are strictly controlled and regulated by the government. Their use is restricted to licensed fumigation companies. Relevant legal documents are regularly updated (see annex 3)

I. Introduction: Despite the fact that Methyl Bromide (MB) is an Ozone Depleting substance (ODS), controlled under Annex E of the Montreal Protocol, it has been contributing to the protection against many pests including insects, weeds, bacteria, nematodes, etc. To assist the Government of Vietnam to completely phase out its consumption for non-QPS application in accordance with the phase – out schedule stipulated in the Montreal Protocol, the World Bank agreed to support the country US\$1,098,284 from Multilateral Fund to set up a MB Phase – out plan and to look for safer alternatives. However, since MB is highly effective to control pests, proposed alternatives need to be very effective to enable the achievement of phase-out objectives. To address those concerns the Government of Vietnam will need to find alternative pest control measures that are effective, practically feasible, economically affordable and environmentally sound. These alternative pest control measures will need to be in compliance with the World Bank Operational Policies on Environmental Assessment (OP 4.01) and on Pest Management (OP 4.09 and BP 4.01 Annex C).

To meet the safeguard policy objectives, the project is preparing a Pest Management Plan (PMP) as required under BP 4.01 annex C and OP 4.09.. This comprehensive PMP outlines the various elements and actions needed to be taken to adequately address those above concerns during the project implementation.

II. Content of PMP: In order to successfully develop a plan for an effective and environmentally sound application of alternative pest management practices during project implementation, the PMP will include 5 major sections: (1). pest management approaches; (2). pesticide use and management; (3). policy, regulatory framework and institutional capacity; and (4). monitoring and evaluation and (5) cost estimates

II.1. Pest management approaches

II.1.1. Current and anticipated problems, relevant to the use of MB

Methyl bromide use in Vietnam could be classified in four major applications: (i) pre-harvest applications; (ii) post-harvest applications; (iii) structural fumigation; and (iii) QPS applications. In this PMP, we do not intend to provide detailed description of methyl bromide use and its alternative for QPS applications as this is still allowed by the Montreal Protocol.

i. Problems related to Pre-Harvest applications of MB.

Methyl bromide has recently been introduced in Vietnam for soil fumigation. Applications of methyl bromide for soil fumigation are still concentrating in a few provinces in the highland areas such as Lam Dong, Dong Nai, Ho Chi Minh City as these provinces are the production centers of agricultural products for the export market. Major crops cultivated in these areas include strawberries, peppers, flowers, tobacco, vegetables and other high value crops for the export market, mainly Australia and Japan.

Foreseeing the potential of the international markets, the growers approach is to invest in new and high technologies to improve production and quality of the products in order to meet the international quality standards. The intensive horticulture and agriculture in Dalat and other areas are facing many obstacles from soil borne insects, diseases, nematodes and weeds due to a reliance on monoculture with inadequate crop rotations. Conventionally, crop rotation between dry crops and paddy rice is considered as the most effective practice in reducing soil borne pests and diseases. However this method seems less practical in the intensive monoculture and recent socioeconomic development.

In addition, the intensive monoculture of few crops over large areas has favored the propagation of certain soil borne pest species. The rapid turnover of arable land has no free time for proper field sanitation. Hence, soil borne pests can accumulate in the soil for many seasons. This practice has provided favorable conditions for the spread of soil borne pathogens, insect pests and most of all nematodes. In addition, the same crops lead to the use of the same pesticides over an extended period of time, resulting in the development of resistance to major classes of chemical pesticides. Consequently, crop losses due to agricultural pest and diseases have increased proportionally to the number of field seasons using the same practice.

Soil borne pests are very varied and range from weeds, insect pests, fungi, bacteria to nematodes. Soil fumigation is perceived as a very attractive practice as it can target this wide spectrum of pests. Soil borne diseases and insect pests can be found in any arable area, from the wet fields to dry fields. However the more diversity in their composition and more severe damage can be expected in the dry fields. Host plants may range widely from short season vegetable such as leaf vegetables, potatoes, legumes to flowers, from annual industrial crops such as soybean, peanut and tobacco to perennial industrial crops such as tea, coffee and pepper, from fruit trees such as strawberry, citrus, rambutan and durian to forestry plants.

Soil borne insects: Many insect pests spend part or their full life cycle in the soil and feed on plant roots and stems, for instance larvae of black cutworm *Agrotis* sp., flea beetle *Phyllotreta* sp., some cricket species in Gryllidae family and others. Other insects such as termite and ant may cause soil degradation and loss of the large cultivated areas.

Soil borne diseases: Soil serves as medium as well as storage for many plant pathogens including fungi and bacteria. Soil borne fungi can cause serious crop losses. According to uncompleted record from scientists, the most important groups of soil borne fungi include *Fusarium* sp., *Pythium* sp., *Phytophthora* sp., *Rhizoctonia* sp., *Cylindrocladium* sp., *Sclerotium* sp., *Rhizoctonia*, sp., *Sclerotinia* sp. and *Aspergillus* sp. Some of them stay in the soil and cause root and stem rot and subsequently wilting or rotting of the crops. Early infestation in the seedling stage or beginning of transplanting may cause entire loss of the crops. Some fungi may also affect the upper part of the crops e.g. *Phytophthora* sp. causing up to 30-40% crop yield loss.

Nowadays, the most common diseases found in the vegetable cultivated areas in Da Lat were bacterial soft rot of cabbage caused by *Erwinia* sp., root rot of crucifer vegetable, tomatoes, cucumbers and others caused by *Pythium* sp., *Rhizotonia* sp. The club-root diseases of cabbage caused by fungus *Plasmiodiophora brassicae* has become a severe problem in all cabbage areas in Da Lat. About 60% of cabbage in infected field has been destroyed.

Soil is also the storage for many plant bacteria, of which the most important is *Ralstonia solanacearum*. This bacterium can infect plants at any stage and cause heavy loss. Once infected, plants can not be rescued since at present no effective bactericide is available. Bacterium can spread very fast all over the field from the first infestation site with water flow.

Soil born nematodes: Nematode is the most important pest group among soil borne pests. The most common nematode family that attack varied crops in Vietnam is root-knot nematode *Meloidogyne* sp. They feed, parasite and multiply inside plant roots affecting nutrition uptake. Infected plants tend to appear stunted with discolored leaves, giving very low yields. Heavy infestation may destroy all the root system and cause the death of the plant. The tiny size and hidden feeding behavior of nematode in general and root knot nematode in particular make them among the most difficult agricultural pests to diagnose and control. Root knot nematode

attacks a wide range of host plants from coffee, pepper, tobacco, legumes and vegetables to flowers and others. For instance, after 2-3 years intensive monoculture of carrot, all the fields have been severely infested by nematode with more than 80% crop yield loss. Thousands hectares of coffee plantations have been destroyed from 2003 to 2005 caused by *Meloidogyne* sp. and *Pratylenchus* sp. in Gia Lai, Dak Lak and Lam Dong provinces. The injury caused by nematode on the root system opens the path for infestation of other micro-organisms (i.e. viruses, bacteria or fungi).

Similar to the intensive monoculture in Da Lat and other districts in Lam Dong province, intensive vegetable production in Southern and Northern provinces surrounding Ho Chi Minh and Hanoi city have also been facing serious soilborne pathogen, insect and nematode infestations. After a few years of specialized vegetable production, the effects of nematodes and soil borne diseases caused by *Rhizoctonia* sp., *Pythium* sp. and *Sclerotium* sp. have increased significantly. Other insects and animal pests such as stripped flea beetles *Phyllotreta* sp., snails and ants have been found causing substantially damage to plants.

ii. Problems related to Post-Harvest applications of MB

Based on historical data, the biggest MB users in Vietnam are the fumigation companies providing services for rice, maize, cassava and coffee industries for human and animal food. These commodities may be stored in bulk, in silos of various sizes, or in bags. The storage time is generally short, ranging from 2-5 months. Up to date, there has been 110 insect species detected in stores. Among them, 25 species are beneficial, 43 species are insect pests. But *Acarus* sp.; *Ahasvertus advena*; *Alphitobius diaperinus*; *Alphitobius piceus*; *Callosobruchus maculatus*; *Corcyra cephalonica*; *Criptoletes* sp.; *Dermestes ater*; *Dermestes maculatus*; *Lasioderma serricorne*; *Latheticus oryzae*; *Liposcelis entomophilus*; *Oryzaephilus surinamensis*; *Rhizopertha dominica*; *Sitophilus oryzae*; *Sitophilus zeamays*; *Teneboides mauritanicus*; *Tribolium castaneum* are most particularly predominant in grain storage in Vietnam.

Although the damage caused by storage insects is considerable, there has been a little systematic surveillance or monitoring of losses in each commodity. It is estimated that about 20% loss is due to insect damage during storage.

Table 1. List of stored insects permanently causing damage related to MB use at post harvest

ID	Species	ID	Species	ID	Species
1	<i>Acanthoscelides obtectus</i>	16	<i>Corcyra cephalonica</i>	30	<i>Palorus faveicolis</i>
2	<i>Acarus</i> sp	17	<i>Criptoletes</i> sp.	31	<i>Pharaxonotha kischii</i>
3	<i>Ahasvertus advena</i>	18	<i>Dermestes ater</i>	32	<i>Matianus desmestoides</i>
4	<i>Alphitobius diaperinus</i>	19	<i>Dermestes maculatus</i>	33	<i>Rhizopertha dominica</i>
5	<i>Alphitobius piceus</i>	20	<i>Dinoderus minutus</i>	34	<i>Sinoxylon anale</i>
6	<i>Anthicus floralis</i>	21	<i>Ephestia cautella</i>	35	<i>Sitophilus oryzae</i>
7	<i>Anthrenus flavipes</i>	22	<i>Gibbium psyloides</i>	36	<i>Sitophilus zeamays</i>
8	<i>Araecerus fasciculatus</i>	23	<i>Heterobostrychus</i> sp.	37	<i>Sitotroga cerealella</i>
9	<i>Attagenus fasciatus</i>	24	<i>Lasioderma serricorne</i>	38	<i>Teneboides mauritanicus</i>

10	<i>Attagenus piceus</i>	25	<i>Latheticus oryzae</i>	39	<i>Thanerocleras buquet</i>
11	<i>Callosobruchus chinensis</i>	26	<i>Liposcelis entomophilus</i>	40	<i>Tribolium castaneum</i>
12	<i>Callosobruchus maculatus</i>	27	<i>Lophocateres pusillus</i>	41	<i>Typhea pallidula</i>
13	<i>Carcinops pamilo</i>	28	<i>Mesomorphus villiger</i>	42	<i>Typhea stercorea</i>
14	<i>Carpophilus hemipterus</i>	29	<i>Oryzaeophilus surinamensis</i>	43	<i>Xylocoris flavipes</i>
15	<i>Collobicus margnatus</i>				

iii. Problems related to structural fumigation with MB.

Beside storage insects, termite is the major target requiring treatment in construction. It was reported that there are several termite species causing damage to structures, but *Coptotermes formosanus* Shairakai and *Odontotermes* sp. are considered as the most important. Their damage is more likely related to infestation and termite source in the soil and organic matters under the structure. However, it is certain that termite treatment is necessary for any new construction as well as for dam and dyke protection.

iv. Potential change in pest problems that can be anticipated as a result of the project's activities: MB is only one method of pest control and experience has proved that no single method could achieve high and complete control of pests. In some cases, MB and other fumigants must be integrated with management techniques (i.e. physical, cultural, biological, etc.). For example, after soil fumigation with MB, farmers in Dalat still need to have further foliage spraying with fungicides to control leaf diseases during crop growth. The project is opting for an IPM approach to avoid relying on a single control method that might lead to outbreaks of certain pests as result of the project's activities. Development of resistance as a result of selective pressure using narrow spectrum chemical insecticides may lead to an outbreak of primary pests. Or a control method might give excellent control of a target pest but lead to an outbreak in secondary pests.

II.1.2. Current and proposed pest management practices:

i. For soil born pest control at pre-harvest:

a. Current practices: Although soilborne pests can cause big problems to agricultural production, there has been very few effective control methods being developed in Vietnam. The widespread of IPM training programmes in food crops and vegetables in 1990s have successfully introduced to farmers the concept of integrated crop, pest and disease management and production of safe and healthy products. However, soil borne diseases and insect pests and nematodes have been well addressed. The success of IPM program in crop production of this period has focused more on the control of aerial pathogens and pests but not the soil borne pest agents.

The recent increasing awareness of soil borne pests and the requirement of sustainable agricultural production have called for the use of IPM for the control of these pest groups. Growers have recognized that no single method can bring high effectiveness to control soil borne pests. The IPM approach includes proper prevention (cultural practices, resistant varieties..etc.) and intervention practices (chemical and biological treatments). Currently, growers in Lamdong and other provinces can apply a series of non-chemical control measures to prevent infestation and reduce damage of soil borne pests. That may include: (1). Soil tillage and disinfection before planting by deep plowing of the soil and disinfection by broadcasting powdered lime before cropping; (2). Plowing the soil after harvesting and maintaining as fallow for 1 to 2 crop seasons to break the cycle of pests and soil pathogens; (3). Soil mulch with plastic sheet by covering soil beds with plastic sheets combined with

control of irrigation has some effect (solarization treatment) in control of weeds and soil borne diseases and nematodes; (4). Rotating upland crops, with paddy rice, to suppress the incidence of soil borne diseases, insect pests and nematodes; (5). Substitution of infested soil surface by a new soil layer (6). Biological control with emphasis on biopesticides use.

Though physical and IPM methods have been recommended for successful control of soil borne pests, chemical pesticides still remain indispensable for their ease of application, convenience and effectiveness. At the areas that are historically infected with nematodes or are at a higher risk of infestation, all growers have to treat soil with some nematicide products such as Ethoprophos (Mocap 10G), Cytokinin (Sincosin), Carbofuran (Furadan), Carbosulfan (Marshal 3G; 5G); and Dazomet (Basamid) after utilization of different above preventive methods like soil plowing and disinfection, mulching with plastic sheet, plowing soil loose, top soil change/substitution or crop rotation.

As opposed to the effects of nematicides, the disinfection of land with chemical fungicides before planting has low efficacy due to the number and complex combination of pathogens. More over, fungal spores persist in the soil for long time. Their time for incubation and germination are different. Thus the treatment of soil surface with fungicides has to be timely by broad spectrum action fungicides. Some fungicides have been recommended for soil treatment including Metalaxyl (Viroxyl 58 BTN), Iprodion (Cantox D 50WP) , Pencycuron (Moren 25WP) and Copper sulfate. Most of chemical fungicides are being used for leaf spraying from the nursery to fully grown crops. The advantage of chemical control method is the low cost, high efficacy, convenience and ease of application in large scale. However, some chemicals can be costly, and potentially harmful to human health and the environment.

Cost of current practices for control of soil borne pests: The cost of current practices is summarized in table 2. In general, the cost varied from 16 to 1,500USD/ ha depending on the technique and level of pest infection. The cheapest control is chemical nematicides and fungicides and the most expensive is change/substitution of top soil surface. In all cases, the cost for pest control is far cheaper compared to MB use.

Environmental impacts: Except the negative impacts of chemicals directly to user's health and indirectly to consumers through pesticides residue from products, there has been no reports or evidence of environmental impacts of current practices to control soil borne pests in Vietnam. The potential advantages and environmental impacts of each technique are also summarized in table 2.

b. Proposed practices: While there were a few individual alternatives that have already been introduced in Vietnam, none was, however, found providing as effective against a wide range of soilborne pests as MB. It is evident that to eliminate MB in soil fumigation applications a method using a combination of various techniques (i.e., IPM) is preferable. Alternatives have to be developed and selected to ensure their high efficacies but reasonable price, easy to apply and safe to the implementers and environment. Based on recent research findings in Vietnam and successful alternatives selected from other countries, 5 major techniques including: (1). Steaming; (2). Soil solarization; (3). Bio-fumigation ; (4). Chemical fungicide (5 Botanical nematicide (Saponil) will be selected for single use or integration application. These techniques may be integrated into 3 alternative options: (1).soil solarization with plastic much + fungicides + Nematicides; (2). Bio-fumigation + fungicides + Nematicides; and (3). soiless culture for nursery production.

Cost of proposed practices for control of soil borne pests: The cost of alternative techniques range from 80 to 3,670USD/ ha depending on the scope of application, level of pest infection

and requirement of control level (see more detail in table 3). Those costs are far cheaper compared to MB use (5,000-7,000USD/ ha).

Environmental impacts: Except the negative impacts of chemicals as mentioned above, the proposed practices will bring no negative impact to the environment. The new approach of using biofumigation with organic matter proposed in the project is a good practice for sustainable environment protection and soil fertility. Possible advantages and environmental impacts of each technique are also summarized in table 3.

In conclusion, though MB can bring high efficacy to control soil borne pests, the replacement with current and new techniques would ensure the protection of agricultural production from pest damage with economic and environmental sustainability due to lower cost than MB and environmental impacts.

ii. Pest control in storage:

a. Current practices: In order to minimize losses caused by storage insects, it is necessary to have integrated management. However, unlike with field conditions, it is not easy to develop efficient IPM practices for storage pests. Up to date, there are only a few conventional non-chemical control methods being applied to minimize the density and damage of storage insects including: (1). storage hygiene before being filled with commodities by physical cleaning and chemical treatment; (2). regular surveillance for in - time treatment when required; (3). physical control: cold treatment, heat disinfection treatment, adjusting CO₂ concentration; (4). manual control such as screening; and (5) use of botanical insecticides liked Guchuang Jing (GCJ).

Due to the improper design of most storage facilities, the efficacy of non-chemical control methods is rather low. Chemical control is considered the most effective and hence more popular with farmers and storage managers. Up to date, there are three groups of chemicals used for insect control in stores in Vietnam. They are: (1). chemicals for spraying such as: DDVP 50%, Sumithion 50EC, Actellic 50EC; (2). Fumigants including MB and Phosphine.

Cost of proposed practices for store treatment: The cost for current store treatment practices depends on technologies. It may range from 0.2-0.82 USD/ m³ as summarized in table 2.

Environmental impacts: The most important impacts of current practices are ozone depletion caused by MB. For other methods, no evident of impact except the trouble when collecting waste after fumigated with Phosphine since it is easy to make flame and explosion. More over, Phosphine may corrode copper and electronic equipments and causing pest resistance (table 2).

DDVP (Dichlorvos) is toxic to fish and aquatic arthropods. It is highly toxic to birds and to honeybees. DDVP is included in the list substances whose discharge is dangerous to water. It is also in WHO Class Ib (highly toxic, not allowed under Bank's Procurement and Safeguards Policies)

b. Proposed practices: For alternative of MB use, a series of techniques including current and new ones have been determined. They include: Aluminum phosphide fumigation with recirculation system; Magnesium phosphide fumigation with recirculation system, Inbound - Aluminum phosphide with automatic pellet dispensers; Carbon dioxide fumigation; and integrated pest management.

The cost of those alternative techniques varied from 0.2- 10USD/ m³. Although Magnesium phosphide fumigation with recirculation system, Inbound - Aluminum phosphide with automatic pellet dispensers are more advanced than Aluminum phosphide, their cost is much more higher for large scale application. The most costly sound methods are Aluminum phosphide and Carbon dioxide fumigation.

Environment impacts: The impacts of proposed practices are referred in table 3. Except impacts of Phosphine as mentioned above, there are no impacts caused by other proposed practices to environment.

iii. Pest control for structure:

a. Current practices:

Chemical control and fumigation are more popular and effective methods with the use of MB as fumigant and some of systematic insecticide such as Fipronil and Chlopyrifos Ethyl for construction treatment and DDVP, Sumithion and Athelic for store hygiene.

Cost of current practices: The cost of current practices is highly dependent on the treatment materials and sites as summarized in table 2.

Environmental impacts: Both MB and chemicals used for construction treatment may cause negative impact to environment. The impact of MB has been referred to before. For other treatment with pesticides, beside the consequence of pest resistance, pesticides may all cause pollution and contamination of air, surface and underground water in case of leaching to air and soil.

b. Proposed practices: There will have no change of proposed practices to control store pests. The best control methods presently used for termites rely on 2 types of chemicals: (i) Insect Growth Regulators usually dispensed in Bait Systems and (ii) Liquid Termiticides, either repellents or Toxicants (See comparative table in Annex)

Table 2: Summary of current pest management practices

Measure	Cost (USD/ ha)	Advantages and disadvantages	Negative impacts to environment
At pre-harvest			
Powderred lime treatment	75	Good disinfection, wide spectrum, moderate soil pH and low cost. But low effective to control nematodes and diseases spores.	Non
Plough the soil loose	100	Highly control of nematodes and diseases. But not feasible in narrow area liked Dalat, Hochiminh and Hanoi City	Non
Soil mulch with plastic sheet	500	Effective to control nematodes, especially when accompanied by powdered lime and chemical nematicides application. But not clear advantages to control soil born disease	Non
		Highly control of nematodees and	Non

Crop rotation	-	diseases, but difficult to apply in high intensive monoculture system due to economical benefit.	
Change of surface soil	1,500	High control of nematodees and soil borne diseases and improve soil physical and fertility. But high cost and unsustainable when land sources exhausted.	Non
Biopesticides	110-150	Wide spectrum to control soil born diseases and long term effect. But lower efficacy and higher cost than chemical pesticides. No bio-nematicides available up to date.	Non
Soil treatment with Chemicals Nematicides/ fungicides	16 -25	Convenience, effectiveness and cheap. Causing pest resistance to pesticides after long time use and lack of technical guidelines.	- Direct and indirect effect to human health - Causing chemical contamination in soil, air and under ground water
Soil treatment with Copper Sulphate	120	Wide spectrum to prevent both nematode and fungi	Leaving residue of heavy metal in the soil, causing contamination of products - Causing chemical pollution of soil, air and under ground water
Regular spray with fungicides	130 – 320	Convenience and economic sound. But no wide spectrum fungicides leading to more spray, more fungicides used and causing pest resistance to pesticides after long time use.	- Direct and indirect effect to human health - Causing chemical pollution of soil, air and under ground water
Soil fumigation with MBR	5,000 – 7,000	High and long-lasting control of nematodees, weeds and some diseases. BUT very high cost and not clear effective to some diseases	Depleting Ozone
store treatment			
Cold treatment	Higher cost than MB use	Applied in cases of preservation of fresh perishable products which can tolerant to cold. High control insects and some diseases that are low tolerant to cold condition, but low efficacy to control disease spores.	Non
Heat treatment	Higher cost than MB use	Only applied to exported wood packaging materials due to high cost	Non

Fumigation with Phosphine	0.2-0.6 USD/ m ³ depending on source of Phosphine	High efficacy to control pests for durable commodities but can not applied in fresh product store where humidity is >14%. Causing resistance of insects	No evident, but may cause trouble when collecting waste (easy to make flame and explosion) and electric devices.
Fumigation with MB	0.4-0.8 USD/ m ³	High efficacy to control pests for durable commodities	Depleting Ozone
Carbon dioxide fumigation	0.4-0.6 USD/ m ³	High efficacy to control pests during living period for durable commodities	Non
Using contract botanical pesticide (GCJ)	1.8 USD/ ton product	High efficacy to control insects, non-resistance of pests. Can be widely applied for treatment of stack commodities	Non
Structure treatment			
Store hygiene with systematic chemical pesticides (Athelic etc.)	0.06 USD/ m ³	High efficacy to control insects, low cost. Can be widely applied for any store before filling product	Air pollution in case of leaching
Store hygiene with Phosphine	0.2-0.6 USD/ m ³ depending on source of Phosphine	High efficacy to control pests for durable commodities but can not applied in fresh product store where humidity is >14%	No evident, but may cause trouble when collecting waste (easy to make flame and explosion) and electric devices.
Store hygiene with MB	0.4-0.8 USD/ m ³	High efficacy to control pests	Depleting Ozone
Treatment of construction with systematic chemical pesticides (Chlofirifos ethyl, Fipronil)	1.8-4.3USD/ m ² surface	High efficacy and low cost to control termites on the surface or under ground of structure, but need to re-treatment in certain cycle	May cause the pollution of under ground water in case of leaching
Fumigation construction with MB	2-3USD/ m ² surface	High efficacy and low cost to control termites on the surface or under ground of structure	Depleting Ozone

Table 3: Summary of proposed practices

Measure	Cost (USD/ ha)	Advantages and disadvantages	Negative impacts to environment
At pre-harvest			
Steaming soil with hot water vapor	86,160 *	Good disinfection, wide spectrum. Can control both diseases and nematodes but require high cost for steaming system installation and fuel.	Non
SS + Dazomet + Metalaxyl (Local usage)	940*	Good disinfection, wide spectrum and feasibility to apply in large scale.	As above
Bio- fumigation with	2,140*	Good disinfection, wide spectrum and	As above

chicken manure (BF) + new chemical fungicides/nematicides		feasibility to apply in large scale.	
BF + Dazomet + Metalaxyl (Local usage)	2,040	Good disinfection, wide spectrum and feasibility to apply in large scale.	As above
Dazomet + Metalaxyl (Local usage)	340		As above
Store treatment			
Aluminum phosphide fumigation with recirculation system	0.2-0.6 USD/ m ³ depending on source of Phosphine	Wide spectrum and good control of insect pests in static storage condition. But need to be carefully monitored to ensure adequate exposure of grains to fumigants due to not air-tight of corrugated bins. Can not applied in fresh product store where humidity is > 14%. May cause pest resistance to pesticides after long time use.	No evident, but may cause trouble when collecting waste (easy to make flame and explosion) and corrode copper and electronic equipments
Magnesium phosphide fumigation with recirculation system	0.4- 0.82 USD/ m ³	As above	As above
Inbound - Aluminum phosphide with automatic pellet dispensers	0.4- 0.8 USD/ m ³	As above	As above
Carbon dioxide fumigation	0.4-0.6 USD/ m ³	High efficacy to control pests during living period for durable commodities	Non
Integrated pest management (IPM) package including screens, insect trapping, rodent and bird control, vacuuming, insect resistance monitoring, residual insecticide application and inspection.	Higher cost compared to MB	Can be used alternatively with fumigation method in case of necessary/ or losing of efficacy	Non
Structure treatment			
Store hygiene with systematic chemical pesticides (Athelic)	0.06 USD/ m ²	High efficacy to control insects, low cost. Can be widely applied for any store before filling product	Air pollution in case of leaching
Store hygiene with cylinderized phosphine fumigation and heat combination	0.5-0.7 USD/m ³	High efficacy to control insects, low cost. Can be widely applied for any store before filling product but need to control resistance.	No evident, but may cause trouble when collecting waste (easy to make flame and explosion) and corrode copper and electronic

			equipments
Bait Systems	High	Environmentally friendly, extremely low toxicity to humans and pets; Structure not directly protected. With no means of attracting termites into the monitors, actual baiting may take a long time to begin. This leaves the structure at risk	Low
Liquid Termiticides	High	Provides immediate protection for the structure. Relatively low cost and long lasting; Termites are not killed, just turned away from the chemical. They often find tiny gaps in the treatment and tunnel through them to the structure	Low

Note:

1. The price cost of MB for soil fumigation is 5,000-7,000 USD/ ha (not included the foliage spraying cost to control diseases).
2. *: including the cost of foliage spraying to control disease after applying soil treatment

Among those pest control measures, some are under testing and hopefully can be used as alternatives for MB:

(1). Inbound - Aluminum phosphide with automatic pellet dispenser: through an FAO funded project (1979 – 1984, 1985 – 1990), two enterprises in Vietnam has already tested and have been equipped with dispenser equipment. The recommended alternative to MB for fumigation of concrete silos is also aluminum phosphide. However, the suggested method for distributing phosphine in this type of fumigations are automatic aluminum phosphide dispensers. These devices dispense aluminum phosphide directly into the grain stream, allowing for even distribution of the aluminum phosphide formulation throughout the concrete silos. Presently, dispensers are used only in a few facilities in Vietnam for fumigation of inbound grains like wheat, maize and rice. Concrete silos are roughly 30 meters tall, hold approximately 2,000 tones of grain and can be completely filled in 6-10 hours. Automatic pellet dispensers are especially designed for this type fumigation. The phosphine pellets or tablets that are dropped in the grain flow turn in to hydrogen phosphide within 2 to 6 hours under the climate conditions in Vietnam. If the grain temperatures are higher than 30° C, the pellets will dissipate even faster. By using this efficient method of fumigating inbound ingredients, the need for MB fumigations will be eliminated later in the storage process. Pellet dispensers are portable and can be moved from one bin to another. Machines typically weigh approximately 30 kg, with a hopper capacity hopper of 2 kg of aluminum phosphide pellets or tablets. This capacity is sufficient to fumigate (at least) one concrete silo. Experience is available.

(2). Carbon dioxide fumigation: Carbon dioxide (CO₂) is also under testing for using to disinfest stacks of processed grain in Vietnam. This process takes 7 to 21 days on average, but it is difficult to achieve high mortality under the best conditions. CO₂ is potentially more dangerous to use and requires specialized equipment for detection and monitoring. Special nylon sheeting is required to hold the inert gas during the long fumigation periods. Carbon dioxide a level of 380 ppm is listed as an approved organic technique for fumigating bagged commodities. Carbon dioxide has a specific gravity of 44, which means it is light and can penetrate readily into a mass of commodity like bagged grain. It is highly toxic at

concentrations of 40-60% (400,000 - 600,000 ppm). CO₂ dehydrates insects and causes death by desiccation

iv. National service aimed at providing fumigation management advices/ service: Fumigation takes an important role especially in store and structure treatment. To undertake this action, fumigation companies must register with PPD for their service. At present, there are 42 companies granted fumigation practice certificates in which 14 companies considered fumigation companies for import and export commodities. All of these companies can supply any fumigation service except importation of MB. Up to date, there are 6 companies are regular importers including Vietnam Termite Control and Fumigation Joint-Stock Company, Vina Control, Fumigation and Inspection Company, Cafe Control, Vietnam Inspection and Fumigation Joint-Stock Company, Hanoi Commodity Inspection Joint-Stock Company.

In framework of Government management, PPD is assigned by Gov. to manage the fumigation service. To facilitate and manage the activity, various regulations and legal document have been promulgated such as the Ordinance No. 36/2001/PL-UBTVQH10 on Plant Protection and Quarantine, the Decree No. 58/2002/ND-CP on plant protection, regulation on plant quarantine, and regulation on pesticides control; the Plant Quarantine Regulation stipulates duties and authorities of plant quarantine offices/ bodies and article owners in monitoring, prevention and elimination of quarantine pests, of articles that may be infested with quarantine pests, of articles for import, export or for transportation out of the areas infested with quarantine pests, the regulation on Pesticide Management determines all legal requirements as per export and import of pesticides in and out of Vietnam, the decision No. 84/2002/QD-BNN published on 24th September 2002 empowers PPD with authorities to establish procedures for granting fumigation practice certificates. There are some updates on legal document: The Decree No 02/2007/ND-CP on Plant Quarantine issued by Government dated 5 Jan, 2007 will replace the Regulation on Plant Quarantine issued following the Decree No. 58/2002/ND-CP; (see Annex 2)

II.1. 3. Relevant IPM experience within project area, country, region: Under the assistance of FAO, the IPM program started developing in Vietnam in 1992 to address the problem of pest control and over use of chemical pesticides. Up to date, there have been 6 IPM programs being implemented under the funding of various international and national organizations including: (1). community IPM program from 1992 – 2002 with total budget of 4.6 mill USD funded by Norway through FAO as a counterpart; (2). DANIDA support to maintain the national IPM program from 2000-2007 with total budget of 8.5 mill. USD; (3). International program for development of IPM on vegetables in Vietnam and Southeast Asia from 1996-2000 with total budget of 644 thousand USD; (4). Community conservation and development of plant genome from 2002-2004 with the total budget of 360,000 USD from BUCAP; (5). introduction of GAP guideline on citrus through IPM program funded by AusAid through Western Sydney University with total budget of 290,000USD from 2007 to 2009; and (6). research on development of IPM techniques on vegetable for Mekong area funded by Norway from 2005-2007 with total funding of 76,000USD. The major achievements of IPM programs in Vietnam is raising awareness and enhancing capacity of both technicians and farmers of IPM and ICM, thus they can apply integrated methods for sustainable pest control and reducing up to 60 – 80% of insecticides for rice pest control compared to before IPM program deployment. Through different training methods such as training of trainers (TOT), farmer field school (FFS), community IPM, IPM club, farmer researches, etc., the national IPM program has trained 1,054,150 farmer house holds of rice, vegetable, legume, cotton and tea

production areas including some hot spots of project such as Lamdong, Dongnai and Tiengiang Province.

Although there has been no specific IPM techniques developed for soil borne pest control and post harvests treatment up to date, farmers all have trained in IPM concepts and principles through joining IPM program or mass media, so that they can easily adopt new IPM techniques. Whereas there has been no IPM program currently deploying in the country, lessons learned from previous programs can be utilized to conduct project activities. Therefore, even in the cases of no available funding for IPM program, some of technical support have been supplied to research institutions to focus on development of IPM package with emphasis in physical (trapping, using of pheromone, protein bait etc.) and biological control approaches (releasing of bio-agents, development and application of new bio/botanical pesticides etc.). The subject of soil borne pest control is also attracting the research of scientists from various Institutions/ Universities; for example the research programs for botanical nematicides development, development of bio-fungicides with mixture of different micro organisms and organic agents, development of multifunctional biological fertilizer against nematodes, application of antagonistic fungi to control soil borne diseases etc. conducted by National Institute of Plant Protection, Southern Institute for Agriculture Science, Can Tho University.

II.1.4. Recommendation for adjustment of proposed pest management approaches where necessary

It is believed that techniques selected as alternatives, have been successfully applied in Vietnam or other countries, the predictable risks of pest control is only in cases pests resistance to chemical fumigants/ Nematicides. To avoid this problem, the project has selected various methods or combination of methods such as rotation of chemical pesticides, combination of CO₂ for store fumigation and IPM package for storage pest control or the use of steam (heat treatment), biofungicides and botanical nematicides for nematode and fungal pathogen control.

The development of pest resistance to pesticide or an outbreak of secondary pests may require the project to adjust few activities to address these specific issues.

II.2. Pesticide use and management

II.2.1. Present, proposed and/ or envisage pesticide use: Although there have been various methods of pests control at pre and post harvest as well as structural treatment, pesticides are still considered as most effective methods and widely applied for pre-harvest control, store hygiene and termites control. The pesticides may include chemical, botanical and biological to control all target pests such as insect, disease, weeds, nematodes, termite, rat, bird etc.

- **For pre-harvest application:** Up to date, the use of pesticides to control soil borne nematodes and diseases is the easiest, most feasible, cheapest and effective method. The cost of chemical for soil treatment may be ranged from 55 – 95USD for whole crop season only depended on the crops and pesticide quality. Furthermore, there are numerous chemical pesticides currently commercialized in Vietnam and in other countries for selection, as shown in table 4. However, due to the narrow spectrum, and improper application methods, pesticides often lose efficacy causing the resistance of pests. In those cases, growers often increase the dosage and frequency of application. Consequently, higher cost is required but no efficacy improved. In order to overcome

those constraints, farmers now often apply pesticides in integrated system by using prevention /cultivation techniques such as: field sanitation; soil plowing and soil solarization with plastic much; crops rotation. Farmers also use lime or copper sulfate to disinfect the soil, rotate chemical pesticides or use biological pesticides. These integration methods help not only improving efficacy of pesticides leading to reduction of application but also overcoming resistance development of pests to pesticides.

- **For store treatment:** Chemical pesticide like Deltamethrin may be used to mix with botanical pesticides to reduce the dosage of application to delay the development of pest resistance to pesticide.
- **For structure treatment:** Pesticides are mainly used for storage structural treatment before storing commodities. In this case, it is often integrated with other methods such as physical cleaning, screening or ventilation.

Table 4 : Present and proposed pesticides used for alternative of MB

Activity name	Commercial name	Toxic group	Registration status in Vietnam	Present application	Proposed application	Target pests/ usage
Alachlor	Lasso 48 EC	III	x	x	x	Weeds
Carbosulfan	Marshal 5G, 200SC; Alfalsulfan 5 G; Afudan 3G; 20 SC; Vicarp 4 H; 95BHN	II	x	x	x	Nematodees, insects
Chlorpyrifos Ethyl	Lentrek 40 EC; Lenfos 50 EC; MAP Sedan 48EC; Arusa 480EC; Bonus 40 EC; Bullet 48 EC; Chlorban 20 EC; 48EC; Forfox 400EC; Lorsban 15 G; 30EC, 75 WG; Mapy 48 EC;Maxfos 50 EC; Mondeo 40 EC; Nycap 15G; Pyrinex 20 EC; Pyritox 200EC, 400EC, 480EC; Sanpyriphos 20 EC, 48 EC; Tricel 20 EC; Tiphosieu 400EC; Virofos 20 EC; Vitashield 18EC, 40 EC	II	x	x	x	Construction treatment for termites control, insects, nematodees
Chlorfenapyr	Mythic 240SC; Secure 10 EC, 10SC	II	x	x	x	Construction treatment for termites control, insects, nematodees
Cytokinin	Sincocin 0.56SL	IV	x	x	x	Nematodees
Botanical pesticide 25 % + Deltamethrin 0.024%	Gu chong jing 25 DP	IV				Store insects
Deltamethrin	Kordon 250 TC; K - Obiol [®] 25WP, 10SC, 10ULV; Appendelta 2.8 EC; Bitam 2.5 EC; BM Delta 2.8 EC; Daphacis 25 EC; Decis 2.5 EC, 25 tab, 250WDG; Dersi-s 2.5EC; Delta 2.5 EC; Deltaguard 2.5 EC; Delttox 2.5 EC; Discid 25EC; Meta 2.5 EC; Toxcis 2.5 EC, 2.5SC; Videci 2.5 ND; Wofacis 25 EC	II				Construction treatment for termites control, store insect, soil born insects, nematodees
Fenobucarb	Baktop 15 MC	II	x	x	x	Construction treatment for termites control, insects
Fipronil	Termidor 25 EC; Again 3 G, 50SC, 800WG; Branch 0.3 G; 5SC; 800 DF; Cyroma 5SC; Fidegent 50 SC; Finico 800 WG; Fipent 800WG; Fiprogen 0.3G; 5SC; 800WG; Fipshot 800WG; Forgen 800 WG; Jianil 5 SC; Regent 0.2 G; 0.3 G; 5 SC; 800WG; Rigell 3G; 50SC; 800WG; Sacla 5SC, 10EC, 800WG; Siêu nhaan 0.3G, 50SC, 800WG; Supergen 5SC; 800WG	II	x	x	x	Construction treatment for termites control, soil born insects, nematodees
Iprodion	Accord 50 WP; Bozo 50WP; Cantox - D 35WP, 50 WP; Doroval 50 WP; Hạt vàng 50 WP; 250SC; Protas 50 WP, 750 WDG; Prozalthai 500 SC; Rovannong 50 WP, 750 WG; Royal 350 SC, 350 WP; Rovral 50 WP, 500WG, 750WG; Tiral 500 WP; Viroval 50	IV	x	x	x	Fungi Nematodees, insects

	BTN					
Metalaxyl	Mancoxyl 72WP; Mexyl MZ 72WP; Ricide 72 WP; Ridomil MZ 72WP; Ridozeb 72 WP; Vilaxyl 35 BTN	III	x	x	x	Fungi Nematodees, insects
<i>Metarhizium anisopliae</i>	Mat 5.5 x 10 ⁸ ; Ometar 1.2 x 10 ⁹ ; Metament 90 DP; Metavina 10DP, 80SL, 90DP	IV	x	x	x	Construction treatment for termites control; insects, nematodees
Metolachlor	Dual 720 EC; Dana - Hope 720EC; Hasaron 720 EC; Dual Gold [®] 960 EC	III	x	x	x	Weeds
Pencycuron	Alfaron 25 WP; Baovil 25 WP; Forwaceren 25 WP; Helan 25WP; Luster 250 SC; Monceren 250 SC; Moren 25 WP; Vicuron 25 BTN, 250 SC;	IV	x	x	x	Fungi Nematodees, insects
Pirimiphos - Methyl	Actellic 2 D, 50EC	III	x	x	x	Store insects treatment
Saponin steroid + Rotenol	Ritenol 15H; 15Br	IV	x	-	x	Nematodees, insects

II.2.2. Type and quantity of pesticides envisaged to be financed by the project:

According to the reports from consultant's survey, the quantity of MB used for non-QPS in 2004 is 142 tons, of which 37 tons is used for soil fumigation equivalent with 53ha land being fumigated, and 105 tons for store and structure fumigation. For alternative MB use, Vietnam needs to prepare enough pesticides for soil borne pest control and fumigation, that may include:

1. *For control of soil borne insect pests:* it is necessary to prepare a quantity of 12.72 tons of pesticides for covering 53ha, requiring 68,900 - 169,600USD. This data is based on an average number of spraying up to 10 times (1 time for soil treatment and 9 times of foliage spraying) and 200,000 – 500,000VND (equal with 13 – 32 USD) is required for one spray. That includes:

- 53 ha x 1 soil treatment/ year x 15kg/ ha x 10 years = 7.95 tons of granule pesticides
- 53 ha x 9 foliage sprayings/ years x 1 kg/ ha x 10 years = 4.77 tons

Total cost accounted by 130 – 320 USD/ ha/ year x 53 ha x 10 years = 68,900 – 169,600USD.

2. *For storag and structure fumigation:* a total of 105 tons MB x 7 years = 735 tons equivalent with 1,400 - 2,450 mill. m³ store and structure, will be fumigated with Phosphines. With the dosage of 0.6-1.2g phosphine/ m³, the quantity of phosphine required for 7 years will be 840 - 2,940 tons. Among them, about 40% imported from China with average price is 6,000 USD/ tons, and 60% imported from other Europe countries with average price is 18,000USD/ tons, the total money required for Phosphine importation will be from 11.088 mill. - 38.808 mill. USD. This quantity of Phosphine will be imported and met by fumigation company through fumigation service.

It is a fact the above quantity of both pesticides and phosphine is not a big amount and can be easily met by international and domestic markets. Moreover, the project has selected various pesticides for rotationally use. Therefore, there will be no increase of dependence on pesticides during the project implementation.

II.2.3. Circumstance of pesticide use and the ability of end – users to handle products within acceptable risk margin: the end-user of pesticides may be divided into three groups:

- **Fumigators:** All the workers from 42 fumigators have been trained on fumigation techniques and safe use of pesticides. They have also been equipped with protective gear and are familiar with phosphine and other pesticides like Termidor, Actellic used in treatment of stores and structures.
- **Pesticides suppliers:** This group may have access to pesticides through commercial process. This activity now is under strict control of Plant protection inspector. Further more, all pesticide retailers have been well trained in handling, storing chemicals and in using protective gears handling pesticides. Also, the alternative pesticides considered are mainly of low to medium toxicity. This helps reduce the risks when dealing with this group of pesticides
- **Farmers:** Almost all pesticides introduced as alternative are low to medium toxicity and are familiar to farmers. Some are being used and some are new botanical/biological pesticides. Through IPM and other training programs provided by pesticide company on proper and safe use of pesticides, knowledge of farmers in the safe use of pesticides has been improved. Thus they can handle and use pesticides with reduced risks to their health and environment. Furthermore, farmers do not need to store pesticides at home since they can be readily available at retailers, which will reduce the risks of accidental poisoning.

II.2.4. Assessment of risk:

The potential risk of alternatives may come from storage, transportation and usage of all chemical pesticides, including phosphine. Since phosphine can corrode copper and electronic equipment at high concentration (above 100ppm), it is important to carefully select the suitable equipment for transportation, storage, and targeted store when conducting fumigation . Further more, phosphine is also a flammable and explosive product, humidity of product and store should be carefully monitored before conducting fumigation. The collection and disposal of remaining powder after fumigation also need to be carefully collected to avoid potential fire hazards or explosion. These operations must all be performed by trained and licensed personnel.

The risk of other chemical pesticides may be divided in to 4 categories:

- Directly intoxicating users: This case may happen due to improper use of pesticide and shortage of protective gear
- Accidental spills or accidental use
- Indirect poisoning of consumers exposed to food contaminated with pesticide residues.
- Environmental pollution: Pollution of surface and underground water, air, soil etc. may occur due to contamination, improper use and persistent toxic pesticides.

To reduce those risks to environment and human health, the project's activities should focus on following points:

- Strengthening training of technicians of fumigation companies and farmers to enhance their knowledge of proper use of pesticide to improve efficacy and protect human health.

- Develop emergency response plans for each site according to guidance provided under annex 4.
- Assist PPD to establish the pest resistance control unit and setting a laboratory for early detecting of resistance and management
- Developing and selecting more effective, safe and economic techniques / products.

II.2.5. Pre-requisites and/ or measures required to reduce specific risks associated with envisaged pesticide use under the project:

In order to reduce specific risk associated with envisaged pesticide use under the project, a detail training program has been designed in project proposal aiming at improving capacity of fumigation companies in using of new alternatives for MB. In framework of the project, about 800 technicians from 42 fumigation companies will be trained to ensure safe use of phosphine and new technologies/ chemical pesticides. In term of soil borne pest control, though farmers have been well trained on safe use of pesticides through IPM and pesticides commercial promotion programs, the project will continue to provide special training courses to 300 local technicians and farmers on setting up demonstrations and using of new technologies such as: soil solarization, biofumigation, and safe use of pesticides.

For safe handling of pesticide, PPD annually provide training course to pesticides agencies to update them with new regulations on production, formulation, transportation, packaging, storage of pesticide. The project will coordinate with training programs of PPD to raise awareness among pesticide agencies of techniques related to safe handling of new pesticides.

II.3. Policy, regulatory framework and institutional capacity

II.3.1. Policy on pesticide: Before 1991, pesticides were freely purchased in Vietnam without registration and quality inspection system. From 1992, it was controlled by MARD through Plant Protection Decree which has been amended several times. The updated version, the Decree No. 58/2002/ND-CP, was issued by the Prime Minister of the Socialist Republic of Vietnam on June 3, 2002, to promulgate the regulation on plant protection, plant quarantine and pesticides management.

Beside the Decree No. 58/2002/ND-CP, MARD has also promulgated and regularly amended the regulation on pesticide management which determines all legal requirements as per export and import of pesticides in and out of Vietnam. The detailed legal requirements are stipulated in Decision No. 145/2002/QD-BNN. The requirements involve detailed regulations on procedures for registration, production, formulating, re-packaging, export, import, trading, storage, transport, usage, disposal, labeling, seminars and advertisement of pesticides. According to this Decision, MARD is in charge of granting import licenses for restricted pesticides. However, at end of 2005 MARD decided to authorize PPD to discharge this function on its behalf.

MARD issues a list of pesticides permitted, restricted, and banned for use in Vietnam on an annual basis. Methyl bromide, aluminum phosphide, and magnesium phosphide, are categorized as restricted pesticides in this list.

Follow pesticide management regulation, all pesticides must be registered before commercialization in Vietnam. The procedure and duration of registration depends on the nature of pesticide, target crop and control pest. Normally, the registration should be processed in 2 years. Even though, in order to encourage the research development,

production and commercialization of safe and bio-pesticides, MARD agree to give priority to the registration of bio-pesticides with less than 6 months consideration. Furthermore, in case of necessary, MARD/ PPD may consider to authorize the exceptional importation for special use.

Beside the registration scheme, the regulation also promulgates detailed articles related to production, formulation and distribution of pesticides. Follow it, all operations related to production, formulation and distribution of pesticide must be registered and controlled by PPD through inspection system. To get a license for production, formulation and distribution of pesticide, organizations/ companies or individuals must have a professional training certificate to ensure having good competence and knowledge in the above field. Up to date, there has been an exiting of accomplished licensing scheme for registration, distribution and using of pesticide from the central to locals. The regulation on local pesticide production and/ or formulation is also appropriately regulated. Thank to that, a strong system of pesticide formulation and distribution has been established enabling sufficiently meet pesticide consumption demand of the country. The pesticide need may be conveniently met through domestic development or importation from China, US and other Europe countries.

II.3.2. Country's regulatory framework for control of the distribution and use of pesticide:

1. *Availability of trained inspector for pesticide control:* To enforce its pesticide regulation, PPD has established its inspection network from the center to locals. The Inspection Board is entrusted to undertake regular and extraordinary inspection of conditions and whole schemes related to production, formulation, distribution and usage to ensure pesticide quality and proper use. To undertake this mission, inspectors from PPD and provincial sub-PPDs have been well trained on knowledge of professional inspection. During the inspection, inspectors may take samples for quality check which will be done by two Pesticide Quality Control Centers located in the North and South.
2. *Control of pesticide package and label:* The issue of pesticide package and labeling has been also regulated in the **Pesticide Management Regulation**. Together with the pesticide promotion program, pesticide companies are now paying more attention to the packing as a part of delivery system for convenient use and user safety. The use of bulk or mini bulk containers or small volume plastic bottles is suitable course for more convenient of farmers who have been still prevention of over dose usage. The move from liquid to granules and other formulations such as SP, SC, DF, ect. allows the use of simple bags or cartons for easy disposal. The design and content of labels are required by PPD as compulsory documents for the registration process. The format and content of label is also controlled by PPD during deploying inspection. Therefore, all pesticides are properly packaged and labeled before and during releasing to the market.
3. *Measures to limit importation and usage of access to class II pesticides:* The list of pesticides permitted to use in Vietnam is considered and renewed annually. During consideration, all pesticides belong to toxic group I may be stopped of using. They may be only considered as restricted to use in case of necessary/ or no effective alternatives available. With those pesticides, the license for commercialization and usage is issued only on a temporary basis. PPD will control the scope of usage and quantity imported. In case of necessary, PPD may consider approving an exceptional importation of high toxic pesticide for special and controllable use.

4. *Quality control capacity:* To strengthen capacities for enabling the monitoring of pesticide quality, the Government has invested its National budget to scale up two central laboratories belonged to Plant Protection Department (PPD) located in the North and South, by equipping them with more Gas chromatography (GC) units, High performance liquid chromatography (HPLC) and mass spectrum chromatography. To strengthen the research capacity, the Government has agreed to set up one more laboratory at the National Institute of Plant Protection. So far, one GC and one HPLC have been installed and operated.

Not only strengthening capacities for specific laboratories, the Government also funded an upgrade of other laboratories in order to make use of the untapped potential and capacity of other organizations. Other laboratories that offer pesticide quality control include the Institute of Post Harvest Technology, VINACONTROL, the National Central for measuring and Quality control.

Besides upgrading equipment, the Government has mobilized supports from national and international cooperation projects for training of technicians to make them well undertaking control of pesticide quality.

5. *Availability of poisoning statistic:* The Government has assigned the Department of Hygiene and food safety, under Ministry of Health to record all cases of pesticide poison through direct contact with pesticide application (both acute and chronic); pesticide contamination in food; and suicide. Beside, MARD/ PPD regularly takes food samples to record level of pesticide contamination for warning and strengthening food safety control.

6. *Capacity of medical staff to recognize and treat pesticide poisoning:* During IPM and pesticide safe use training programs, symptoms of pesticide poison have been introduced to farmers and local medical staff. The guideline on first aid of pesticide poison is regulatory being presented on pesticide label. The above training and information may enable local farmers and medical staff to perform first aid treatments. The continuous steps should be followed the professional instruction of Medical system.

7. *Disposal of obsolete pesticides:* Obsolete pesticides may include those that are out of expiry date, non-registration, smuggled, inferior quality, and those banned for use in Vietnam. In framework of project activities, there may have contribution to the accumulation of obsolete pesticides from: (1). new pesticides imported for demonstration purpose but no longer use due to low efficacy/ negative impacts to environment/ or no registration process; (2). out of expiry date; (3). no longer permitted to use due to annual renewal of pesticide list. Disposal of these pesticides must follow guidelines of the Government number 64 regulating collection and disposal of obsolete pesticides. According to these guidelines, all sources of obsolete pesticides must be collected and properly disposed of by relevant or responsible organizations. In term of the project activities, the responsibility for disposal of obsolete pesticides will depend on the owner:

- In case they are maintained at pesticide agencies: the agencies will be responsible and pay for disposal fee;
- In case obsolete pesticides are under management of projects: the project can require assistance from the obsolete pesticides disposal program funded by Government;

- In case obsolete pesticides are under management of farmers: farmer may request assistance from local PPSD to collect and dispose of such pesticides with the support of the above program.

Disposal of pesticides is only done by authorized/ permitted organizations

II.3.3. Describe and assess all policy related to the restrictions of MB: The policy related to restriction of MB has been clearly manifested in the list of pesticide restricted to use in Vietnam. Follow it, MB importation and usage must be under control of PPD in both quantity and scope of usage regulated to other restricted pesticides. Further more, to strengthen the management of MB use when it is considered as special usage, MARD has issued the newest decision on Pesticide Management Regulation number 63/ 2007 QD - BNN dated 2 July, 2007 by adding some of exceptional below terms specified for management of MB importation and usage:

- The importation of MB must follow any regulation to restricted pesticides and importer must have fumigation license.
- Importer must fully report to PPD the status of MB importation from previous year before applying for new importation license.
- MB is only sold to licensed fumigators.

II.3.4. Institutional capacity for implementing IPM: As mentioned in II.1.3 part, the National IPM program has established an IPM network from the center to locals on the base of IPM working group under PPSDs. This network has good capacity to conduct IPM activities such as training of farmers, setting up demonstrations and organizing propagandization within the local to raise farmer's awareness of proper use of pesticides. Beside, there has been a research system developing researches on and providing techniques to IPM program. This is a strong network to implement IPM program on soil borne and store pest management.

II.4. Strengthening of national capacities: All activities and components required funding from the project are delineated in the project proposal. However, to make it feasibility and successful deploy, the project need require Government and MARD supporting research institutions, through research projects, develop more effective and environment sound IPM packages for sustainable maintenance the success of project in future. More over, it is also necessary to facilitate pesticide and fumigation companies/ enterprises adopting new advance technologies for alternative of MB by giving them priority during accessing registration procedure and through financial encouragement policy (lower or free of tax etc.).

II.5. Monitoring and evaluation: (see attached file named PMP monitoring and evaluation)

Annexes

**Annex 1. Tables for the Pest Management Plan
Termite control options**

Annex 2 . Tables for the Pest Management Plant

A. Relevant Legal Documents

B. Monitoring

C. Institutional Strengthening and Training for
Implementation

D. Scheduling and Reporting

Annex 3. Relevant Legal Documents

Annex 4. Emergency Response Plan

Annex 5. Public Consultation

Annex 1
Tables for the Pest Management Plan

Termite control options

Control Method	Repellent Liquid Termiticide	Non-repellent Liquid Termiticide	Bait Systems
How it is supposed to control Subterranean Termites	The termiticide is injected into the soil around the foundation of the home. The slab is drilled and the soil treated underneath. Trenches are dug around the foundation outside and within crawl spaces and filled with termiticide. The termiticide repels the termites and ideally turns them away from the structure	The structure is drilled, trenched and injected as with the repellent liquid, but the termiticide is not repellent to the termites. The termites cannot detect the non-repellent termiticide in the soil so they tunnel into it and are killed.	Wood monitoring stakes are inside stations that are placed in the ground around the structure. Monitors are inspected monthly or quarterly. If termites are found inside a station, the bait is put in. Termites consume the bait and are killed. Sentricon and Exterra baits are designed to kill the termite colony.
Termiticide Products used by Certified Pest Control Operators	Tribute, Demon TC, Dragnet, Prelude, Prevail, Talstar and Torpedo <i>(These are mostly Pyrethroids)</i>	Premise (Imidocloprid) Termidor (Fipronil) (new class of chemicals)	Sentricon (Hexaflumuron) Exterra (Difluobenzuron) FirstLine (Sulfuramid)(used in combination with liquid treatment)
Relative costs	Usually the least expensive of the 3 treatments. Preparing for the injection of the liquid is labor intensive and the greatest source of the cost. Many gallons of termiticide are used in the treatment (~ 4 gallons /10 linear feet).	Can be more expensive than the repellent treatment because the termiticide is more costly. The application is the same as the repellent treatment so labor costs are equivalent.	Sentricon is the most expensive treatment. The station installation and monthly monitoring are responsible for most of the cost. Other bait products vary, but are usually priced between barrier treatments and Sentricon.
Treatment longevity	Under optimal conditions	Premise < 5 years	Continuous process of monitoring

(persistence)	repellent termiticides can last ~ 5 years	Termidor 5+ years	with baits applied as necessary.
Advantages	Provides immediate protection for the structure. Relatively low cost and long lasting.	Provides immediate protection for the structure. Most effective treatment because it kills foraging termites.	Environmentally friendly, extremely low toxicity to humans and pets
Disadvantages	Termites are not killed, just turned away from the chemical. They often find tiny gaps in the treatment and tunnel through them to the structure.	Premise breaks down in water so it may dissipate more quickly in the soil than some repellent termiticides.	Structure not directly protected. With no means of attracting termites into the monitors, actual baiting may take a long time to begin. This leaves the structure at risk.

Annex 2

Tables for the Pest Management Plan

A. Mitigation

Project Activity	Potential Environmental and Health Impacts	Proposed Mitigation Measure(s) (incl. legislation & regulations)	Institutional Responsibilities (incl. enforcement & coordination)	Cost Estimates	Comments
<i>Regulations and Capacity Building</i>		+ Establishment of the MIS for Monitoring MB consumption (consultant ans MIS training)	PPD	6,000	Consultant
	<input type="checkbox"/>	+ Training for MARD Officials;	PPD	16,000	Workshop, Study tour
	<input type="checkbox"/>	+ Development of pest control standards and hygiene requirements for storage facilities		6,000	Consultant
	<input type="checkbox"/>	+ Training of staff (IRCU) at International Center (2 persons)		20,000	
<i>Technical Assistance Activities to Eliminate MB in Post-Harvest Applications</i>		+ Capacity Strengthening of 5 Training Centers: Training Equipment; Train-the-Trainers; Training materials.	PPD	113,275	
		+ Training for MB Users (Fumigation Service Companies, Owners of storage facilities)	Training Center	80,000	Workshop
		+ Recommending to combine IPM measures in storing + Assessment of Integrated Approaches as Replacement to MB;	PPD, RPQSD	38,000	Consultant
<i>Technical Assistance</i>					

<i>Assistance Activities to Eliminate MB in Pre- Harvest Applications</i>	+ Field Demonstrations for various approaches and target crops	Fumigation Service Company (FSC)	104,508	Consultant
	Soil solarization (SS) with plastic mulch + fungicides/ nematocides	"		
	Bio- fumigation (BF) with chicken manure + fungicides/ nematocides	"		
	+ Training materials (manuals, leaflets, video, ...)	PPD	50,000	
	+ Training of Local Technicians and Farmers.	FSC(+ RPQSD/PPSD)	37,000	
	Total		470,783	

Tables for the Pest Management Plan

B. Monitoring

Proposed Mitigation Measure	Parameters To be Monitored	Location	Data and/or Measurements (incl. methods & equipment)	Frequency of Measurement	Responsibilities (incl. review and reporting)	Cost (equipment & Labor)
<p>◆ <i>Strengthening legal capacity:</i> Developing, revising and amending legal documents relating to fumigation as:</p>					PPD	14,000
- Regulating in detail the reporting mechanism and the compulsory reporting form to fumigating organizations;					"	
- Regulating in the registration of the quantity of MB for each specific purpose to fumigating organizations.					"	
◆ <i>Establishment of a PRCU</i>		Ha Noi	Equipment and labor, development of Insect Biosassays, collecting samples		PPD	112,140
<i>Technical Assistance Activities to Eliminate MB in Post-Harvest Applications</i>		Vietnam	4 type of fumigation equipment packages		PPD	295,515
◆ <i>Management</i>						
- Develop an MIS as an useful tool for the updating, monitoring, controlling the importing and		PPD & 9 RPQSD	Equipment of MIS			20,000

using of MB (including QPS and non-QPS).						
- Importing MB:						
+ PPD shall rely on the using levels of each importer and the total number of permitted MB quantity per year to account the annually allocation.					PPD	
+ Co-operate with Custom Agencies: Make consisten the importing code for MB; Provide information about the importing MB quantity for PPD updating data in MIS.					PPD/Custom Agencies	
◆ <i>Strengthening monitoring and inspecting activities</i>		Vietnam			PPD and PQ network	
Total						441,655

Tables for the Pest Management Plant

C. Institutional Strengthening and Training for Implementation

Institutional Strengthening Activity	Position(s) (Institutions, PIUs, contractors, construction supervision consultants)	Scheduling	Responsibilit(ies)	Cost Estimates	
Mitigation	PPD/PMU		PPD, RPQSD, Training Center, Consultans	470,783	
Monitoring (incl. compliance)	PPD/PMU		PPD/PQ network/Custom Agencies	441,655	

II Training Activity	Participants	Types of Training	Content (modules, etc.)	Scheduling	Cost Estimates
PMP Implementation, Re-design, Conflict Resolution, etc.	PPD				
Pesticide, IPM Processes, Method and Equipment	MARD	Training workshop	Montreal Protocol;	Q1-Q4/2008	5,000
		Study tour		Q1-Q4/2008	10,000
	Fumigation Service Companies, and Owners of storage facilities)	Training workshop	Introduction of some alternative of MB: Aluminum phosphide fumigation with recirculation system; Magnesium phosphide fumigation with recirculation system, Inbound - Aluminum phosphide with automatic pellet dispensers; Integrated pest management.	Q4/2008-Q4/2011	80,000
			Disseminating policies about management and use MB (International and Vietnam regulations)		
	Local technicians and farmers (Demonstrations for Pre-Harvest)	Training workshop	Introduction of 3 alternative MB options: (1) Soil solarization with plastic mulch + fungicides + Nematicides; (2). Bio-fumigation + fungicides + Nematicides; and (3). soiless culture for nursery production. Disseminating policies about management and use MB (International and Vietnam regulations)	Q3/2010-Q4/2014	37,000

Environmental, Pesticides and IPM Policies and Program Policy Review and Development of MB Regulation Pest Resistance Control					
	PPD/FSC & other stackholder	Workshop in 3 regions		Q4/2008	6,500
	IRCU	Training of staff at International Center (2persons)		Q3/2008	20,000

Annex 3

Relevant Legal Document

No: 36/2001/PL-UBTVQH10

ordinance
on plant protection and quarantine

In order to enhance State administration, increase pest management efficiency, contribute to sustainable and advanced agricultural production, protect human health and environment, and preserve ecological equilibrium;

Pursuant to the Constitution of the Socialist Republic of Vietnam of 1992;

Pursuant to the Resolution of the eighth Session of the National Assembly regarding the development of a regulatory system for 2001;

This Ordinance stipulates regulations on plant protection and quarantine.

Chapter I
general provisions

Articles 1

Plant protection and quarantine as referred to in this Ordinance include those activities relating to the prevention and management of injurious pests, plant quarantine and pesticide management.

Article 2

This Ordinance shall apply to any Vietnamese and foreign organizations and/or individuals that are involved in the production, sale and use of plant resources, and other activities related to plant protection and quarantine in the territory of Vietnam, except otherwise stipulated in international conventions and agreements to which the Socialist Republic of Vietnam is a signatory.

Article 3

For the purpose of this Ordinance, the following terms shall have the meanings hereunder assigned to them:

1. *Plant resources* include beneficial plants or plant products.

2. *Injurious pests* mean any micro-organism, insect, disease, weed, rodent or other organisms causing damage to plant resources.

3. *Beneficial organisms* mean any fungus, insect, animal and other organisms used to reduce the damage to plant resources due to injurious pests.

4. *Novel injurious organisms* are those that have not been identified on the basis of authoritative scientific evidence or not found previously in the country.

5. *Plant quarantine pests* mean any injurious organism that has potential to cause significant damage to plant resources in an area where such a pest is not present, or present but not widely distributed.

6. *Regulated articles* mean any plant, plant product, or means of production, storage or transportation that may harbour plant quarantine pests.

7. *The owner of plant resources* means any organization and/or individual that has the right to possess, use or manage such plant resources.

8. *The owner of regulated articles* means any organization and/or individual that has the right to possess, use or manage such regulated articles.

9. *Pesticides* are those products that contain chemicals, plants, animals, micro-organisms or other active ingredients used for the prevention and management of injurious pests.

10. *Plant seeds* include seeds, tubers, plants and parts thereof or other materials used for plant propagation.

11. *Imported plant seeds* are those imported from foreign countries for research or growing.

Article 4

Plant protection and quarantine are implemented according to principles that:

1. Focus on timely detection and management of pests; while ensuring pest management efficiency as well as the safety of human health and the environment;

2. Combine immediate interests with long-term ones, while ensuring common interests of the society;

3. Apply advanced technologies, combining with technologies arising from traditional experience of the people.

Article 5

The Government creates favourable conditions for domestic and foreign organizations and individuals who invest in the prevention and management of injurious pests;

The Government encourages the research, manufacturing, sale and use of less toxic biological pesticides as well as minimizing pesticide use through the application of integrated pest management measures.

Article 6

All State agencies, economic organizations, political organizations, socio-political organizations, social organizations, professional organizations and individuals shall take responsibility to implement this Ordinance.

Vietnam's Fatherland Front and its affiliates shall have responsibility to educate and mobilize people to implement and monitor the implementation of the provisions of the Ordinance on Plant Protection and Quarantine.

Article 7

Any acts causing damage to plant resources, human health, the environment and ecological systems are strictly prohibited.

Chapter II

Article 8

The prevention and management of injurious pests should be conducted in a regular, consistent, and timely manner with respect to research, testing, production, exploitation, processing, storage, sale, use, exportation, importation, transit and other activities related to plant resources.

Article 9

The prevention and management of injurious pests may include:

1. Survey, detection, forecasting and warning of pest occurrence, development, distribution and damage;
2. Guiding the implementation of pest prevention and management practices;
3. Guiding the application of advanced science and technologies in pest prevention and management.

Article 10

Owners of plant resources have the following rights and obligations:

1. Request the authorized plant protection and quarantine agencies to inform them of the current status of pest infestation and assist in the prevention and management of pests;
2. Actively develop and implement plans for the prevention and management of injurious pests;
3. Notify the authorized plant protection and quarantine agency when any injurious pest has been found to cause significant damage to plant resources;
4. Apply appropriate measures to prevent and control injurious pests, avoiding the spread of such pests to plant resources of other people;

5. Apply timely pest prevention and management practices in order to protect plant resources, as requested by the authorized plant protection and quarantine agencies.

Article 11

1. When a sign of pest outbreak is reported, the authorized plant protection and quarantine agency must inspect promptly and assist the owners of plant resources in pest prevention and management.

2. When a pest develops strongly on a large scale, posing a high risk of significant damage to plant resources within the territory of a province or city under the Central Government, the Chairman of the People's Committee of the respective province or city shall evaluate and announce the outbreak, and report to the Minister of Agriculture and Rural Development. In cases where the pest outbreak occurs in two or more provinces, the Minister of Agriculture and Rural Development shall evaluate and announce the outbreak, and report to the Prime Minister.

Article 12

Responsibilities of State agencies, organizations and individuals when the outbreak is announced:

1. The Minister of Agriculture and Rural Development shall give instructions to localities concerned to control the pest and prevent it from spreading to other areas; decide, or request the Prime Minister to decide, appropriate measures to control the outbreak taking into account its seriousness.

2. Chairmen of People's Committees at all levels in the outbreak areas shall direct concerned agencies and social organizations to mobilize local people for taking appropriate measures to control the pest and prevent the spread of the pest to other areas. Depending on pest significance and distribution, the Chairman of the local People's Committee of the outbreak area shall notify his/her superior of appropriate measures taken to suppress the outbreak, mitigate the damage and prevent pest resurgence.

3. The owners of plant resources, organizations and individuals involved shall take necessary measures for pest management, under the direction of authorized plant protection and quarantine agencies.

When the outbreak is suppressed, the authority that announced the pest outbreak shall annul or cancel the announcement of pest outbreak.

Article 13

The following offence is strictly prohibited:

1. Use of plant protection practices that may pose danger to humans or beneficial organisms, and damage to the environment and ecosystems;

2. Being able to apply, but refusing to implement, preventive measures, which may result in the occurrence of a pest outbreak, destroying plant resources;

3. Sale or use of agricultural products that contain pesticide residues greater than the permitted maximum residue levels.

4. Importation, exportation, production, transportation, storage, sale and use of plant seeds that are seriously infested with pests or infested with dangerous pests.

Chapter III **plant quarantine**

Article 14

1. Plant quarantine activities aim to detect plant quarantine pests and determine their status of infestation in a precise and timely manner;

2. Plant quarantine activities include:

a) Inspection of regulated articles;

b) Determination of appropriate phytosanitary measures for treatment of the articles infected with plant quarantine pests;

c) Supervision and certification of the implementation of phytosanitary treatments;

d) Surveillance and monitoring of pest status on imported plant seeds and stored plant products;

e) Assistance in the detection and identification of plant quarantine pests, as well as in the implementation of phytosanitary measures.

Article 15

Periodically, the Minister of Agriculture and Rural Development shall evaluate and publish the list of plant quarantine pests that must be prevented from entering Vietnam or spreading within the country.

Article 16

The owners of regulated articles are responsible for monitoring pest status in those regulated articles.

When a plant quarantine pest or novel injurious organism is intercepted or suspected, the owner of the regulated articles shall immediately take appropriate phytosanitary measures to eradicate and prevent its spread, at the same time notifying the nearest plant protection and quarantine authority or local government.

Article 17

1. When a plant quarantine pest or a novel injurious organism is detected, the authorized plant protection and quarantine agency shall decide phytosanitary measures in order to delimit and eradicate said pest, and request the owner of the regulated articles to take those measures immediately.

2. In case of an outbreak of a plant quarantine pest or a novel injurious organism, the authorized plant protection and quarantine agency shall immediately notify the competent authorities, in order to announce the outbreak as stipulated in Article 11 of this Ordinance.

Article 18

1. All regulated articles for import, re-export and re-import must undergo plant quarantine inspection.

2. In cases where a plant quarantine pest is intercepted:

a) If the pest is not present in the territory of Vietnam and is included in the list of plant quarantine pests of Vietnam, the infested articles shall not be imported, and shall be returned to the place of origin or destroyed;

b) If the pest is not widely distributed in the territory of Vietnam and is included in the list of plant quarantine pests of Vietnam or other novel injurious organisms, the infested articles shall be subject to complete treatments decided by the authorized plant protection and quarantine agencies before being imported;

3. In cases where scientific evidence is not sufficient to determine the plant quarantine pest status of regulated articles, those articles must be strictly kept in a designated place. Within a period specified by the Government, the authorized plant protection and quarantine agencies shall notify to release those articles without treatment, or to treat the articles under the provisions of Item a or b of this Article before release.

Article 19

1. Beneficial organisms and plant resources imported for propagation or likely to be used for propagation shall be liable to strict inspection and monitoring by the authorized plant protection and quarantine agencies, in accordance with provisions on plant protection and quarantine.

2. Once beneficial organisms or plant resources imported for propagation or likely to be used for propagation are moved to other localities, the owner shall inform the local authorized plant protection and quarantine agency to arrange inspection and monitoring.

3. New plant seeds which are imported for the first time shall be grown in a designated place for pest screening. Those seeds will be released for growing only after the authorized plant protection and quarantine agency has certified that they are free from plant quarantine pests of Vietnam.

Article 20

1. Plant quarantine inspection for export shall be made on regulated articles provided that commercial contracts or international agreements, to which Vietnam adheres, require export certification.

2. In case of non-compliance with plant quarantine standards, the authorized plant protection and quarantine agency shall refuse to issue the phytosanitary certificate, and shall request the owner of the articles to implement treatments.

Article 21

Regulated articles in transit through the territory of Vietnam shall be approved by the authorized plant protection and quarantine agency, and subject to phytosanitary measures to prevent injurious pests from entering Vietnam. In case of spreading pest infestation, the owner shall immediately inform the nearest authorized plant protection and quarantine agency of Vietnam, and take phytosanitary measures according to provisions of Vietnam's law.

Article 22

1. Any organizations and individuals who own regulated articles for import, export, re-import, re-export, and transit as specified in Item 1, Article 18, Item 1 Article 20 and Article 21 of this Ordinance, shall submit an application for phytosanitary certification to the authorized plant protection and quarantine agency of Vietnam located at the relevant land borderport, railway station, riverport, seaport, airport or post office.

2. Upon receipt of the application, the authorized plant protection and quarantine agency shall, depending on the nature, type and amount of the commodity, decide and notify the owner of the site and date of inspection.

3. Phytosanitary inspection shall be made immediately after the regulated articles are transferred to the inspection site designated by the authorized plant protection and quarantine agency.

4. The Government specifies procedures for inspection of regulated articles for export, import, re-export, re-import and transit.

Article 23

In case regulated articles from a foreign country are found to be distributed or discarded in Vietnam, the owner or discoverer must notify the nearest authorized plant protection and quarantine agency of Vietnam immediately, in order to arrange appropriate phytosanitary treatment.

Article 24

Organizations and individuals who conduct phytosanitary disinfestation or fumigation must obtain an official license and meet other requirements in accordance with provisions of law.

Article 25

Plant quarantine officers on duty shall wear the uniform, badge and plant quarantine identity card as stipulated by the Government.

Article 26

The owner of the regulated articles shall be liable for plant protection and quarantine charges and fees according to provisions of law.

Article 27

It is strictly prohibited to bring into Vietnam or distribute within the country the following items:

1. Pests included in the plant quarantine pest list;
2. Novel injurious organisms; and
3. Soil infected with injurious pests.

Chapter IV **pesticide management**

Article 28

Pesticides are restricted to trade and conditionally traded products. The State conducts the management of manufacturing, exportation, importation, storage, distribution, transportation, sale and use of pesticides in accordance with provisions of law.

The State gives preferential treatments to the research, investment, manufacturing, sale, and use of biological pesticides which are less hazardous.

Article 29

The Ministry of Agriculture and Rural Development takes responsibility to:

1. Regulate the testing and registration of new pesticides for use in Vietnam;
2. Grant testing permit and pesticide registration certificate in Vietnam;
3. Announce detailed list of pesticides permitted for use, pesticides restricted for use, and pesticides banned for use in Vietnam.

Article 30

1. The manufacturing, formulation, bottling, packaging, storage, distribution, transportation, sale, use and disposal of pesticides must be safe to the health of humans, plants, animals and the environment.

2. The person who has caused the leakage of pesticides, must timely carry out treatment measures according to provisions of law. In case of leakage in a large scale and causing serious consequences, that one must immediately inform the plant protection and quarantine authority, environmental protection agency, local authorities or other relevant agencies for treatment and must be liable in accordance with provisions of law.

3. Any person who has found the leakage of pesticides, shall have responsibility to inform immediately the plant protection and quarantine authority or the nearest People's Committee.

Article 31

1. Any person directly involved in the management and trading of pesticides in the areas of production, formulation, bottling, packaging and sale of pesticides, must obtain an official license and meet other requirements according to provisions of law.

2. The granting of permit for foreign investment in the areas of production, formulation, bottling and packaging of pesticides in Vietnam must obtain the consent of the Ministry of Agriculture and Rural Development.

3. The import of any pesticide which is outside the list of permitted pesticides and is used for a foreign investment project, and the import of any pesticide which is included in the list of restricted pesticides, must obtain a permit from the Ministry of Agriculture and Rural Development.

Article 32.

1. Any organization and/or individual involved in the importation, production, formulation, bottling, packaging and sale of pesticides must assure quality and standards as registered with the plant protection and quarantine authority. Labels must be provided in accordance with provisions of law.

2. Any organization and/or individual using pesticides must follow the instructions with regard to target, type, dosage, concentration, timing, post harvest interval, expiry date and scope of use.

3. Any organization and/or individual using pesticides must ensure safety to humans, crops, animals, food and the environment, and be liable for using pesticides not in compliance with Point 2 of this Article.

Article 33

1. Pesticides shall be destroyed or returned to the place of origin may include:
 - a) Pesticides banned for use in Vietnam;
 - b) Counterfeit pesticides;
 - c) Obsolete pesticides;
 - d) Pesticides without clear origin;
 - e) Pesticides falling outside the list of pesticides permitted for use in Vietnam.

The Government specifies pesticides that will be destroyed or returned to the place of origin.

2. The disposal of pesticides and/or package must be conducted in accordance with provisions of law and must be supervised and certified by the plant protection and quarantine authority, environmental protection agency and local authorities.

3. In case of a pesticide to be destroyed or returned to the place of origin, all related costs and expenses shall be borne by the organization and/or individual involved in the importation, production and sale of that pesticide.

Article 34

The reservation of pesticides is stipulated as follows:

1. National pesticide reserves shall be established at the central level;
2. Local pesticide reserves shall be established at the provincial level;

The Government shall decide the establishment, management and use of pesticide reserves.

Article 35

The following activities are strictly prohibited:

1. The manufacturing, formulation, bottling, packaging, storage, importation, distribution, transportation, sale and use of banned pesticides; counterfeit pesticides; pesticide without clear origin; pesticides with labels not in compliance with provisions of law; pesticides falling outside the list of pesticides restricted and permitted for use in Vietnam, unless otherwise stipulated in Point 3, Article 30 of this Ordinance.

2. Importation, sale and use of obsolete pesticides.

3. Advertisement of pesticides that are banned and restricted for use, not in the list of permitted pesticides and not consistent with those that have already been registered.

Chapter V
**state management of
plant protection and quarantine**

Article 36

State management of plant protection and quarantine may include:

1. Developing and implementing plans related to pest management, plant quarantine and pesticides;
2. Issuing and arranging the implementation of legal documents related to plant protection and quarantine;
3. Arranging the monitoring, inspection and detection of injurious pests; giving instructions to prevent and suppress injurious pests;
4. Arranging the implementation of plant quarantine activities;
5. Arranging the registration, control and trial of pesticides;
6. Granting and revoking the permit to conduct field trial of new pesticide, the permit to import restricted or non-permitted pesticides, phytosanitary certificate, pesticide registration certificate, pesticide sale license, and disinfection license;
7. Arranging the studies, training in the field of plant protection and quarantine;
8. Disseminating information and knowledge related to plant protection and quarantine;
9. Inspecting and addressing all grievances in the field of plant protection and quarantine;
10. Maintaining international cooperation in the field of plant protection and quarantine.

Article 37

1. The Government conduct State management over plant protection and quarantine in the whole country.
2. The Ministry of Agriculture and Rural Development takes responsibility to carry out State management activities related to plant protection and quarantine in the whole country.
3. Other ministries, ministerial-level and government agencies shall, under their jurisdiction, conduct state management of plant protection and quarantine.
4. People's Committees at all levels shall conduct state management of implementation of plant protection and quarantine activities in conjunction with agricultural extension activities at local levels.

5. Plant protection and quarantine system is established from the central to grassroots levels. The Government specifies the structure, duties and power of all plant protection and quarantine agencies.

Article 38

The inspection of plant protection and quarantine is specialized inspection.

The inspection of plant protection and quarantine is responsible for inspecting the enforcement of law on pest management, plant quarantine and pesticide management, recommending appropriate measures to prevent any violations of plant protection and quarantine regulations.

The Government specifies structure and activities of the plant protection and quarantine inspection system .

Article 39

Any organization and/or individual have the right to complain to the competent government agencies about any violations of regulations on plant protection and quarantine.

Any individual has the right to denounce to the competent government agencies any violations of plant protection and quarantine regulations.

The settlement of complaint and denunciation of violations in the field plant protection and quarantine shall be made according to the provision of Laws on Complaint and Denunciation.

Chapter VI

reward and handling of violations

Article 40

Any organization and/or individual making contributions to the protection of plant resources, pest management or detection and prevention of any violations in the field of plant protection and quarantine, shall be rewarded according to provisions of law.

Article 41

Any person who violates the provisions of this Ordinance, counterfeits permits, licenses and certificates of all kinds in the field of plant protection and quarantine and violates other related provisions shall, depending on the nature and seriousness of the violation, be either sanctioned administratively or examined for penal liability according to provisions of law.

Article 42

Any person who abuses power in granting and revoking permits, licenses and certificates related to plant protection and quarantine not in compliance with law; lack of responsibility to implement plant protection and quarantine law; covers up for the offender or violates other provisions related to plant protection and quarantine shall, depending on the nature and seriousness of the violation, be either sanctioned administratively or examined for penal liability according to provisions of law.

Article 43

Any person who violates the regulations on plant protection and quarantine causes damage to the government, organization and/or individual, besides being punished in accordance with Article 41 or Article 42 of this Ordinance, shall be liable for compensation according to provisions of law.

Chapter VII **Implementation provision**

Article 44

This Ordinance takes effect from the 1st January 2002.

This Ordinance replaces the former Ordinance on Plant Protection and Quarantine, which was approved by the Executive Committee of the National Assembly on the 4th February 1993.

All provisions contrary to this Ordinance shall be annulled.

Article 45

The Government shall guide the implementation of this Ordinance.

Hanoi, 25 July 2001

On

behalf of the Executive Committee
of the National Assembly

Chairman

(signed)

Nguyen Van An

DECREE No. 58/2002/ND-CP OF JUNE 3, 2002 PROMULGATING THE REGULATION ON PLANT PROTECTION, THE REGULATION ON PLANT QUARANTINE AND THE REGULATION ON MANAGEMENT OF PLANT PROTECTION DRUGS
THE GOVERNMENT

*Pursuant to the December 25, 2001 Law on Organization of the Government;
Pursuant to the July 25, 2001 Ordinance on Plant Protection and Quarantine;
At the proposal of the Minister of Agriculture and Rural Development,
DECREES:*

Article 1.- To promulgate together with this Decree:

1. The Regulation on Plant Protection;
2. The Regulation on Plant Quarantine;
3. The Regulation on Management of Plant Protection Drugs.

Article 2.- This Decree takes implementation effect 15 days after its signing.

This Decree shall replace Decree No.92/CP of November 27, 1993 of the Government promulgating therewith the Regulations on plant protection, plant quarantine, and on management of plant protection drugs. The previous stipulations contrary to this Decree shall all be annulled.

Article 3.- The ministers, the heads of the ministerial-level agencies, the heads of the agencies attached to the Government and the presidents of the People's Committees of the provinces and centrally-run cities shall have to implement this Decree.

On behalf of Government

Prime Minister

PHAN VAN KHAI

REGULATION ON PLANT PROTECTION

(Issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002)

Chapter I

GENERAL PROVISIONS

Article 1.- This Regulation prescribes the prevention and elimination of organisms harmful to plant resources.

Article 2.-

1. The plant resources, which must be protected, include food, foodstuff plants, industrial, fruit, forestial trees, animal feed plants, medicinal herbs, flower trees, ornamental plants and other useful plants as well the products thereof.
2. Organisms harmful to plant resources, which must be prevented and eliminated, include harmful worms, diseases, harmful weeds, harmful wild plants, harmful rats, harmful birds, harmful strange organisms and other harmful organisms (referred collectively to as harmful organisms).

Article 3.- The protection of plant resources must observe the following principles:

1. It is carried out regularly and synchronously, with preventive measures as the key, the detection and elimination must be in time;
2. Combining the immediate benefits with the long-term benefits, the State and collective benefits with personal benefits and ensuring the common benefits of the entire society;
3. The prevention and elimination of harmful organisms must be efficient and at the same time ensure safety for human health, cultivated plants, useful organisms, limit environmental pollution and maintain the ecological balance;
4. Applying the integrated preventive measures, with importance being attached to biological measures and traditional experiences of people. Plant protection chemicals shall be used only when extremely necessary and in compliance with the regulations of the plant protection agencies.

Article 4.-

1. The ministries, branches and People's Committees of all levels shall, within the ambit of their functions, tasks and powers, have to coordinate in organizing the direction of activities of preventing and eliminating organisms harmful to plant resources.

2. Economic organizations, political organizations, socio-political organizations, social organizations, socio-professional organizations and all individuals shall have to strictly observe the law provisions on prevention and elimination of organisms harmful to plant resources.

3. Vietnam Fatherland Front and its member organizations shall, within the ambit of their tasks and powers, have to propagate and mobilize people to implement, and supervise the implementation of, law provisions on prevention and elimination of organisms harmful to plant resources.

Chapter II

PREVENTION AND ELIMINATION OF ORGANISMS HARMFUL TO PLANT RESOURCES

Article 5.- The prevention and elimination of organisms harmful to plant resources must be carried out regularly, synchronously and timely in the activities of research, experiment, production, exploitation, processing, preservation, trading, use, export, import, temporary import for re-export, temporary export for re-import, transit and other activities related to plant resources.

The measures for preventing and eliminating organisms harmful to plant resources must be widely disseminated, propagated and trained in among people.

Article 6.- The competent plant protection and quarantine State bodies shall have the following responsibilities:

1. To investigate, detect, anticipate, forecast and notify on the possibility and time appearing harmful organisms as well as the scope and extent of harms caused by them;
2. To inspect the situation of harms caused by organisms to plant resources and request plant resource owners to supply documents and create all necessary conditions for the inspection process;
3. To guide measures for preventing and eliminating organisms harmful to plant resources; to make records on acts of violating the regulations on plant protection and report them to competent authorities for handling;
4. To request the People's Committee of the same level or management agencies, production and/or business units to mobilize human and material resources for the work of prevention and elimination of organisms harmful to plant resources;
5. To conduct surveys, experiments and guide the application of plant protection technologies to production.

Article 7.- The plant resource owners shall have the following responsibilities:

1. To take initiative in inspecting, monitoring, detecting and grasping the development of organisms which cause harms to their plant resources on the fields and in storehouses;
2. To apply such harmful organism-preventing and- eliminating measures as: seed treatment, field sanitation, soil preparation, sowing and cultivation of anti-disease varieties, fertilization, rational watering and drainage, sowing and cultivation strictly according to crop seasons;
3. When harmful organisms develop to the extent that they must be eliminated, the plant resource owners shall be obliged to apply every physical, manual and biological measures as well as plant protection drugs under the guidance of the competent plant protection and quarantine State bodies, of organizations and individuals conducting plant protection activities;
4. Upon detecting that harmful organisms may cause serious harms to plant resources, to immediately report such to the competent plant protection and quarantine State bodies or organizations and individuals conducting plant protection activities in the nearest place;
5. To request the competent plant protection and quarantine State bodies and organizations as well as individuals conducting plant protection activities to brief on the situation of harmful organisms in the region and guide the application of preventive and eliminating measures.

Article 8.- The implementation of information and reporting regime in competent plant protection and quarantine State bodies is prescribed as follows:

1. The competent plant protection and quarantine State bodies of subordinate levels must report on their periodical, extraordinary, seasonal and annual plans for plant protection as well as on the situation of organisms harmful to plant resources and the results of preventing and

eliminating harmful organisms according to the regulations of the plant protection service to their immediate managing agencies and the superior specialized plant protection agencies;

2. The competent plant protection and quarantine State bodies of superior levels shall have to notify and provide guidance on measures to prevent and eliminate organisms harmful to plant resources to the subordinate plant protection bodies as well as organizations and individuals conducting plant protection activities.

Article 9.- Conditions for announcing epidemics:

1. On the provincial/municipal scale:

If organisms harmful to plant resources develop quickly in large areas and threaten to cause serious harms with over 60% of the cultivated area being affected and over 30% of the cultivated area being seriously affected according to the regulations of the Ministry of Agriculture and Rural Development, the plant protection bodies of the provinces or centrally-run cities shall have to conduct the inspection, verification and conclusion.

2. On the national scale:

If organisms harmful to plant resources develop quickly on the scale of two provinces and/or centrally-run cities or more and threaten to cause serious harms with over 30% of the cultivated area of the territory or nation being affected and over 15% of the cultivated area of the territory or nation being seriously affected according to the regulations of the Ministry of Agriculture and Rural Development, the Plant Protection Department shall have to conduct the investigation, verification and conclusion.

Article 10.- Competence to decide on epidemic announcement, to cancel the epidemic announcement:

1. If organisms which cause harms to plant resources on the provincial/municipal scale, meeting the conditions for announcing epidemics according to the provisions in Clause 1, Article 9 of this Regulation, the provincial/municipal People's Committee presidents shall decide to announce epidemics and report thereon to the Minister of Agriculture and Rural Development;

2. If organisms which cause harms to plant resources on the national scale, meeting the conditions for announcing epidemics according to the provisions in Clause 2, Article 9 of this Regulation, the Minister of Agriculture and Rural Development shall decide to announce epidemics and report thereon to the Prime Minister.

3. If after the epidemic announcement the harmful organisms are no longer able to cause serious harms, the decision on no more epidemics must be announced; the persons competent to issue decisions to announce epidemics shall cancel such decisions.

When announcing epidemics, the plant protection agencies of all levels shall have to monitor them, propose measures to stamp out epidemics and not to let them spread, and work out plans to prevent and combat their re-occurrence.

Article 11.- Responsibilities of State agencies, organizations and individuals when decisions to announce epidemics are issued:

1. The Minister of Agriculture and Rural Development shall guide and direct the epidemics-hit localities to quickly stamp out the epidemics, prevent their spread to other regions;

2. The presidents of the People's Committees at all levels in the epidemics-hit localities must direct the concerned agencies to coordinate with social organizations and mobilize people in the epidemic regions to immediately apply effective measures to stamp out the epidemics and prevent their spread to other regions. Depending on the dangerous nature and spreading extent of epidemics, the presidents of the People's Committees in the epidemic localities shall immediately report thereon to their immediate superiors for the application of necessary measures to stamp out the epidemics, overcome the consequences and prevent the re-occurrence of the epidemics;

3. Where epidemics cannot be stamped out in localities though human and material resources have been mobilized to the utmost to combat the epidemics, the provincial/municipal People's Committee presidents shall report the situation to the Prime Minister or to the Minister of Agriculture and Rural Development for further report to the Prime Minister who shall decide on the application of necessary measures to stamp out the epidemics;

4. The plant resource owners and relevant organizations as well as individuals in epidemic localities must apply measures to stamp out the epidemics under the guidance of competent bodies.

Article 12.- The State encourages organizations and individuals who satisfy the conditions prescribed in Article 13 of this Regulation to provide plant protection services with the following contents:

1. Investigating, anticipating, forecasting the situation on organisms harmful to plant resources;
2. Guiding plant resource owners in measures to prevent and eliminate organisms harmful to plant resources;
3. Dealing in plant protection supplies;
4. Applying measures to prevent and eliminate organisms harmful to plant resources.

Article 13.- Those who directly provide plant protection services must satisfy the following conditions:

1. Having professional qualifications for plant protection (diplomas or certificates).
2. Having health certificate granted by medical bodies of the district or higher levels as prescribed;
3. Having lawful and clear transaction addresses.

For activities of providing services on plant protection supplies dealing, the provisions on trading in plant protection drugs prescribed in the Regulation on management of plant protection drugs, issued together with this Decree, must also be complied with.

Article 14.- Organizations and individuals providing plant protection services shall have the following responsibilities:

1. To sign contracts for providing plant protection services with plant resource owners strictly according to the law provisions on economic contracts;
2. To fully observe the provisions of the Ordinance on Plant Protection and Quarantine and the provisions of this Decree.

Article 15.- The following acts shall be strictly prohibited:

1. Using plant protection measures which may cause danger to human beings and useful organisms, such as: using plant protection drugs on the list of those banned from use, plant protection drugs outside the list of those allowed for use; using plant protection drugs not as guided;
2. Putting to trading or use the products already treated with plant protection drugs without ensuring the isolation duration for each type of drug and the permitted volume on farm produce;
3. Importing, exporting, producing, transporting, transiting, stockpiling, trading and/or using plant varieties seriously infected with diseases or plant quarantine objects on Vietnam's list of objects liable to plant quarantine.

On behalf of the Government

Prime Minister

PHAN VAN KHAI

REGULATION ON PLANT QUARANTINE

(Issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002)

Chapter I

GENERAL PROVISIONS

Article 1.- This Regulation prescribes the work of quarantining imported, exported, transited and domestic plants and treating objects subject to plant quarantine by measure of disinfection vaporization.

Article 2.- In this Regulation, the terms and phrases below shall be construed as follows:

1. *The plant quarantine objects* are harmful organisms having potential to cause serious harms to plant resources in a region where such organisms have not yet appeared or have appeared in narrow distribution;
2. *Articles liable to plant quarantine* are plants, plant products, means of production, preservation or transport or other articles which possibly carry plant quarantine objects;

3. *Plant epidemic infection status* means the extent and nature of the articles' infection with harmful organisms;
4. *Article inspection* covers investigation, observation, monitoring, sampling, expertise and research in order to determine the infection status;
5. *Article treatment* covers the recycle, selection, sorting out, cleaning, sterilization, return to places of origin, or destruction of articles;
6. *Disinfection* means the annihilation of organisms which cause harms to articles liable to plant quarantine;
7. *Epidemic focus* is a place where exist one or several kinds of harmful organisms on the promulgated list of plant quarantine objects;
8. *Epidemic region* is a region infested with epidemic focuses;
9. *Lot of articles means* a given quantity of articles with similar conditions and factors on infection proneness;
10. *Plant quarantine location* is a place where articles liable to plant quarantine are inspected before being removed away.

Article 3.- Articles liable to plant quarantine (also called articles in this Regulation) shall include:

1. Plants, plant products;
2. Means of production, preservation or transport, earth, storehouses or other articles which may carry plant quarantine objects.

Article 4.- Responsibilities and powers of the plant quarantine bodies and articles owners are prescribed as follows:

1. The articles owners must monitor, prevent and annihilate harmful organisms, treat infected articles and those which fail to meet the import and/or export criteria or transport them out of epidemic regions according to regulation on plant quarantine.

Where the infected articles must be urgently treated while the articles owners are incapable of doing so, the plant quarantine bodies shall effect the treatment.

Where infected articles of various owners must be treated simultaneously while the article owners cannot reach agreement on the treatment thereof, the plant quarantine bodies shall make decisions and the articles owners must implement them.

The articles owners must bear all costs of treatment of the articles. Where the articles owners are not available, the means owners, the transport means operators, the articles preservers must implement the regulations on plant quarantine with regard to the means and the articles they carry, preserve on such means and bear all expenses for the treatment of articles.

2. The competent plant protection and quarantine State bodies (also called plant quarantine bodies in this Regulation) shall have to guide, supervise and certify the application of measures of monitoring, prevention, annihilation and treatment of articles.

Article 5.- The vaporization for disinfection of export, import, transit, domestic articles, the articles infected with plant quarantine objects must be conducted by domestic organizations and/or individuals that meet all conditions prescribed in Article 30 of this Regulation.

Article 6.- Plant quarantine procedures:

1. The articles owners or persons authorized by articles owners shall have to:

- a) Make declarations at least 24 hours in advance to the nearest plant quarantine offices;

For hand luggage and luggage accompanied on transport means, which are articles liable to plant quarantine, they must be declared in the entry/exit declaration form and inspected on spot by the plant quarantine bodies.

For articles liable to plant quarantine, which are exports or imports or being packed together with other exports, imports (except hand luggage, accompanied luggage of passengers on exit, entry), the goods owners, when submitting the customs dossiers for customs clearance, must have the quarantine registration papers of the plant quarantine bodies.

- b) To create favorable conditions for plant quarantine officials to inspect and sample articles by opening, closing transport means, storehouses, goods packages; to supply personnel for sampling;

- c) To pay plant quarantine charges as prescribed

2. The plant quarantine bodies must inspect, re-inspect and give the results immediately within 24 hours after the articles owners make declarations. Where it is longer than 24 hours, the plant quarantine bodies must notify the articles owners thereof.

Article 7.- In each period, the Minister of Agriculture and Rural Development shall determine and publicize:

1. The list of plant quarantine objects of Vietnam;
2. The list of articles liable to plant quarantine of Vietnam.

Article 8.- The procedures for inspecting articles and compiling dossiers on plant quarantine must be applied uniformly nationwide under the stipulations of the Ministry of Agriculture and Rural Development.

Article 9.- The plant quarantine officials, when performing their tasks:

1. Must wear uniform, badges, rank insignia and plant quarantine card;
2. May enter places where exist articles liable to plant quarantine;
3. For secret security and defense places and other special cases, they must be given conditions and guided in the performance of their tasks by the competent authorities of those establishments in order to satisfy both requirements of confidentiality and plant quarantine.

Article 10.- The coordination among agencies in the work of plant quarantine is prescribed as follows:

1. The customs offices shall have to coordinate with the plant quarantine bodies in inspecting and supervising articles. The customs procedures shall be completed for articles liable to plant quarantine only after all plant quarantine procedures are carried out. The contents of plant quarantine declaration are reflected in the entry/exit declarations.

For articles which the plant quarantine bodies force to re-export, force to destroy or which, after being quarantined and concluded, are allowed for export or import, the plant quarantine bodies shall have to notify such to the customs offices at the border gates where such articles shall be exported or imported, and at the same time take initiative in coordinating with the customs offices and other relevant agencies in settling and handling relevant matters at the request of the plant quarantine bodies.

2. The concerned State bodies (Port Authority, Customs, Post Office, Police, Border Guard, Market Management...) shall, within the ambit of their functions and tasks, have to coordinate with the plant quarantine bodies in inspecting, preventing and/or arresting subjects violating the plant quarantine regulations.

Chapter II

QUARANTINE OF IMPORTED PLANTS

Article 11.- Objects imported into Vietnam must satisfy the following conditions:

1. Being granted plant quarantine certificates by competent plant protection and quarantine State agencies of the exporting countries;
2. Being free from plant quarantine objects and strange harmful organisms; if any, they have already gone through treatment.

The Minister of Agriculture and Rural Development shall prescribe plant quarantine criteria for imported articles.

Article 12.- Procedures for quarantine of imported plants:

1. When the imported articles arrive at the first border gate, the articles owners must notify the nearest Vietnamese plant quarantine offices thereof. The plant quarantine bodies shall carry out the procedures at the first border gate. For special cases, the plant quarantine procedures shall be carried out at other places with isolation conditions;
2. The declaration, inspection, treatment and granting of the certificates of imported plants for imported articles shall comply with Articles 6 and 8 of this Regulation;
3. When water transport means carry articles liable to plant quarantine to buoy No. "0", the means owners shall have to make declaration and the Vietnamese plant quarantine offices shall conduct the inspection; if no plant quarantine objects are found, such means are allowed to enter ports; if plant quarantine objects are detected, they must be treated absolutely.

The inspection of imported articles carried on water transport means shall be conducted at the quarantine locations in Vietnamese ports;

4. Articles temporarily imported for re-export or temporarily exported for re-import must go through plant quarantine procedures like the imported articles.

Article 13.-

1. Organizations and individuals that import plant varieties and useful organisms must satisfy the conditions prescribed in Article 11 of this Regulation.

a) For plant varieties allowed to be imported, they may be only transported to and sown or cultivated at places already registered at the import border gates. When arriving at the above-mentioned locations, the said organizations and individuals must make declaration with the competent plant protection and quarantine State bodies in the localities for further monitoring and inspecting the situation of harmful organisms;

b) For new plant varieties imported for the first time, they may be sown or cultivated only at places prescribed by the plant quarantine bodies in order to monitor the harmful organisms. Only after these bodies conclude that they do not carry plant quarantine objects of Vietnam can they be put into production; the duration of monitoring each plant group shall comply with the stipulations of the Ministry of Agriculture and Rural Development;

c) For useful organisms, when having demands to import them, the articles owners must supply relevant documents to the plant quarantine bodies for consideration and decision by the Ministry of Agriculture and Rural Development.

2. The quarantine of plant varieties and useful organisms must comply with the technical process prescribed by the Ministry of Agriculture and Rural Development.

3. Organizations and individuals that import articles which may be used as strains must also comply with the provisions prescribed for the import of plant varieties.

Article 14.- Responsibilities of plant quarantine bodies and articles owners in the transportation, preservation and use of articles are prescribed as follows:

1. The plant quarantine bodies shall have the right to supervise the plant quarantine of imported articles as from the time such articles are brought into the Vietnamese territory.

2. The articles owners must have the plant quarantine certificates granted by Vietnamese plant quarantine bodies and implement all measures prescribed at such certificates in the course of transportation, preservation and use of the articles.

Article 15.- The plant quarantine bodies are allowed to coordinate with the plant quarantine agencies of the exporting countries in inspecting and treating the to be-imported articles in the exporting countries.

Article 16.- It is strictly forbidden to introduce into Vietnam plant quarantine objects, strange harmful organisms still alive at any growth stage; where they need to be introduced into the country for research, the permission of the Minister of Agriculture and Rural Development is required.

Article 17.-

1. The treatment of articles infected with plant quarantine objects shall be effected as follows:

a) If the articles are infected with plant quarantine objects not yet found in the Vietnamese territory but on Vietnam's list of plant quarantine objects, they shall not be allowed for import and must be returned to their places of origin or be destroyed. Where they can be absolutely treated by other measures, such measures shall be applied;

b) If the articles are infected with plant quarantine objects with narrow distribution in the Vietnamese territory and on Vietnam's list of plant quarantine objects or other strange harmful organisms, absolute treatment measures to be decided by the plant quarantine bodies must be taken before they are brought into the mainland. Where the treatment can not be effected under Vietnamese conditions, they can be returned to their place of origin or destroyed.

2. The treatment of articles adrift, dropped or leaked into Vietnam from overseas shall fall under the jurisdiction of the plant quarantine bodies in coordination with the local administration and relevant agencies.

Chapter III

QUARANTINE OF EXPORT PLANTS

Article 18.- The plant quarantine bodies shall effect the plant quarantine of export articles in the following cases:

1. It is so requested under sale and purchase contracts, or prescribed by the international treaties which Vietnam has signed or acceded to;
2. The articles owners request plant quarantine.

Article 19.- The procedures for quarantine of export articles shall include:

1. When the export articles arrive at the final border gate or at places where the articles are exported to foreign countries, the article owners must notify in advance the nearest plant quarantine bodies thereof;
2. The plant quarantine bodies shall carry out the quarantine procedures and can issue decisions or accept the requests of the articles owners to conduct the preliminary inspection at the production or preservation establishments lying deep in the mainland and re-inspect at the final border gate; for this case, the inspection and re-inspection must also be conducted to grant the plant quarantine certificates;
3. The declaration, inspection, treatment, granting of plant quarantine certificates for export articles shall comply with the provisions in Articles 6 and 8 of this Regulation.

Article 20.- Responsibilities of plant quarantine bodies and articles owners in the transportation of articles out of Vietnamese territory are prescribed as follows:

1. The plant quarantine bodies shall have the right to supervise the plant quarantine of export articles from the time the articles are inspected, re-inspected, granted plant quarantine certificates to the time they are transported out of Vietnamese territory;
2. The export articles owners must acquire plant quarantine certificates as provided for in Article 18 of this Regulation for the transportation of articles from the places of plant quarantine of export articles to foreign countries and must apply all measures prescribed in such certificates.

Chapter IV

QUARANTINE OF TRANSIT PLANTS

Article 21.- The transit or storage of articles in warehouses or yards in the Vietnamese territory must be notified in advance to and consented by the Vietnamese plant quarantine bodies; and the articles must be packed according to the commodity specifications in order to avoid the spread of harmful organisms in the process of transportation and storage.

Article 22.- Procedures for quarantine of export plants shall include:

1. When the articles transit through the first Vietnamese border gate, the articles owners must declare with the nearest plant quarantine offices and produce the plant quarantine certificates of the countries of origin;
2. The Vietnamese plant quarantine bodies shall have the right to supervise such articles, inspect the transport means and the outside of the articles.

Article 23.- If the articles transiting Vietnam are found with Vietnam's plant quarantine objects or packed improperly under the commodity specifications, the articles owners must apply treatment measures or re-pack them according to regulations.

The article owners must bear all expenses for treatment or re-packing.

Chapter V

QUARANTINE OF DOMESTIC PLANTS

Article 24.- Contents of the quarantine of domestic plants:

1. Managing the situation of harmful organisms subject to Vietnam's plant quarantine, and useful organisms;
2. Controlling and applying treatment measures upon the detection of epidemics focuses.

Article 25.- Responsibilities of the competent plant protection and quarantine State bodies:

1. To regularly investigate, monitor and supervise the situation of harmful organisms on imported plant varieties and plant products kept in storehouses;
2. When plant varieties and/or useful organisms are imported into the localities for sowing, cultivation or use, the local competent plant protection and quarantine State bodies shall have to:
 - a) Check the papers on plant quarantine of plant varieties and useful organisms;
 - b) Monitor and supervise places where they are sown, cultivated or used;

- c) If the articles owners fail to comply with the imported plant quarantine procedures prescribed in Article 12 of this Regulation, the local competent plant protection and quarantine State bodies shall apply measures as prescribed by law;
3. Determine the boundary of epidemic region, locations for quarantine of domestic plants when articles are transported out of the epidemics region, conduct the inspection, grant certificate of quarantine of domestically transported plants, supervise the transportation of articles out of the epidemic region;
 4. Check the plant quarantine certificates and monitor, supervise lots of objects brought from the epidemics region to localities;
 5. Decide on measures to treat articles infected with plant quarantine objects; guide, supervise the articles owners in the application of treatment measures;
 6. At places where exist may epidemics nests and signs that epidemics nests spread into epidemics region, the competent plant protection and quarantine State bodies shall have to immediately report thereon to the agencies competent to announce epidemics as provided for in Article 11 of the Ordinance on plant protection and quarantine.

Article 26.- Responsibilities of the articles owners:

1. The article owners must regularly follow the situation on organisms harmful to plant resources they have owned or directly managed.

At places where import articles are often gathered, transited or brought from epidemic regions, the above-mentioned monitoring must be effected upon requests and under the guidance of the competent plant protection and quarantine State bodies;

2. Upon detecting or doubting the existence of plant quarantine articles on the promulgated list or strange harmful organisms, the articles owners or the detectors shall have to apply necessary measures to eliminate and stop their spread, and at the same time to immediately report to the nearest competent plant protection and quarantine State bodies or local administration thereon;
3. To apply article-treating measures decided by the competent plant protection and quarantine State bodies;
4. To create all conditions for the competent plant protection and quarantine State bodies to further monitor and inspect the already-treated articles in the process of sowing and cultivation, use and preservation;
5. To bear all costs of applying the treatment measures; to inspect the granting of certificates of quarantine of domestically transported articles according to the law provisions.

Article 27.- The declaration, inspection, treatment, and granting of certificates of quarantine of domestically transported articles shall comply with the provisions in Articles 6 and 8 of this Regulation.

Article 28.- The transportation of alive plant quarantine objects to epidemic-free regions is strictly forbidden. Where such transportation is carried out for the purpose of research, the permission of the Minister of Agriculture and Rural Development is required.

Chapter VI

TREATING ARTICLES BY MEASURE OF DISINFECTION VAPORIZATION

Article 29.- Disinfection vaporization is a measure of disinfection with toxic chemical vaporization.

Article 30.- Organizations and individuals engaged in disinfection vaporization activities must satisfy the following conditions:

1. Having the disinfection vaporization practice certificate;
2. The contingent of officials and technical workers satisfy the requirements on disinfection vaporization;
3. Having technical process, facilities and equipment in service of disinfection vaporization activities, ensuring safety for human beings, reared animals, environment, fire and explosion prevention and fighting;
4. Working places, equipment and chemicals storehouses must be up to the standards agreed upon by competent functional bodies.

Article 31.- Conditions for granting disinfection steaming practice certificates:

1. The persons who directly manage, run the disinfection vaporization activities must possess:
 - a) Professional qualifications in chemicals or plant protection of the university or higher level;
 - b) Having worked in this domain for at least 3 years;
 - c) Having health certificates granted by health bodies of the district or higher level as provided for.
2. The persons directly conducting the disinfection vaporization :
 - a) Must go through a course of training on disinfection vaporization, and be tested on their professional qualifications and skills by the Plant Protection Department;
 - b) Having health certificates granted by health bodies of the district or higher level as provided for.

Article 32.- Competence to grant certificates for disinfection vaporization practice is prescribed as follows:

1. The regional Sub-Departments for Plant Quarantine under the Plant Protection Department shall grant certificates for disinfection vaporization practice to organizations engaged in activities of disinfecting domestically preserved objects;
2. The Plant Protection Department shall grant certificates of disinfection vaporization practice to organizations engaged in activities of disinfecting export, import, transit articles and those infected with plant quarantine articles;
3. The appraisal and granting of professional practice certificates must be effected within 15 days as from the date of receiving the valid dossiers; in case of non-granting, the reasons therefor must be notified in writing to the applicants.

Article 33.- Powers and obligations of disinfecting organizations when being granted certificates for disinfection vaporization practice:

1. Organizations and individuals engaged in disinfection vaporization activities may conduct the disinfection vaporization activities as from the time they fully meet the conditions prescribed in Article 30 of this Regulation and commit to strictly observe those conditions throughout their operation process;
2. They shall be granted certificates for disinfection vaporization for articles liable to plant quarantine;
3. When applying the measure of disinfection vaporization for articles infected with plant quarantine objects, they must be designated by the plant quarantine bodies and submit to the latter's supervision;
4. Organizations and individuals engaged in disinfecting activities, when carrying out the procedures for being granted the disinfection vaporization practice certificates or for the extension thereof shall have to pay charges and fees as provided for by law.

On behalf of the Government

Prime Minister

PHAN VAN KHAI

REGULATION ON MANAGEMENT OF PLANT PROTECTION DRUGS

(Issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002)

Chapter I

GENERAL PROVISIONS

Article 1.-

1. This Regulation prescribes the production, processing, rebottling, packing, export, import, preservation, reservation, transportation, trading, use, registration, expertise, assay and destruction of plant protection drugs in Vietnam.
2. The plant protection drugs shall include:
 - a) Preparations used for prevention and elimination of organisms harmful to plant resources;

- b) Preparations used for regulation of plant growth;
- c) Preparations used for driving away organisms harmful to plant resources or attracting them for annihilation.

Article 2.- In this Regulation, the terms and phrases below shall be construed as follows:

1. *Plant protection drugs* means preparations originating from chemicals, plants, animals, micro-organisms and other preparations used for prevention and/or annihilation of organisms harmful to plant resources;
2. *Active substances or effective matters of plant protection drugs* include substances in finished products, which have the effect in doing away with or restricting the growth or development of organisms harmful to plant resources; substances which have the effect in regulating the plant growth; substances which cause disgust to, attract or drive away organisms harmful to plant resources;
3. *Technical drugs* means preparations with high contents of active substances used for processing into finished drugs;
4. *Plant protection drug materials* include technical drugs and additives as well as solvents used for finished drug processing;
5. *Finished drugs* means drugs turned out according to certified technological process, which have their quality standards and trademarks registered at competent functional bodies and are allowed to put to circulation and use;
6. *Drug forms* means the physical state with requirements on the particular physical properties of the finished drugs, demonstrated in various forms;
7. *Isolation duration* means the minimum period of time from the date of final use of plant protection drugs to the date of harvesting products in the cultivation process, or the minimum duration from the time of final use of plant protection drugs to the time of using products in the preservation process;
8. *Residue* means the amount of active substances of plant protection drugs, derivatives and metabolic products of plant protection drugs having toxic elements left in commodity farm produce and environment after the use of plant protection drugs;
9. *The permitted maximum residue* means the maximum amount of a type of plant protection drug permitted to be left in farm produce, foodstuff or animal feeds without causing harms to human beings and reared animals. The permitted maximum residue shall be expressed in milligrams of plant protection drugs in a kilogram of commodity farm produce;
10. *Production of plant protection drugs* means the process of composing, processing active substances or technical drugs;
11. *Processing of plant protection drugs* means the process of mixing technical drugs with solvents, additives according to given formulas and processes in order to create finished drugs in various forms according to their use purposes;
12. *Trading* means purchasing and selling activities covering the wholesale, retail and exchange of goods for plant protection drugs on Vietnamese markets.

Article 3.- Domestic and foreign organizations and individuals that carry out activities of producing, exporting, importing, preserving, storing, transporting, trading and/or using plant protection drugs in Vietnam must abide by Vietnam's legislation on plant protection drug management and the international treaties which Vietnam has signed or acceded to.

Article 4.- Annually, the Minister of Agriculture and Rural Development shall publicize the lists of plant protection drugs allowed for use, plant protection drugs restricted from use, and plant protection drugs banned from use on the Vietnamese territory.

When deeming it necessary, the Minister of Agriculture and Rural Development shall decide on the use restriction or ban on plant protection drugs already named in the lists of those permitted for use in Vietnam. The effective duration for the implementation of such decision shall be stipulated by the Ministry of Agriculture and Rural Development for each type of drug.

Article 5.- The following acts shall be strictly prohibited:

1. Producing, processing, rebottling, packing, importing, storing, transporting, trading and using plant protection drugs on the list of those banned from use; fake plant protection drugs; plant protection drugs with unidentified origins; plant protection drugs with marks incompatible with

the regulations on trademarks or infringing upon the trademarks being protected; plant protection drugs outside the lists of those restricted from use, allowed for use in Vietnam, except for cases of import for assay or use in foreign investment projects under the provisions in Clause 3, Article 31 of the Ordinance on Plant Protection and Quarantine;

2. Importing, exporting, trading and/or using expired plant protection drugs;

3. Advertising plant protection drugs which are not on the lists of those allowed for use, those restricted from use and those banned from use on the Vietnamese territory.

Chapter II

PRODUCTION, PROCESSING, REBOTTING, PACKING OF PLANT PROTECTION DRUGS

Article 6.- Activities of producing, processing, rebottling and packing plant protection drugs include:

1. The production of active substances, technical drugs;

2. The processing of active substances or technical drugs into finished drugs in various forms for use;

3. The rebottling, packing of plant protection drugs from larger amounts or capacities into smaller ones.

Article 7.- Organizations and individuals that produce, process, rebottle and/or pack plant protection drugs must fully satisfy the following conditions:

1. The persons who directly run the production, processing, rebottling and/or packing of plant protection drugs must have professional practice certificates;

2. Their producing, processing, rebottling, packing technological processes are compatible with the regulations and ensure the quality of plant protection drugs;

3. They have locations permitted by competent agencies;

4. They have equipment which ensure labor hygiene and health safety for people, reared animals, environment, the fire and explosion prevention and fighting;

5. They have the waste-treating systems as provided for by competent environment bodies;

6. They have product quality inspection establishments or register with the nearest quality inspection offices for the inspection of drug quality before delivery.

Article 8.- Conditions for the granting of professional practice certificates to persons directly running the production, processing, rebottling and/or packing of plant protection drugs:

1. Having professional qualifications in chemistry or plant protection of the university or higher degree;

2. Having health certificates granted by health bodies of the district or higher level as provided for.

The Ministry of Agriculture and Rural Development shall prescribe the procedures for granting of professional practice certificates.

Article 9.- The registration for production, processing, rebottling and/or packing of plant protection drugs shall comply with the following regulations:

The competent State bodies shall only grant business registration certificates for activities of producing, processing, rebottling and packing plant protection drugs when the persons directly managing and running these activities have professional practice certificates granted by the plant protection State bodies in the localities.

Organizations and individuals may produce, process, rebottle and/or pack plant protection drugs as from the time they satisfy all the conditions prescribed in Article 7 of this Regulation and commit to strictly observe those conditions throughout the course of operation.

Foreign organizations and individuals operating in the field of producing, processing, rebottling and/or packing plant protection drugs must obtain the written opinions of the Ministry of Agriculture and Rural Development.

Article 10.- Organizations and individuals may produce, process, rebottle and/or pack plant protection drugs of the following types:

1. Drugs being on the lists of those allowed for use, restricted from use in Vietnam, announced by the Minister of Agriculture and Rural Development;

2. Plant protection drugs in the contracts already signed with foreign traders for re-export; for trial use or for use in foreign investment projects in Vietnam.

Article 11.- Organizations and individuals that produce, process, rebottle and/or pack plant protection drugs have the responsibilities:

1. To report on the situation of quarterly, annual production, processing, rebottling and/or packing under the current regulations of the State to the competent plant protection and quarantine State bodies;
2. When discontinuing the production, processing, rebottling and/or packing of plant protection drugs, to report thereon in writing to the State bodies competent to grant business registration certificates and the competent plant protection and quarantine State bodies;
3. The applicants for the granting of professional practice certificates of production, processing, rebottling and/or packing of plant protection drugs shall have to pay fees according to the State's regulations.

Chapter III

EXPORT, IMPORT OF DRUGS AND MATERIALS FOR THE PRODUCTION OF PLANT PROTECTION DRUGS

Article 12.- Import of finished drugs and materials for production, processing, rebottling and/or packing of plant protection drugs:

1. Organizations and individuals may import finished drugs and materials on the lists of drugs allowed for use or restricted from use in Vietnam for the production, processing, rebottling and/or packing thereof according to the provisions of this Decree;
2. Organizations and individuals that import plant protection finished drugs and plant protection drug materials not on the list of those allowed for use for processing, packing in Vietnam for the purpose of re-export under contracts already signed with foreign countries must obtain import permits from the Ministry of Agriculture and Rural Development and submit to the inspection of such re-export by competent State bodies;
3. Organizations and individuals that import plant protection drugs not yet on the lists of those allowed to use for assay, for use in foreign investment projects in Vietnam, which are allowed to use such types of drugs or import plant protection drugs on the list of those restricted from use must obtain the import permits of the Ministry of Agriculture and Rural Development.

The Ministry of Agriculture and Rural Development shall prescribe the conditions and procedures for granting of permits for import of plant protection drugs.

Article 13.- Organizations and individuals with business registration certificates shall be allowed to export plant protection drugs and/or materials thereof according to the State's regulations on export and import activities.

Chapter IV

TRANSPORTATION, PRESERVATION, TRADING OF PLANT PROTECTION DRUGS AT HOME

Article 14.- The transportation of plant protection drugs must comply with the technical requirements of each type of drug and must ensure safety for human beings and the protection of the environment and ecological system.

Article 15.- The plant protection drugs must be preserved in storehouses. The storehouses must satisfy the technical requirements to ensure the drug quality, ensure safety for human beings and the protection of the environment and ecological system.

Article 16.- Organizations and individuals that trade in plant protection drugs must fully satisfy the following conditions:

1. Having professional practice certificate of trading in plant protection drugs;
2. Having drug stores and storehouses as prescribed;
3. Having necessary equipment to ensure safety for human beings, environmental hygiene, fire and explosion prevention and fighting according to law provisions.

Article 17.- Conditions for granting professional practice certificates to plant protection drug dealers:

1. Having diplomas of intermediate vocational training in agriculture or forestry, or certificates of completion of professional courses on plant protection drugs, granted by the Sub-Departments for Plant Protection;
2. Having health certificates granted by health bodies of the district or higher levels as provided for.

The Ministry of Agriculture and Rural Development shall prescribe the procedures for granting of professional practice certificates of plant protection drug trading.

Article 18.- The competent State bodies shall only grant the business registration certificates for plant protection drug trading when the drug dealers have the professional practice certificates granted by the provincial/municipal Sub-Departments for Plant Protection.

Organizations and individuals may trade in plant protection drugs as from the time they meet all the conditions prescribed in Article 16 of this Regulation and commit to strictly observe those conditions throughout the course of plant protection drug trading activities.

Article 19.- Scope of plant protection drug dealing:

1. To trade in types of finished drugs on the lists of drugs allowed for use or restricted from use in Vietnam;
2. Not to trade in plant protection drugs in a store together with food, foodstuff, refreshments, human medicines and other consumer goods as well as supplies, except fertilizers.

Article 20.- Transportation, storage, trading and advertisement of plant protection drugs must comply with the following regulations:

1. The transported, stored and traded plant protection drugs and raw materials must bear labels and trademarks which comply with law provisions;
2. Advertisement can be made for drugs on the list of those permitted for use in Vietnam. The advertising contents must be true to the properties and effects of the drugs as already registered with the Ministry of Agriculture and Rural Development and conform with the current regulations on information and advertisement.

Chapter V

USE OF PLANT PROTECTION DRUGS

Article 21.- Organizations and individuals are allowed to use plant protection drugs on the lists of those permitted for use or those restricted from use to prevent and annihilate organisms harmful to plant resources under the guidance of professional personnel or strictly according to the instructions on drug labels, using the right drugs, on the right objects, with the right doses and the right concentration, at the right time, according to the right methods, within the permitted scope, with the right isolation duration, and ensuring safety for human beings, cultivated plants, reared animals, food and environmental hygiene and safety.

Article 22.-

1. The destruction of plant protection drugs and packages thereof must ensure safety for human beings, the environment and ecological system.
2. The destruction of plant protection drugs and packages thereof must comply with the technical process promulgated by the Ministry of Science, Technology and Environment.
3. The competent plant protection and quarantine State bodies of all levels, the competent agencies of the People's Committees of the provinces or centrally-run cities where plant protection drugs are destroyed shall have to coordinate with the concerned functional bodies in organizing and supervising the destruction.
4. The destruction of plant protection drugs and empty packages thereof must ensure that the maximum residue in soil, water and air does not exceed Vietnam's prescribed limits or the World Health Organization's prescribed limits if the prescribed limits of Vietnam are not available. The destruction of plant protection drugs and packages thereof must comply with the law provisions on management of noxious wastes.
5. The destroyers must be fully equipped with anti-poison and labor protection means.
6. Organizations and/or individuals that have drugs in stock shall have to organize the destruction thereof. The drug users shall have to gather the empty packages of plant protection drugs and request the local plant protection and quarantine offices to organize the destruction thereof according to regulations.

7. The provincial/municipal plant protection and quarantine agencies shall assume the prime responsibility for organizing the destruction, coordinating with the environmental protection agencies and the concerned local offices in supervising the destruction.

8. All expenses for the destruction must be paid by owners of the destroyed objects.

9. Where owners of the to be- destroyed plant protection drugs and packages thereof cannot be identified, the provincial/municipal People's Committees shall direct the concerned branches to effect the destruction strictly according to regulations and deduct their local budgets for the destruction thereof.

Chapter VI

REGISTRATION, EXPERTISE, ASSAY OF PLANT PROTECTION DRUGS

Article 23.- Domestic or foreign organizations and/or individuals that produce active substances or plant protection drug materials may register under their own names or authorize other organizations or individuals to register under the latter's names the use of their products in Vietnam.

Article 24.- Types of plant protection drugs which must be registered for use in Vietnam:

1. Drugs without active substances named on the list of plant protection drugs permitted for use in Vietnam;

2. Drugs with names on the list of plant protection drugs permitted for use but bearing the names of other merchandises, with changes in their using scopes, drug forms, contents of active substances, or mixed together into new drugs.

Article 25.- Plant protection drugs originating from plants, animals, micro-organisms and less harmful bio-preparations under the classification by the World Health Organization (WHO) or other international organizations shall be given priority in carrying out the registration procedures according to the regulations of the Ministry of Agriculture and Rural Development.

Article 26.- The Ministry of Agriculture and Rural Development shall prescribe:

1. The conditions and procedures for granting of permits for assay of new plant protection drugs;

2. The conditions, registration procedures, the granting of certificates of registration of plant protection drugs in Vietnam;

3. The expertise of quality and superfluous volumes of plant protection drugs and the test of new plant protection drugs being in the process of carrying out the procedures for registration in Vietnam.

Article 27.- The plant protection drugs-expertising and -assaying body of the Ministry of Agriculture and Rural Development shall effect the expertise of the quality of plant protection drug materials and finished products to be exported or imported; the finished products of plant protection drugs in storehouses, production, processing, rebottling and/or packing workshops, on sale or in use; expertise the residue of plant protection drugs in agricultural, forestrial products, foodstuff, agricultural environment; manage, organize and effect the assay of new plant protection drugs. This agency is entitled to inspect and take sample for expertise of quality and residue of plant protection drugs regularly or irregularly at the requests of goods owners. The results of expertise and assay conducted by this body shall serve as a legal basis for the State management over plant protection drugs. The plant protection drugs-expertising and-assaying body must be answerable to law for the results of its expertise and assay.

Article 28.- Organizations and individuals that are granted permits to assay new plant protection drugs or certificates of registration of plant protection drugs must pay fees according to law provisions.

Domestic and foreign organizations and individuals must comply with the regulations on inspection and sampling and pay charges according to the State's regulations on expertise and assay of plant protection drugs.

Chapter VII

REGIME OF MANAGING, USING PLANT PROTECTION DRUG RESERVES

Article 29.- The establishment of plant protection drug reserves, the regime of managing and using the national reserves of plant protection drugs at the central level are prescribed as follows:

1. The Ministry of Planning and Investment shall assume the prime responsibility and coordinate with the Ministry of Agriculture and Rural Development and the Ministry of Finance in drawing up the annual plans on plant protection drug reserve and submit them to the Prime Minister for approval;

2. The Ministry of Agriculture and Rural Development shall manage the national plant protection drug reserve;

3. In cases of natural calamities, the widespread development of organisms harmful to plant resources into epidemics, causing serious damage, which are beyond the localities' capability to prevent and combat them, the presidents of the provincial/municipal People's Committees and the Minister of Agriculture and Rural Development shall ask for the Prime Minister's permission to use the national reserve. The volume and method of delivering the national plant protection drug reserve shall be decided by the Prime Minister on a case-by-case basis.

Article 30.- The establishment of local reserves on plant protection drugs, the regime of management and the mode of use of the provincial/municipal plant protection drug reserves shall be stipulated by the provincial/municipal People's Committees under the guidance of the Ministry of Agriculture and Rural Development and the Ministry of Finance.

On behalf of the Government

Prime Minister

PHAN VAN KHAI

No. : 84/2002/QĐ-BNN

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Hanoi, 24 September 2002

DECISION OF THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

The Issuance of Regulation on State Management over Fumigation Activities of Regulated Articles in the area of Plant Quarantine

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

Pursuant to the Government's Decree No. 73/CP of November 1, 1995 on the functions, tasks, powers and organizational structure of the Ministry of Agriculture and Rural Development;

Pursuant to the Government's Decree No. 58/CP of June 3, 2002 guiding the implementation of the Plant Protection and Quarantine Ordinance;

At the proposals of the directors of the Plant Protection Department and the Science, Technology and Product Quality Department.

DECIDES:

Article 1: To issue together with this Decision “the Regulation on State management over fumigation activities of regulated articles in area of plan quarantine”.

This Regulation shall apply to organizations and/or individuals involved in fumigation activities in the territory of Vietnam.

Article 2: This Decision takes implementation effect 15 days after its signing. It replaces to Decision No. 189/NN-BVTV/QĐ of March 31, 1994 of the Minister of Agriculture and Foodstuff Industry, issuing the Regulation on State management over fumigation of regulated articles, all earlier provisions contrary to this Regulation are now annulled.

Article 3: The directors of the Department of Plant Protection and the Department of Science, Technology and Product Quality, the heads of the concerned agencies and organizations and concerned individuals shall take responsibility to implement this Decision.

Receiver:

***For the Minister of Agriculture
and Rural Development
Vice Minister***

- As the Article 3;
- Government Office;
- The Ministries, Department, and Central mass organizations;
- Supreme court, people's supreme procures;
- Provincial/municipal People's committees;
- The Minister;
- Departments of the Ministry;
- Official Gazette;
- For file, personnel department.

Bui Ba Bong

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REGULATION

ON STATE MANAGEMENT OVER FUMIGATION ACTIVITIES OF REGULATED ARTICLES IN THE AREA OF PLANT QUARANTINE

*(Issued together with Decision No.84/2002/QĐ-BNN of September 24, 2002 of the Minister of
Agriculture and Rural Development)*

Article 1: Fumigation is a measure of disinfection by vaporization with toxic chemicals to eliminate organisms harmful to regulated articles prescribed in Article 3 of the Regulation on Plant Quarantine issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002.

Article 2: The Plant Protection Department's responsibilities concerning fumigation activities:

1. Developing and issuing fumigation standards and procedures.
2. Examining the professional qualifications and skills of fumigation and grant fumigation practice license to individuals that engaged in fumigation activities in the territory of Vietnam according to the provisions of Article 31 of the Regulation on Plant Quarantine issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002.
3. Periodically (once a year) or unexpectedly inspecting fumigation conditions of the organizations and individuals specified in Article 30 of the Regulation on Plant Quarantine issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002.
4. Supervising the fumigation activities of regulated article when they are infected with Vietnam's plant quarantine pest or novel injurious organisms and as requested by the owners of articles.

Article 3: Content of the fumigation supervision

1. Checking fumigation practice license.
2. Checking equipment used for fumigation activities.
3. Supervising chemicals used to disinfect regulated articles according to the provisions of law.
4. Supervising fumigation techniques, including chemical concentrations, dosage, fumigation time, elimination of harmful organisms, strictly according to the technical procedures issued by the Ministry of Agriculture and Rural Development.
5. Supervising the conditions for ensuring safety for people and environment in the process of fumigation activities.

Article 4:

Organizations and individuals engaged in fumigation activities of regulated articles in the territory of Viet Nam must satisfy all conditions prescribed in Article 30 of the Regulation on Plant Quarantine issued together with the Government Decree No. 58/2002/ND-CP of June 3, 2002 and Article 5 of this Regulation.

For organizations already granted fumigation practice permits under Decision No. 189/NN-BVTV/QD of March 31, 1994 of the Minister of Agriculture and Foodstuff Industry, issuing the Regulation on State management over fumigation of regulated articles, when their permits expire they shall have to comply with this Regulation if they intend to continue their fumigation activities.

Article 5: Organizations engaged in fumigation activities must satisfy all the following conditions:

1. The persons who directly manage and run (general directors, deputy general directors, directors, deputy directors, head of technical sections, for business and public-utility enterprises; owners of private enterprises) and the persons in direct charge of fumigation must possess fumigation practice license granted by competent authorities.
2. The contingent of officials and technical workers directly conducting fumigation must undergo a training course on fumigation and be tested on their professional qualifications and skills by the Plant Protection Department or the regional Plant Quarantine Sub-Departments.
3. Having technical procedures as well as means and equipment according to the provisions of Decision No. 70/1998/QD-BNN-KHCN of May 6, 1998 of the Ministry of Agriculture and Rural Development and other regulations to ensure safe fumigation activities for people, domestic animals and environmental sanitation and prevent explosions and fires according to the regulations of the Ministry of Science, Technology and Environment, the Ministry of Public Security and the Ministry of Health.
4. Having the working office, chemical storehouses and equipment strictly according to the regulations of competent State bodies.

Article 6: Conditions for granting fumigation practice license are prescribed in Article 31 of the Regulation on Plant Quarantine issued together with the Government's Decree No. 58/2002/ND-CP of June 3, 2002.

The conditions prescribed in Clause 1 of Article 31 shall apply exclusively to the persons who have directly managed and run fumigation activities, as before June 18, 2002, the effective date of the Government's Decree No. 58/2002/ND-CP.

Article 7: Competence to grant fumigation practice license:

1. The regional Plant Quarantine Sub-Departments shall grant fumigation practice license to individuals engaged in fumigation activities of domestically preserved regulated articles
2. The Plant Protection Department shall grant fumigation practice license to individuals engaged in fumigation activities of export, import, transit regulated articles and those infected with plant quarantine pests.

Article 8: Procedures for granting fumigation practice license:

1. Dossiers consist of:

- a) The result of training on fumigation activities, granted by competent authorities. Particularly for persons prescribed in Clause 1 of Article 31 of the Regulation on Plant Quarantine issued together with the Government's Decree No. 58/2002/ND-CP of June 2, 2002, they must possess written certifications of the duration of their dealing with the fumigation field, issued by the managing agencies where they used to work.
 - b) Written application for the granting of a fumigation practice license.
 - c) CV of the applicant (certified by the local administration or managing agency).
 - d) A health certificate issued by the health agency of district, equivalent or higher level.
 - e) Notarized copies of other relevant diplomas and license.
 - f) Two 3 cm x 4 cm photos.
2. Within 15 days after receiving the dossiers, the competent authorities shall consider them and grant license. Where the competent authorities cannot grant license within the above-said time limit, they shall notify in writing the organizations and individuals thereof.
 3. If three years after being granted the fumigation practice license, the certificate grantees continue their professional practice; they must be examined by the Plant Protection Department and carry out the procedures for extension of their license.
 4. Fees must be paid according to the State's regulations.

Article 9: Implementation and granting of fumigation practice license are prescribed as follows:

1. Only fumigation organizations that satisfy all practice conditions prescribed in Article 5 of this Regulation can grant fumigation certificate for regulated articles.
2. The fumigation and the granting of fumigation certificate for regulated articles which are infected with plant quarantine pests, must be designated and supervised by the plant quarantine agencies (which are attached to or authorized by the Plant Protection Department).
3. Quarterly and annually these organizations shall report on the situation of fumigation of regulated articles at the requests of the plant quarantine agencies.
4. In cases where they discontinue their fumigation activities of regulated articles, they must report such in writing to competent plant quarantine State agencies.

Article 10:

It is strictly forbidden to lend or lease fumigation practice license to other persons or use them for other purpose. If organizations and individuals engaged in the fumigation practice violate the fumigation regulations, they shall be handled according to the current regulations on sanctions against administrative violations in the plant protection and quarantine area.

Article 11:

The fumigation practice license shall constitute one of the conditions for the competent authorities to grant business registration license.

The Plant Protection Department shall coordinate with the responsible functional agencies in guiding, inspecting and urging the implementation of this Regulation.

*For the Minister of Agriculture
and Rural Development
Vice Minister*

Bui Ba Bong

No: 145/2002/QD-BNN

Hanoi, December 18, 2002

**DECISION OF THE MINISTER
OF AGRICULTURE AND RURAL DEVELOPMENT**

Regarding the issuance of regulations on procedures for registration, production, formulating, re-packaging, export, import, trading, storage, transport, usage, disposal, labeling, package, seminars and advertisement of pesticide.

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

- Based on Decree No. 73/CP dated November 01, 1995 by the Government regulating functions, tasks and the organization of the Ministry of Agriculture and Rural Development;
- Based on Ordinance on Plant Protection and Quarantine dated July 25, 2001 and Regulations on Pesticide Management issued in conjunction with Decree No. 58/2002/ND - CP dated June 03, 2002 by the government;
- Considered the Proposal by the Director of Department for Plant Protection and the Director of Department for Technological Science and Product Quality.

DECIDE

Article 1: To issue Regulations on Procedures for registration, production, formulating, re-packaging, export, import, trading, storage, transport, usage, disposal, labeling, package, seminars and advertisement of pesticides;

Nine appendixes are attached with this Decision.

These Regulations are applicable to those domestic and foreign organizations and individuals whose related activities in those fields in Vietnam.

Article 2: This Decision replaces Decision No. 165/1999/QD-BNN-BVTV dated December 13, 1999; Regulation No. 3 on the conditions for trading, producing, formulating, re-packaging, importing pesticide is issued in conjunction with Decision No. 34/2001/QD-BNN-VP dated March 30, 2001 by the Ministry of Agriculture and Rural Development;

Previous Decisions on contrary to this Decision are invalid;

This decision comes into effect in 15 days after the signing.

Article 3: Head of the Ministry's Executive Office, the Director of Department for Plant Protection and the Director of Department for Technological Science and Product Quality,

Heads of Sections under the Ministry of Agriculture and Rural Development, Directors of Agriculture and Rural Development Departments of provinces and centrally run cities as well as concerned organizations, individuals are subject to implementing this Decision.

Copy to:

- *As Article 3*
- *Government's Office*
- *Ministries, ministerial level agencies*
- *People's committees*
- *Official Gazette*
- *Office file*

**On behalf of the Minister of the Ministry of
Agriculture and Rural Development.**

Vice Minister

Bui Ba Bong (signed)

**REGULATIONS ON PROCEDURES FOR REGISTRATION, PRODUCTION,
FORMULATING, RE-PACKAGING, EXPORT, IMPORT, TRADING, STORAGE,
TRANSPORT, USAGE, DISPOSAL, LABELING, PACKAGE, SEMINARS AND
ADVERTISEMENT OF PESTICIDES.**

*(Issued in conjunction with Decision No.145/2002/QĐ-BNN dated December 18, 2002 by the
Ministry of Agriculture and Rural Development)*

I. Procedures for pesticide registration.

Article 1 - General rules

1. Each of active ingredients or raw materials (technical grade) of pesticide of one manufacturer can only be registered under one trade name in Vietnam.

2. Domestic or foreign organizations and individuals who are the manufacturers of active ingredients or raw materials (technical grade) can directly register under their own trade name or authorize one time other organizations, individuals to register one trade name for their active ingredients or raw material (technical grade).

3. Authorized persons can only register one trade name for one active ingredient or raw material (technical grade) of any authorizer.

4. In case of changing the usage purpose, each usage purpose can be registered under another trade name.

5. In case biological efficacy must be experimented as regulated in Article 4, the experimentation must be conducted under Regulations on Pesticide Experimentation for registration purpose in Vietnam, issued by the Minister of Agriculture and Rural Development.

Article 2: Types of pesticides subject to registration include

1. Pesticides without named in the List of the pesticides permitted for use in Vietnam;

2. Pesticides, whose active ingredients and trade name are listed in the List of the pesticides permitted for use in Vietnam .

3. Pesticides with active ingredients and trade name listed in the List of the pesticides permitted for use, but whose usage scope and purpose, types, active ingredient content, dosage have been changed or mixed together into new pesticides.

Article 3: Pesticides not allowed to register include

1. Pesticides listed in the List of pesticides restricted for use in Vietnam (except for special ones used in fumigation of warehouses, ports, wood processing, construction structures, and dykes...);

2. Active ingredients invented by foreign individuals and organizations, but not registered for use in foreign countries;

3. Pesticides with the same trade names as that of active ingredients or raw materials (technical grade);

4. Pesticides with trade names closed in spelling or pronunciation of the one's listed in the List of the pesticides permitted for use in Vietnam;

5. Finished products with acute toxicity in group I or the ones with acute toxicity in group II and their active ingredients in group I, in accordance with the classification of the World Health Organization, except for special ones used in fumigation of warehouses, ports, wood processing, construction structures, and dykes; finished products not under the above mentioned toxicity groups but with the prolonging decay in nature, and the risk to cause environmental pollution, are being noted by international organizations or the toxicity is high to fish, birds, honey bees, and other useful animals.

Article 4 - Forms of Registration

1. Official registration.

a. Full registration is applied to:

- Pesticides recently invented domestically, approved and recognized as a pesticide by the competent council of scientists;

- Pesticides which have already been the commodity products in foreign countries, but introduced into use for the first time in Vietnam;

b. For full registration, biological efficacy must be experimented (experimentation in short) in the North and the South (except for special crops) in two stages: Small-scale and large-scale. The large-scale experimentation can only be conducted after the small-scale experimentation has been completed and the experimentation results have been qualified via initial assessments by the Agency for Management of Pesticide Experimentation.

2. Supplementary registration.

a. Supplementary registration is applied to:

- Changes in others usage scope, formulation, dosage for use, active ingredient content, solvent, additive;

- Bearing other trade names;

- Mixture together two or more than two active ingredients listed in the List of the pesticides permitted for use in Vietnam into new products;

- Pesticides with usage purposes changed.
- b. Cases of supplementary registration regulated under the first em rule of Point A above must be experimented on large-scale;

Cases of supplementary registration regulated under the second, third and fourth em rule of Point A above must be experimented on large and small-scale.

If pesticides for full and supplementary registration to be used for vegetables, fruit and tea must be experimented to re-define the pre-harvest interval. The experiment of the pre-harvest interval is conducted in two areas of agricultural production: the North and the South; The experiment is conducted during two growing seasons on each kind of crop in each area. The experimental process is established based on proposals and agreements between the Agency for Experimentation Management and the product owners.

3. Re-registration

- Re-registration is applied to the types of pesticides listed as permitted and limited for use in Vietnam when the registration certificate has expired. The deadline to apply for registration extension is 6 months prior to the expiration of the registration certificate. Pesticides without timely application for registration extension, or without circulation or use for five years commencing the issuance date of the registration certificate will no longer be listed as permitted and limited for use in Vietnam.

4. Exceptional registration

a. Exceptional registration is a form of registration cutting out the approval procedures as applied in supplementary and full registration. Exceptional registration is only applied to pesticides with biological origin of low toxicity.

b. All bio-pesticides, if exceptionally registered, do not need to have their biological efficacy experimented in accordance with Points 1 and 2 above in Article 4. Domestic research results (for pesticides researched by organizations and individuals) or experiment results of biological efficacy in Vietnam (for pesticides invented by foreign countries) are the scientific datas to evaluate and consider the registration for use in Vietnam.

Article 5 - Documents and samples for pesticide registration

Organizations and individuals applying for registration have to submit the following documents and samples to the Department for Plant Protection:

1. Registration application form (in accordance with the regulated form in Appendix 1 of this Regulation);
2. Copies of industrial property rights certificates or certificates of mark search (notarized) issued by Vietnam's Department for Industrial Property Rights or copies (notarized) of letters of authorization, rights transfer certificates on products in Vietnam by owners of such products (if any). In case of no such documents, the product

owners will not have the rights to claim when other organizations or individuals apply for registration of labels of the same pesticides;

3. Letter of authorization or copy (notarized) of the letter of authorization by manufacturers of raw materials and active ingredients applying for registration;

4. Certificate or legal copy (notarized) of the certificate of the manufacturer of raw materials or active ingredients (technical grade) issued by the host country's Competent Managing Agency;

5. Documents in Vietnamese or English, detailed and copied from originals with the seal of the manufacturer of active ingredients or raw materials (technical grade), authorized (under the requirement of Appendix 2 of this Regulation).

6. Standard substances (under the requirement of Appendix 2 of this Regulation); label samples (under the requirement of Part VIII of this Regulation).

Article 6 - Registration fees

Organizations and individuals applying for registration have to pay registration fees in accordance with current regulations.

Article 7 - Responsibilities of Certificate Issuing Agency

1. To receive documents and samples;

2. To examine and approve documents and keep standard substances;

3. To respond the results if documents are qualified and grant experimental permit within 30 days commencing from the date of complete receipt of legitimate documents. In case the experimentation permit is not granted, the Issuing Agency has respond in writing with reasons clearly stated;

4. To submit to the Ministry of Agriculture and Rural Development for deciding the registration of pesticides after the pesticides have been examined and approved by the National Pesticide Advisory Committee;

5. To issue the registration certificate within 15 days commencing from the date the registration decision by the Ministry of Agriculture and Rural Development comes into effect;

6. To collect fees for issuing the experimentation permit and the pesticide registration certificate.

Article 8 - Duration of certificates

Duration of experimentation permits is 3 years and that of certificates of official, additional and extension registration is 5 years.

II. Production, formulating, re-packing, package of pesticides

Article 9 - General rules

Organizations or individuals producing, formulating, and packaging the pesticides must fully have conditions regulated in Article 7, Regulations on Pesticide Management, issued in conjunction with Decree No. 58/2002/ND- CP dated June 03, 2002 by the Government.

Organizing the production, formulating, re-packing, and packaging the pesticide is strictly prohibited if conditions regulated in Article 7 of the above Regulations on Pesticide Management are not met.

Persons directly managing the production, formulating, re-packing, and packaging of pesticide must possess certificates granted by Sub-department for Plant Protection of Provinces or centrally run cities.

Applicants for certificates to produce, process, refill, package pesticide must fully have conditions regulated in Article 8, Regulations on Pesticide Management issued in conjunction with Decree No. 58/2002/ND-CP dated June 03, 2002 by the Government.

Procedures to issue certificates for pesticide production, formulating, re-packing, packaging are regulated in Decision No. 91/2002/QD- BNN dated February 11, 2002 by the Ministry of Agriculture and Rural Development.

Article 10 - Documentation

1. Foreign organizations and individuals with enough conditions regulated in Article 7, Article 8, Regulations on Pesticide Management issued in conjunction with Decree No. 58/2002/ND-CP dated June 03, 2002 by the Government, and with the need to produce, process, re-pack, package of pesticide in Vietnam must submit documents to the Department for Plant Protection (Ministry of Agriculture and Rural Development).

2. The documents include:

a. Proposal on pesticide production, formulating, re-packing and packaging.

b. Copy of the economical and technical feasibility study, on forms of operation (production, formulating, re-packing, packaging), on types of pesticide to be produced processed, re-packed, packaged, and the duration of the project.

Article 11 - Responsibilities of organizations, individuals producing, formulating, re-packing and packaging of the pesticide

1. To report in writing to the Department for Plant Protection on the situation of pesticide production, formulating, re-packing , packaging in the fourth quarter every year, including the change in designed capacity, form of operation and types of pesticide to be produced, processed, re-packed and packaged.

2. To inform the Department for Plant Protection in writing of the discontinuation of pesticide production, formulating, re-packing and packaging project.

3. To be responsible before the Law if activities of pesticide production, formulating, re-packing and packaging have bad impacts on human beings, domesticated animals and the environment.

Article 12 - Responsibilities of Department for Plant Protection

1. To receive documents on activities of pesticide production, formulating, re-packing and packaging, from foreign organizations and individuals.

2. To consider the specialization and counsel in writing so as to submit to the Ministry of Agriculture and Rural Development for answer. The deadline for an answer is 15 days, commencing from the date of complete receipt of documents, as regulated in Article 11 above.

3. To receive reports on production, formulating, re-packing, packaging activities; announcements of discontinuation of pesticide production, formulating, refilling and packaging activities by organizations and individuals and to summarize these documents to report to the Ministry of Agriculture and Rural Development.

III. Pesticide export and import

Article 13 - General rules

1. Organizations and individuals in economic sectors permitted to operate thereof according to provisions of laws, and registered to trade in pesticide or agricultural materials are allowed to export, import pesticides.

2. Organizations and individuals that import restricted pesticides for use or pesticides not on the List of the pesticides permitted to use in Vietnam for re-export under contract already signed with foreign countries must be issued with import and export permits by the Ministry of Agriculture and Rural Development.

3. Only allowed importation of pesticides listed on the List of the pesticides permitted for use or restricted for use in Viet nam, the finished pesticides must have the same content of active ingredients as that of registered finished pesticides; raw materials (technical grade) must have the same minimum content of active ingredients as that of the raw materials listed on the List of pesticides permitted and restricted for use in Vietnam .

4. Only pesticides listed on the List of the pesticides permitted and restricted for use in Vietnam those are same the origin (manufacturer) of the pesticides registered in Viet nam are imported .

Article 14 - Conditions of pesticide export and import

1. To possess business registration certificates reading trading items of pesticide, agricultural materials or trading activities of goods.

2. To possess the code registration certificate of the import and export agency issued by Customs Offices of provinces, centrally run cities.

3. To possess re-export contracts with foreign partners (if imported for re-export) reading clearly the type, quantity of imported pesticide for re-export; deadline for re-export.

4. To possess the proposal to apply for importing pesticides not listed as permitted, restricted for use in research, experiment, testing, experimentation or foreign investment projects in Viet nam (if imported for use in research, experiment or foreign investment projects in Viet nam).

5. Plan for importing restricted pesticides for use to be allocated annually by the Ministry of Agriculture and Rural Development.

Article 15: Procedures for issuing permits to import pesticides of restricted to use, the pesticides not yet on the lists of those allowed to use in Viet nam or pesticide for re-export under contracts already signed with foreign countries.

1. Organizations and individuals with plan for importing pesticides listed in the lists of pesticides restricted from use in Vietnam allocated by the Ministry of Agriculture and Rural Development have to submit the following documents to the Department for Plant Protection:

a) Proposal to apply for import: Reading clearly the type, quantity (finished product or raw material pesticide) to coincide with the quantity allocated by the Ministry of Agriculture and Rural Development, as well as the time and place for import.

b) Copy (notarized) of business registration certificates, the company of trade code registration certificate of the import and export by the Customs Office (only for the first submission) and other notarized copies must be submitted (notarized) in case of changes or extension for use.

2. Organizations and individuals with the need to import pesticides for re-export have to submit a purchase contract with foreign partners to the Department for Plant Protection.

3. Organizations and individuals with the need to import pesticides not listed as permitted for use have to submit the following documents to the Department for Plant Protection:

a) Copy of the program or plan of research, test and experimentation of those pesticides.

b) Copy (notarized) of foreign investment license issued by a competent agency in Vietnam (only for the first submission) if imported for use in foreign investment projects in Vietnam.

4. The Department for Plant Protection considers and proposes the Ministry of Agriculture and Rural Development to issue the import license. Latest duration for issuing the license is 7 days, commencing from the date of complete receipt of the documents as regulated in Article 1, 2 and 3 above.

5. Import license for different types of the above mentioned pesticides is applied uniformly (Appendix 9 attached) and valid to the whole lot of goods and time written in the license.

IV. Trading pesticide

Article 16 - General rules

Organizations and individuals trading pesticides must fully have conditions regulated in Article 16 of Regulations on Pesticide Management, issued in conjunction with Decree No. 58/2002/ND- CP dated June 03, 2002 by the Government, and Article 6, Decree No. 11/1999/ND- CP dated March 03, 1999 by the Government. Persons directly trading in pesticide must have trade certificates issued by the Sub-department for Plant Protection of provinces or centrally run cities.

Article 17: Issuing certificates to trade in pesticide.

Applicants for certificates to trade in pesticide must have enough conditions regulated in Article 17, Regulations on Pesticide Management, issued in conjunction with Decree No. 08/2002/ND- CP dated June 03, 2002 by the Government.

Article 18 - Procedures to issue certificates to trade in pesticide

Procedures to issue certificates to trade in pesticide are regulated in Decision No. 91/2002/QĐ- BNN dated October 11, 2002 by the Ministry of Agriculture and Rural Development.

Article 19 - Trading pesticide

Only trade in types of finished pesticides on the lists of the pesticides allowed for use or restricted for use in Vietnam, issued annually by the Ministry of Agriculture and Rural Development.

Article 20 - Labels for pesticide

Only wholesaling and retailing in types of finished pesticides with trade labels as regulated in part VIII of this Regulation and other regulations of the State Competent Agency in charge of labels .

Article 21 - Places for pesticide retailing

Outlets retailing pesticide must be permitted in writing by local authorities; to be located far from residential areas, schools, hospitals, markets and water sources; to ensure safety to human beings, animals and the environment; not to be flooded in any circumstance; to possess sufficient anti-explosion and fire equipments and meet the regulations in Item 2, Article 19, Regulations on Pesticide Management, issued in conjunction with Decree No. 58/2002/ND-CP dated June 03, 2002 by the Government.

V. Transporting and storing pesticide

Article 22 - General Rules

– Transporting finished product pesticides and raw materials must observe regulations in Decree No. 36/CP dated May 29, 1995 on Ensuring Urban Order and Traffic Safety, Decree No. 39/CP dated July 15, 1996 on Ensuring Order and Railway Safety and Decree No. 46/CP dated July 05, 1996 on Ensuring Order and Domestic Water Way Safety by the Government.

– Transporting finished product pesticides and raw materials by means of transport for passengers, domesticated animals, food and foodstuff, flammables and explosives and other kinds of goods is strictly prohibited.

Article 23 - Transporting pesticides

Transporting pesticides and raw materials must ensure safety for human beings, the environment on road maps; stopping or parking in crowded areas, near schools, hospitals, markets, water sources is prohibited.

Article 24 - Occurrences while transporting pesticides

If pesticide breaks, spills or traffic accidents happen while transporting, owners of vehicles or goods must inform the nearest local authority or state competent agency so as to work out measures to prevent and overcome timely consequences caused by the leaking pesticide, and the goods owners shall have to bear all the associated costs.

Article 25 - Pesticides preserving storehouses

Pesticide preserved storehouse must ensure the following requirements:

1. Location of pesticide preserved warehouse (outside industrial zones) must be accepted in writing by local competent authority.
2. Warehouse must be built solid, by anti-flame materials, not flooded, spacious, convenient for access by fire extinguishing equipment.
3. Warehouse must have fire extinguishing, anti-poison, emergency aid equipments and warning signs as regulated by the government.

Article 26 - Storing pesticide

Pesticide storage must ensure safety for human beings, animals and the environment in surrounding areas. In case pesticide leaks, diffuses, having bad effects on the environment, pesticide owners must be responsible for overcoming the consequences under guidance or examination by the Agency for Quarantine and Plant Protection, Provincial level Agency for Environment Management and bear all associated costs.

VI. Pesticide usage

Article 27 - General provisions

Only using pesticides on the lists of those permitted for use or those restricted from use, issued annually by the Ministry of Agriculture and Rural Development, is allowed.

Using pesticides banned for use in ViÖt nam; those not listed on the lists of those permitted for use or those restricted from use or without origin, is be strictly prohibited.

Using pesticides on contrary to instructions on the labels is prohibited.

The use of pesticide must be in line with instructions on labels of each kind of pesticide and in accordance with regulations in Point 2, 3, Article 32, Ordinance on Quarantine and Plant Protection dated July 25, 2001 and Article 21, Regulations on Pesticide Management, issued in conjunction with Decree No. 58/2002/ND - CP dated June 03, 2002 by the Government.

Article 28 - Responsibilities of pesticide users

Pesticide users must be responsible before the Law for their arbitrary usage, for not ensuring pre-harvest intervals, for the technically wrong usage, for using prohibited, not listed or without origin pesticides, having bad impacts on human health, domesticated animals and the environment. Pesticide users must compensate if they cause material damage to other people.

Article 29 - Responsibilities of Pesticide Managing Agencies and Trading Establishments

1. Managing Agency for Quarantine and Plant Protection of provinces and centrally run cities coordinate with relevant agencies to organize checking pesticide usage in production areas, especially in areas of vegetable, tea and fruit trees; to detect and deal with cases violating on purpose the pesticide usage techniques and rules as stipulated in Article 27 of this Regulation.

2. Commune and ward level authorities are responsible for managing the pesticide trading and usage in their localities, coordinate with specialized agencies on quarantine and plant protection to organize public awareness, guidance on effective and proper pesticide usage.

3. Domestic and foreign organizations and individuals trading pesticides are responsible before the Law for insufficient, incorrect public awareness, advertising, pesticide usage, making pesticide users mistaken, having bad impacts on human health, domesticated animals and the environment. Pesticide users must compensate if they cause material damage to other people.

VII. Disposal of pesticide, packages

Article 30 - General rules

Disposal of pesticides and packages must meet requirements regulated in Article 22, Regulations on Pesticide Management issued in conjunction with Decision No. 58/2002/ND-CP dated June 03, 2002 by the Government and regulations of the Law on Pesticide Disposal.

Article 31- Disposal

The disposal of pesticides and packages is conducted in line with stipulations in Regulations on Management of Dangerous Waste, issued in conjunction with Decision No. 155/1999/QD-CP dated July 16, 1999 by the Prime Minister and must be in accordance with Point 5, Part 2, Directive No. 29/1998/CT-TTg dated August 25, 1998 by the Prime Minister and other regulations of the Law on Pesticide Disposal.

VIII. Labels of pesticide

Article 32 - General rules

1. All kinds of pesticides, when wholesaled, retailed and used, must have labels in Vietnamese, label content must be complied with label samples accepted in registration approval-examine and in accordance with Regulations on trademark for domestic circulation and for export and import, issued in conjunction with Decision No.178/1999/QD-TTg dated August 30, 1999 by the Prime Minister. The label content can only be changed when accepted by the Department for Plant Protection.

2. Labels are printed in normal letter size, clear, legible, unobscured and hardly torn while in circulation, storage, transportation and use.

3. Labels must be solid stucked or printed on packing materials.

4. Using the same color as that indicating the toxicity of pesticide for label background is not allowed.

5. Name of active ingredients or raw materials (technical grade) can only printed on “composition” item of the label.

6. For pesticide packed in small bag, label are printed in normal letter size and attached with leaflet labels.

7. Any change in label content as compared to approved – examined label samples in the registration process, are acts of breaking the current law provision on Regulations of printing goods labels.

Article 33 - Label content includes

1. Information on toxicity.

2. Trade name, composition, active ingredient content, and clearly printing of measurement unit by weight/volume (w/v) or weight/weight (w/w, %), type, effect of pesticide.

3. Instructions for use

4. Safe guide in use, post use and first aid when intoxicated.

5. Possibility for mixing with other types of pesticides (if any), keys of storage;

6. Registration number for use, net volume, units are liter or milliliter (for pesticide in liquid); net weight, units are kilogram or gram (for pesticide in powder, pellet)

7. Name and address of manufacturer; name and address of formulator, supplier .

8. Date of formulating or packaging, self life .

9. Illustrated instructions for storage, mixing, use (if any).

10. Pre-harvest interval (PHI), illustrations, colour band indicating toxicity, toxicity groups and physical characteristics of pesticide.

Article 34 - Pesticide labels include

One columned labels, two columned labels, three columned labels and leaflet labels (settings and content of each type are with Appendix enclosed).

IX. Package, packing pesticides.

Article 35 - General rules

1. Pesticide must be contained in separate packages.
2. Use of food and drinks packing materials to contain pesticide or use of pesticide packing materials to contain food and drinks is prohibited.
3. Do not contain pesticide in fragile packing materials, to cause risk to users; containing pesticide in ampoule is prohibited;
4. Packing materials must ensure the following requirements:
 - a. Durable in storage, circulation and use.
 - b. Do not change composition, property and effect of pesticide.
 - c. Prevent environmental factors from affecting the quality of pesticide.

Article 36 - Packaging

Weight, volume of pesticide packed must be true with net weight, net volume (tolerance) printed on labels of that pesticide.

X. Seminars, advertisement of pesticide

Article 37 - General rules

1. Seminars and advertisement for pesticide on the list of those permitted for use in Vietnam can only be made; Conduct seminars for pesticides on the list of those limited for use in Vietnam to warn of safe and proper use. Content of seminars, advertisement must be true with the registered contents of that pesticide.

Advertising pesticide listed on the list of those limited for use in Vietnam or not listed on the list of those permitted for use in Vietnam is prohibited.

2. All trade seminars on pesticide of any pesticide trading organizer must have programs introducing on “the safe in use of pesticide”. The content of this program is instructed by the Plant Protection Department.

Article 38 - Advertisement, seminars

1. Pesticide advertisement must comply with regulations in Ordinance on Advertisement dated November 16, 2001 and Term 3, Article 35 of Ordinance on Plant Protection and Quarantine.
2. Content of seminars and advertisement for pesticide in a locality must be agreed by that local Sub-department for Plant Protection.

**On behalf of the Minister of
Agriculture and Rural Development
Vice Minister**

(Signed)
Bui Ba Bong

Appendix 1: Sample of application form

**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
THE SOCIALIST REPUBLIC OF VIETNAM
§éc lĒp – tù do – h¹nh phúc
Independence – Freedom – Happiness**

**®-n xin ®-ng ký thuộc b¶o vŕ th¼c vĒt
APPLICATION FOR PESTICIDE REGISTRATION**

Tªn thuộc th-ñng m¹i:.....
Trade name:

Tªn chung:
Common name:

Hàm l-ìng(%):..... D¹ng th¼nh phĒm:.....
Active ingredient content:..... Finished product type:

Tªn nh¼ s¶n xuĒt:
Name of manufacturer/ Basic producer:

§Đa chØ liªn l¹c t¹i ViĒt Nam:
Contact address in Vietnam:.....
..... Tel.:..... Fax:.....

H×nh th¼c ®-ng ký:.....
Type of application:.....

ChÝnh th¼c: **Bæ sung:** - Tªn th-ñng m¹i: - D¹ng:
Fulll Supplementary Trade name Type

T, i ®-ng ký: - Hàm l-ìng ho¹t chĒt - Hçn híp
Re-application Content of a.i Combination

§-ng ký ®Æc c, ch - Ph¹m vi sŕ dŕng
Exceptional application Use scope

§èi t-ìng ®-ng ký sŕ dŕng:
Scope of application:

C©y tr¼ng (Crop)	DÞch h¹i (Pest)

C, c t¼p liĒu v¼ mĒu vĒt kĒm theo:

Accompanying dossiers & materials

- 1.....
2.....

3.....

Chóng t«i xin cam ®oan lêi khai trong ®-n, t«i liÖu c«ng nh- mÉu vÛt kÌm theo l«u ®óng sù thÛt.

I declare that all the information contained in this application as well as accompanying dossiers and materials are true and correct.

T«i....., nguy.....
At, on.....

Ký tªn
(Signature)

Name:

Title:

Appendix 2

Content of documents; samples to be submitted for pesticide registration

Organizations and individuals applying for pesticide registration have to submit the following documents and samples depending on the form of registration:

Full registration

Documents:

Documents on physical characteristics of active ingredients, finished product pesticide such as: chemical name, name of active ingredients, trade name, structural formula, molecular formula of active ingredients, color, evaporating pressure, solubility, melting point (solid form), boiling point (liquid form), density of active ingredients, finished product pesticide, burning point, inflammability, explosibility, erodibility, mixability, durability and other basic physico-chemical characteristics.

Pesticide type, composition, active ingredient content of finished product pesticide; composition, content of active ingredients and extraneous matter of technical grade (raw material).

Documents on physico-toxicity of active ingredient, of finished product pesticide: Acute toxicity (oral, contact, inhalation), eye, skin irritability, allergy activation. Chronic toxicity such as cancer activation, degeneration, genetic mutation, affecting reproductivity... norms must have proof of attached test results.

Other documents: The translocation process of pesticide in human body and animals, accumulation in fat, process of translocation and deterioration in plants, in soil and in natural conditions. Effects of pesticide on wild animals such as: fish, bees, birds, useful organisms (earthworm, natural calamities...); allowed daily interval in human being (ADI); maximum residue limit (MRL), pre harvest interval (PHI), bio-effect in foreign countries, situation of its registration in foreign countries, (copy of registration certificate in foreign countries). Documents on methods and process of analyzing the quality and residue in soil, water and agricultural products. Documents on first aid methods when intoxicated. A certificate of manufacturer of raw materials or active ingredients issued by the host country's competent agency. Letter of authorization of the manufacturer of raw material or active ingredients if the applicant for registration is authorized.

Sample: Two grams of standard substance. Standard substance must be certified in quality by the manufacturer and the minimum expiry date is 2 years from now.

Label samples are in Vietnamese, content is in line with current regulations of Vietnam.

Result of experimentation on bio-effect in Vietnam must be assessed by the Scientific Council founded for registration purpose by the Agency for Pesticide Experimentation Management.

Supplementary registration.

Technical documents are the same as those of Part I, except for cases where sufficient documents were submitted for official registration.

Sample: Two grams of standard substance, if applied for supplementary registration of trade name for pesticide. Standard substance must be certified in quality by the manufacturer and have the minimal expiry date of 2 years from now.

Label sample in Vietnamese with the content in line with current regulations of Vietnam.

Result of experimentation on bio-effect in Vietnam must be assessed by the Scientific Council, founded for registration purpose by the Agency for Pesticide Experimentation Management.

Registration extension

For pesticides registered for use in Vietnam but their registration certificates have expired, application for extension, documents on the current situation of registration and use in foreign countries must be submitted. Report on the quantity or value of those pesticides imported, produced, processed, re-filled, packed, traded and used annually in Vietnam (with copy of import bill of lading, legitimate invoices).

Exceptional registration

The same technical documents and samples must be submitted as those for official registration. Research result on bio-effect to invent those types of pesticides is accepted, served as technical basis for registration.

Appendix of pesticide labels

Appendix 3: Content of one columned label.

- Information on toxicity (Appendix 7, Item 1)
- Name and type of pesticide (Appendix 7, Item 2)
- Composition: + Active ingredient
+ Solvent (Appendix 5, Item 3)
- Effect (Appendix 7, Item 4)
- Pre-harvest interval (Appendix 7, Item 6)
- Safety precaution (Appendix 7, Item 7)
- Instructions for toxicity first aid (Appendix 7, Item 8)
- Net volume or net weight measured in kilogram, gram (for pesticide in powder and pellet); liter, milliliter (for liquid pesticide) packing date, expiry date.
- Name and address of the raw material manufacturer; name and address of the formulating and supplying establishment.
- Color trace (Appendix 7, Item 9)
- Instructions for use (Appendix 7, Item 5)
- Instructions for storage.

Appendix 4: Content of two columned labels

First column

- Information on toxicity (Appendix 7, Item 1)
- Name and type of pesticide (Appendix 7, Item 2)
- Composition: + Active ingredient
+ Solvent (Appendix 5, Item 3)
- Effect (Appendix 7, Item 4)
- Pre-harvest interval (Appendix 7, Item 6)
- Safety precaution (Appendix 7, Item 7)
- Instructions for toxicity first aid (Appendix 7, Item 8)

Second column

- Instructions for use (Appendix 7, Item 5)
- Pre-harvest interval (Appendix 7, Item 6) (if not written in first column)
- Net volume or net weight, packing date, expiry date.
- Name and address of the raw material manufacturer; name and address of the formulating and supplying establishment.
- Color trace (Appendix 7, Item 9)

Appendix 5: content of three columned labels

First column

- Information on toxicity (Appendix 7, Item 1)
- Name and type of pesticide (Appendix 7, Item 2)
- Composition: + Active ingredient
+ Solvent (Appendix 5, Item 3)
- Effect (Appendix 7, Item 4)
- Net volume or net weight, packing date, expiry date.

- Name and address of the raw material manufacturer; name and address of the formulating and supplying establishment.

Second column

- Instructions for use (Appendix 7, Item 5)
- Pre-harvest interval (Appendix 7, Item 6)
- Other information.

Third column

- Safety precautions (Appendix 7, Item 7)
- Instructions for toxicity first aid (Appendix 7, Item 8)
- Color trade (Appendix 7, Item 9)

Appendix 6: content of leaflet labels.

When too much information on pesticide needs to be printed but the label space is limited and can not accommodate all, such information shall be printed on another type of label called leaflet label.

When leaflet label is used, there must be a sentence on the main label reading “read carefully the attached leaflet label before using”.

Content on leaflet labels includes:

- Information on toxicity (Appendix 7, Item 1)
- Name and type of pesticide (Appendix 7, Item 2)
- Instructions for use (Appendix 7, Item 5)
- Pre-harvest interval (Appendix 7, Item 6)
- Safety precautions (Appendix 7, Item 7)
- Instructions for toxicity first aid (Appendix 7, Item 8)

Appendix 7: Detailed Instructions

1. Information on toxicity:

- Information on toxicity such as “Very poisonous”, “Highly poisonous”, “Dangerous”, “Precautions” and symbols illustrating respective toxicity of each kind of pesticide (skull with crossbones for pesticide in group I and Cross inside an inclined square for pesticide in group II) must be printed beyond the trade name of the label.
- Sentence reading “Keep away from children” must be placed right below the information and in parallel with the symbol indicating the toxicity.
- In addition to the above information, there may be on the label symbols illustrating physical characteristics of pesticide such as erodibility, explosibility, inflammability, oxidativity...(if any) (Appendix 6)
- The symbols illustrating toxicity and physical characteristics of pesticide printed in the inclined square must follow the regulated color and the minimum size of the symbols must be 1.5cm².

2. Name and type of pesticide:

- Trade name
- Content of active ingredient and type of pesticide (Vietnamese or international notation if it has the same meaning)

Example: Insecticide Padan 95SP; Vicarp 95 BHN
Insecticide Applaud 10WP; Viappla 10BTN

3. Composition:

Active ingredient: Name and content of all active ingredients in finished product pesticide (unit by gram/kilogram, gram/liter or percent), measured in weight/volume (w/v) or weight/weight (w/w).

4. Effect:

- It must be written clearly what pests the registered pesticide is good for and what crops it is used on (insecticide, pesticide or herbicide).

Example:

- Used to kill weeds on dry fields.
- Used to kill weeds
- Used to kill rice beasts.

5. Instructions for use:

It must be written clearly what crops, pests the pesticide is used for, time and methods used to ensure the utmost safety and effectiveness. The instructions for use must include:

- All information to prevent incorrect and improper use.

Example:

- + Do not use when it is going to rain
- + Only use when crops have between 2 and 3 leaves.
- Dosage, concentration, time and method applied in pest situation.
- Instructions on mixing pesticide, method for mixing, spraying, storing pesticide, disposing the leftover and packing materials.
- Possibility for mixing with other types of pesticide.

6. Pre-harvest interval:

Specific pre-harvest intervals for different users must be clearly indicated as follows:

- Do not use pesticide before harvest (day/week)
- Do not treat domesticated animals before slaughter (day/week)
- Be dangerous (poisonous) for domesticated animals. Do not release animals into pesticide using areas (hour/day)
- Persons with no safety work clothes and equipment are not allowed access to the pesticide using areas (hour/day).
- Ventilation for pesticide using areas (hour/day) before work (warehouses...).

7. Safety precautions:

- For pesticide:

- + Causing poison if inhaled
- + Causing poison if drunk
- + Causing poison if skin contacted.
- + Causing allergy to skin, eyes, respiratory system.

- While in use:
 - + Avoid inhaling
 - + Keep pesticide from contacting skin, mouth, eyes and nose
 - + Do not smoke, eat and drink
 - + Use protective working equipment (clothes, glasses, hats, gloves, boots...).
 - + Wash immediately where stuck with pesticide with much water

- After use:
 - + Wash feet, hands or take a bath.
 - + Wash protective working equipment.
 - + This information must be written clearly for users to read, understand easily.

8. Instructions for intoxication emergency aid:

Methods for first aid, when intoxicated, must be clearly written:

- What has to be done when pesticide contacts skin or eyes;
- What has to be done when inhaling pesticide vapor;
- What has to be done when drunk;
- What has to be done when stuck to clothes;
- What has to be done if felt symptoms of intoxication when or after use;
- What are the symptoms of intoxication like;
- Antidote (if any);

9. Color trace:

The color trace is defined based on the table of toxicity classification of the World Health Organization.

- For group I pesticide, red color trace;
- For group II pesticide, yellow color trace;
- For group III pesticide, sea water blue or sky blue color trace
- These color traces are placed at the bottom of labels and as long as labels, their minimal height is by 10 percent of that of label.
- Color of trace must be durable, not smudged or faded.

10. Other information:

- Name, address of the raw material or active ingredient manufacturer (must be in line with that of the manufacturer applying for use registration and registration certificate);
- Name, address of the formulating, refilling, packing, supplying establishment;
- Duration for use (year);
- Formulating, refilling, packing date
- Use registration number;
- Other information (if any)

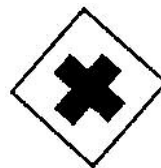
Appendix 8

Symbols showing pesticide toxicity and characteristics

Toxicity: Black symbol on white background



Extremely toxic



Highly toxic

Corrosibility: Black symbol on halved yellow or orange background and white letters on halved black background



Explosibility: Black symbol on yellow or orange background



Inflammability (very): Black symbol on white background and halved red background



Inflammability:

- Black symbol on red background
- Black symbol on white background with red stripes



Oxidativity:

- Black symbol on yellow or orange background



Appendix 9: Import Permit Sample

**MINISTRY OF AGRICULTURE
AND RURAL DEVELOPMENT**

**SOCIALIST REPUBLIC OF VIETNAM
Independence-Freedom-Happiness**

No...../BNN-BVTV

Hanoi, date.....month.....year 200...

PERMIT FOR PESTICIDE IMPORT

Based on the need to import pesticide of limited use/pesticide not listed as permitted for use in Vietnam (in Letter No date month year by).

The Ministry of Agriculture and Rural Development allowed.....to import in the year of..... pesticide of limited use/pesticide not listed as permitted for use in Vietnam in the following quantities:

No.	Quantity of imports (ton)				Origin	Note
	Raw material		Finished product			
	Name of raw material	Quantity	Name of finished product	Quantity		
Total						

Import date: from.....to.....

Import place:.....

**On behalf of the Minister of the Ministry of
Agriculture and Rural Development.
Vice Minister**

Bui Ba Bong (signed)

GOVERNMENT

No: 02/2007/ND-CP

THE SOCIALIST REPUBLIC OF VIET NAM **Independence - Freedom - Happiness**

Decree on Plant Quarantine

THE GOVERNMENT

Pursuant to the December 25, 2001 Law on Organization of the Government;

Pursuant to the July 25, 2001 Ordinance on Plant Protection and Quarantine;

At the proposal of the Minister of Agriculture and Rural Development,

DECREES :

Chapter I General provisions

Article 1. Purpose

This Decree prescribes the plant quarantine activities related to import, export, temporary import, temporary export, transit, domestic quarantine and treatments of regulated articles.

Article 2. Scope of application

This Decree shall apply to any Vietnamese and foreign organizations and/or individuals that are involved in plant quarantine activities carried out in the territory of Viet Nam, except otherwise stipulated in international treaties to which Viet Nam is a signatory or a contracting party.

Article 3. Definitions

In this Decree, the following terms shall have the meanings hereunder assigned to them:

1. *Pest*: any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products, including: insects, fungi, bacteria, virus, phytoplasma, weeds, mouse and other organisms harmful to plant resources

2. *Quarantine pest*: a pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled.

3. *Regulated non-quarantine pest*: a non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing country.

4. *Regulated pest*: a quarantine pest or a regulated non-quarantine pest

5. *New pest*: any pest that has not been identified on the basis of scientific evidence and not found previously in the country.

6. *Beneficial organism*: any virus, bacterium, nematode, fungus, insect, animal or any other organism which helps reduce damage to plants and plant products due to pests.

7. *Regulated article*: any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harboring regulated pests.

8. *Pest infestation status*: level and characteristics of pest present in a commodity.

9. *Inspection of articles*: involves survey, observation, monitoring, sampling, testing, identification and research to determine infestation status.

10. *Disinfestation*: official procedure for the absolute killing of pests on articles.

11. *Fumigation*: treatment with a chemical agent that reaches the commodity wholly or primarily in a gaseous state.

12. *Epidemic focus*: is a place where exist one or several kinds of harmful organisms on the promulgated lists of quarantine pests or regulated non-quarantine pests;

13. *Outbreak area*: an area with a quarantine pest defined by a competent quarantine authority.

14. *Lot of articles*: a quantity of articles, identifiable by its homogeneity of composition and potential of infestation.

15. *Place of quarantine inspection*: a premise where inspection is conducted before moving the articles.

16. *Pest risk analysis*: the process of evaluating biological or other scientific and economic evidence to determine whether a pest should be regulated and the strength of any phytosanitary measures to be taken against it.

17. *Pest free area*: An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained.

18. *Equivalence*: the use of different phytosanitary measures while achieving similar effects.

19. *Surveillance*: an official process which collects and records data on pest occurrence or absence by survey, monitoring or other procedures.

20. *Harmonization of phytosanitary measures*: the establishment, recognition and application by different countries of phytosanitary measures based on common standards.

21. *Plant*: living plants and parts thereof, including seeds and germplasm.

22. *Plant products*: unmanufactured material of plant origin and those manufactured products that, by their nature or that of their processing, may create a risk for the introduction and spread of pests.

23. *Newly imported seed*: any seed which has not appeared as in the list of varieties permitted for production and sale

24. *Phytosanitary measure*: Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests.

25. *Place of origin*: a place where the plants were grown or initiate the infested status

26. *Quarantine facility*: official station for growing plants or holding plant products in quarantine which is isolated from the environment.

27. *Import permit*: official document authorizing importation of a commodity in accordance with specified phytosanitary requirements.

Article 4. Responsibilities of article owner

1. Monitoring and control pests, treatment of infested articles, non-compliance articles for import or export, and movement of articles from a outbreak area in accordance with phytosanitary regulations.

In cases where infested articles of various owners must be treated simultaneously while the article owners cannot reach agreement on the treatment thereof, the plant quarantine authority shall make decisions with which the articles owners must comply.

2. Regularly monitoring the pest status harmful to plant resources under ownership or directly handle

At places where import articles are often gathered, transited or brought from outbreak areas, the above-mentioned monitoring must be effected upon requests and under the guidance of the competent plant protection and quarantine State bodies;

3. Upon detecting or doubting the existence of regulated pests on the promulgated list or strange harmful organisms, the articles owners or the detectors shall have to apply necessary measures to eliminate and stop their spread, and at the same time to immediately report to the nearest competent plant protection and quarantine State bodies or local administration thereon;

4. To apply article-treating measures decided by the competent plant protection and quarantine State bodies;

5. Payment of plant quarantine charge and costs of treatment of articles as prescribed. Where the articles owners are not available, the owners of conveyance or those responsible for transport or storage of the articles must comply with relevant phytosanitary regulations and bear all expenses for the treatment of articles.

6. Provision of necessary information on plant protection and quarantine to relevant competent authorities of Viet Nam, including: information about plants and plant products such as production areas, cultivated methods, pest lists, packing procedures, export programs and policies, and any other relating documents.

7. Facilitating plant quarantine officers to perform their duties by opening and closing conveyance, storage facilities or commodity packages, supplying personnel for inspection and sampling.

Article 5. Responsibilities of plant quarantine authority

1. Guiding, monitoring and certifying the implementation of inspection, control and treatment measures. In cases where the infested articles must be urgently treated while the articles owners are incapable of doing so, the plant quarantine authorities shall conduct treatments.

2. Inspecting articles and issuing phytosanitary certificates.

3. Providing sufficient information on plant protection and quarantine to importing countries in accordance with the Agreement on the Application and Sanitary and Phytosanitary Measures (SPS Agreement) and International Plant Protection Convention (IPPC).

4. Establishing and maintaining pest free areas according to the related National Standard.

5. Reviewing and recognizing phytosanitary measures of other countries applied to import or export articles as equivalence.

6. Taking emergency actions as specified by the Ministry of Agriculture and Rural Development to prevent the introduction and spread of pests, when necessary.

7. Harmonizing phytosanitary measures on the basis of IPPC standards, guidelines and recommendations.

8. Coordinating with the quarantine authorities of the exporting country, where appropriate, to conduct inspection and treatment of imported and exported articles in the exporting country.

Article 6. Responsibilities and powers of plant quarantine officer

The plant quarantine officers on duty shall take responsibilities to:

1. Conduct quarantine inspection in compliance with legislative provisions on Plant Protection and Quarantine;
2. Wear uniform, badges and quarantine identity card;
3. Have right to access the premises where regulated articles exist;
4. When performing tasks in restricted areas and in other special cases, plant quarantine officers shall be accepted and guided by the competent authorities of those areas in order to satisfy requirements of both confidentiality and plant quarantine.

Article 7. Responsibilities of other government agencies, people's committees

1. Periodically, the Minister of Agriculture and Rural Development shall determine and issue:

- a) The list of regulated pest;
- b) The list of regulated articles and the list of articles subject to PRA prior to import.

2. The Customs shall coordinate with the plant quarantine authorities in inspecting and monitoring regulated articles. The customs procedures will be completed for regulated articles only after the completion of all plant quarantine procedures. The contents of plant quarantine declaration are reflected in the entry/exit form.

For articles which are required to re-export or destroy, or which, after quarantine inspection, are allowed for export or import, the plant quarantine authorities shall notify such to the Customs offices at the border ports through which such articles are exported or imported. The Customs and other relevant agencies shall collaborate with plant quarantine authorities in handling related matters at the request of the plant quarantine authorities.

2. The concerned State bodies of Transport, Customs, Post Office, Public Security, Border Guard, Market Control and other relevant agencies shall have responsibilities to coordinate with the plant quarantine authorities in inspecting, preventing and/or handling violations of the plant quarantine regulations.

3. People's Committees at all levels shall guide local concerned agencies to implement plant quarantine activities in accordance with legislative provisions.

Article 8. Plant quarantine procedures

1. The articles owners or persons authorized by the articles owners shall:

a. Make declarations at least 24 hours in advance to the nearest plant quarantine office before import or export of articles;

b. For hand luggage or accompanied luggage which contains regulated articles, declaration shall be made in the entry/exit form and the luggage shall be subject to phytosanitary inspection.

c. For imported articles being packed together with other imports (except hand luggage and accompanied luggage), the owner, when submitting the customs dossiers for customs

clearance, must have the quarantine application form or phytosanitary certificate issued by Viet Nam plant quarantine authority.

d. For exported articles being packed together with other exports (except hand luggage and accompanied luggage), the owner, when submitting dossiers for customs clearance, must have phytosanitary certificate issued by Viet Nam plant quarantine authority if it is required by the importing country.

2. The plant quarantine authorities shall inspect, verify and make results available within 24 hours after inspection of the consignment. Where it is longer than 24 hours, the articles owners shall be notified.

3. The inspection and documentation of regulated articles shall be undertaken uniformly nationwide in compliance with legislative provisions of the Ministry of Agriculture and Rural Development.

Article 9. Prohibitions

1. Bringing into Viet Nam any regulated pests under the lists referred to in paragraph 1.a of Article 7 of this Decree, or any living new pests at any development stage.

2. Bringing any living regulated pests under the lists prescribed in paragraph 1.a of Article 7 of this Decree into non-infested areas.

3. Bringing any subjected to PRA prescribed in paragraph 1.b of Article 7 of this Decree into non-infested areas.

4. Bringing plants with soil into Viet Nam in any form.

Chapter II Import Plant Quarantine

Article 10. Import plant quarantine requirements

The imported consignment shall meet the following requirements:

1. A phytosanitary certificate issued by the competent authority of the exporting country;

2. Free from regulated pests in the lists referred to in paragraph 1.a of Article 7 of this Decree and new pests; if infested, complete treatments must be made.

3. Import plant quarantine permit issued by the Plant Protection Department is required for articles subject to PRA before importing into Viet Nam.

4. Imported wood packaging materials must undergo appropriate phytosanitary treatments.

Article 11. Procedure for issuing import plant quarantine permit

1. Organizations and/or individuals file the request for import quarantine permit according to specified form.

2. Providing sufficient information relating to imported articles to The Plant Protection Department in accordance with Paragraph 6 of Article 4 of this Decree and regulations of the Ministry of Agriculture and Rural Development.

3. The Plant Protection Department shall conduct PRA for imported articles.

4. Depending on PRA results, the Plant Protection Department may or may not grant import plant quarantine permit to the organizations and/or individuals concerned.

Article 12. Import quarantine inspection

1. When the imported articles arrive at the first point of entry, the articles owners have responsibility to complete plant quarantine procedures in accordance with Article 8 of this Decree.

2. Plant quarantine office which will carry out the procedures at the point of entry. In special cases, the plant quarantine procedures may be carried out at other places with quarantine facilities in compliance with legislative provisions;

3. When vessels carrying regulated articles and reaching the water territory of Viet Nam, the vessel operator shall make declaration for phytosanitary inspection; if no quarantine pest is found, such vessel will be allowed to accommodate the water port; if a regulated pest is detected, they must undergo complete treatment.

4. Articles temporarily imported or temporarily exported must go through plant quarantine procedures like the imported articles.

Article 13. Importation of plant seeds and beneficial organisms

1. Organizations and/or individuals that import plant seeds and beneficial organisms shall satisfy the requirements as specified in Article 10 of this Decree and meet the following conditions:

a) Plant seeds shall undergo quarantine procedures at the point of entry designated by the competent quarantine authority.

b) As for plant seeds in the list permitted for growing and trading, they shall be transported to and grown at the sites that have been registered with the plant quarantine authority. The said organizations and/or individuals shall report to the local plant protection and quarantine agencies for further monitoring and checking pest status;

c) As for new plant varieties imported for the first time, they may be grown only at a quarantine facility which is designated by the plant quarantine authorities for pest screening.

d) In some special cases, permission of the Minister of Agriculture and Rural Development is required.

2. Organizations and/or individuals import plant for planting and beneficial organisms shall satisfy the monitoring duration for specific group of plant varieties prescribed in legislative regulations.

3. The monitoring duration for specific groups of plant varieties and beneficial organisms as well as specifications of a standard quarantine facility shall comply with provisions of the Ministry of Agriculture and Rural Development.

Article 14. Monitoring, movement, storage and use of imported articles

1. The plant quarantine authorities are empowered to supervise quarantine of imported articles as from the time such articles are brought into the Vietnamese territory.

2. The articles owners must have the phytosanitary certificate granted by Vietnamese plant quarantine authorities and implement all measures described in such certificate during the process of transport, storage and use of the articles.

Chapter III Export Plant Quarantine

Article 15. Export plant quarantine basements

The plant quarantine authority shall only conduct phytosanitary inspection on exported articles in cases where:

1. The commercial contract or international agreements require quarantine procedures;
2. The articles owners request plant quarantine certification.

Article 16. Export quarantine inspection

1. When the exported articles arrive at the final port or export terminal, the article owners must notify in advance the nearest and carry out quarantine inspection according with Article 8 of this Decree

2. The plant quarantine authority shall carry out quarantine inspection at the designated port. When inspection is conducted at the production site, departure site or storage facility, the owner shall present the phytosanitary certificate at the export terminal;

Article 17. Monitoring of exported articles

1. The quarantine authorities shall have the right to supervise the plant quarantine of export articles from the time the articles are inspected and granted with phytosanitary certificate until they are transported out of the territory of Viet Nam;

2. During the process of shipment, the articles owners shall fully implement all measures that have been specified in the phytosanitary certificate.

Chapter IV

Transit Plant Quarantine

Article 18. Conditions for consignments in transit

1. A phytosanitary certificate issued by the competent authority of the country of origin

2. The consignment in transit or using storage facilities in the territory of Viet Nam shall be agreed by the Vietnamese plant quarantine authorities.

3. The articles in transit must be packed with specific commodity configurations in order to prevent the spread of pests in the process of transportation and storage.

Article 19. Quarantine inspection of consignments in transit

1. When the articles in transit arrive at the first point of entry of Viet Nam, the article owners shall inform the nearest plant quarantine office and present the phytosanitary certificate of the country of origin;

2. The plant quarantine authorities of Viet Nam shall have the right to supervise such articles, inspect the conveyance and the outside of the consignment.

3. If the articles transiting Vietnam are found with Vietnam's plant quarantine objects or packed improperly under the commodity specifications, without phytosanitary certificate of origin country, the plant quarantine bodies have responsibility to inspect the articles and transport means or suspend the movement until re-packing meet the requirements. The Plant quarantine authorities monitor and inspect these cases for issuance of phytosanitary transit certificates.

CHAPTER V

DOMESTIC PLANT QUARANTINE

Article 20. Contents of domestic plant quarantine

1. Management of regulated pests and beneficial organisms in Viet Nam;

2. Management and implementation of treatment measures once pest outbreaks are detected.

3. Development and implementation of effective pest record surveys, surveillance and control programmes of regulated pests on imported seeds and stored plant products;

Article 21. Procedure for domestic plant quarantine

1. The declaration, inspection, treatment and granting of domestic phytosanitary certificates shall comply with Article 8 of this Decree.

2. Domestically produced seeds that neither come from nor move through outbreak areas shall not be subject to quarantine procedures in the process of domestic movement.

Article 22. Monitoring domestic quarantine

1. Undertake regular observations, surveillance and monitoring of pest status on imported plant seeds and stored plant products;

2. When plant seeds and/or beneficial organisms are introduced for growing or release, the local competent plant protection and quarantine agencies shall:

a) Check records associated with plant seeds and/or beneficial organisms;

b) Monitor and supervise places of growing and/or release;

c) If the owners of imported articles fail to comply with the provisions, the local competent agencies shall take phytosanitary measures in accordance with legislative provisions;

3. Establish the boundaries of pest outbreak area, determine places for domestic quarantine inspection of articles transported from the outbreak area, issue domestic phytosanitary certificates, supervise the movement of regulated articles out of the outbreak area;

4. Check phytosanitary certificates and supervise consignments brought from the outbreak area to local fields;

5. Determine measures for treatment of articles infested with regulated pests; provide guidance and supervise the articles owners in the implementation of treatments;

6. When pest outbreak becomes spreading, the local competent agency shall immediately report thereof to the authority responsible for declaring the outbreak as provided for in Article 11 of the Ordinance on Plant Protection and Quarantine.

Chapter VI

TREATMENT OF REGULATED ARTICLES

Article 23. Treatment of regulated articles

1. Treatment of articles involves such measures as processing, selection, sorting, cleaning, disinfestation, return to the place of origin, disposal and other measures for the purpose of eradication of regulated pests.

2. The phytosanitary treatments must be applied in accordance with legislative provisions of competent plant protection and quarantine authorities.

Article 24. Treatment of imported articles

1. The treatment of articles infested with regulated pests shall be conducted as follows:

a) If the articles infested with a pest in the list of regulated pests but not present in the territory of Viet Nam, or with a new pest, such articles shall not be allowed for import and must be returned to the place of origin or be destroyed. Where absolute treatments are available, such measures may be applied;

b) If the articles infested with a pest in the list of regulated pests but not widely distributed in the territory in Viet Nam, or infested with a pest appeared in the list of regulated non-quarantine pests of Viet Nam, absolute treatment measures shall be decided by the plant quarantine authority. Where treatments are not feasible in Viet Nam, the consignment shall be returned to the place of origin or destroyed.

2. The plant quarantine authority is responsible for, in coordination with local governments and other agencies concerned, the treatment of foreign articles adrift, dropped, discarded or leaked into Viet Nam.

Article 25. Treatment of export, in transit and domestic movement articles

1. The treatment of exported articles shall be conducted at the request of the article owners or in accordance with phytosanitary requirements of the importing countries or commercial contracts.

2. If a quarantine pest of Viet Nam is intercepted or the articles are not packed with specific commodity configurations, the owner shall conduct treatment or repack the articles in an appropriate manner.

3. Treatment of infested articles in domestic phytosanitary activities shall be conducted by the decisions of competent quarantine authorities

Article 26. Fumigation

the fumigation organizations shall fully meet the following requirements:

1. The manager or operator of the facility must obtain Fumigation Practice Certificate;

2. The workers directly involved in fumigation must have Fumigation Cards;

3. Having technical process, facilities and equipment in service of fumigation activities, ensuring safety for human and livestock

4. Ensuring environment hygiene, working safety, fire prevention in accordance with legislative provisions of competent authorities;

5. Working sites, storage facility and chemicals must be approved in writing by competent authorities.

The Minister of Agriculture and Rural Development shall adopt provisions for issuing the Fumigation Practice Certificate, the Fumigation Cards and the Certificate of Satisfaction of Fumigation Requirements.

Article 27. Conditions for granting the Fumigation Practice Certificate

1. The applicant should achieve university or higher degree major in chemists or plant protection;
2. At least 3 years of experience in fumigation;
3. Health certificate issued by the health clinic at the district or higher levels.

Article 28. Conditions for granting the Fumigation Card

1. The applicant must undergo a training course on fumigation and a skill test by the competent regulatory agency.
2. Health certificate issued by the health clinic at the district or higher levels.

Article 29. Rights and obligations of organization operating fumigation

1. Organizations and individuals engaged in fumigation activities only conduct the fumigation as from the time they fully meet the conditions prescribed in Article 26 of this Decree and commit to strictly observing those conditions throughout their operation process;
2. Eligible for issuing Fumigation Certificate for regulated articles;
3. The fumigation of articles infested with quarantine pests shall be designated and supervised by the plant quarantine authorities;
4. Fumigation methods taken will not affect the quality of goods, articles and community wealthy. Responsible for results of fumigation

CHAPTER VII IMPLEMENTATION PROVISION

Article 30. Effect

This Decree takes effect in 15 days from the date being registered in the Official Gazette. This Decree replaces the Plant Quarantine Regulation which was attached with the June 03, 2002 Decree No 58/2002/ND-CP of the Government promulgating the Plant Protection Regulation, the Plant Quarantine Regulation and Pesticide Management Regulation. All previous provisions contrary to this Ordinance shall be annulled.

Article 31. Implementation responsibilities

The Minister of Agriculture and Rural Development takes responsibility to guide the implementation of this Decree.

Ministers, Heads of ministerial level agencies, Directors of government agencies, Presidents of People's Committees of provinces and cities under the Central Government are responsible for the implementation of this Decree.

On behalf of Government
Primer Minister

(Signed)

Nguyen Tan Dung

Annex 4

Emergency response Plan

Emergency response plans should be in place for all pesticides in use, in storage, in transport or at disposal sites. While the emergency response plans can vary for each situation and each type of pesticide, the principal elements of an emergency response are always clearly spelled out in the pesticide label. Those include:

- (a) Identifying all potential hazards, risks and accident events;
- (b) Identifying of relevant local and national legislation governing emergency response plans;
- (c) Planning for anticipated emergency situations and possible responses;
- (d) Identifying flammable and explosive chemicals on site;
- (e) Training of personnel in response activities, including simulated response exercises and first-aid;
- (f) Maintaining mobile spill response capabilities or retaining the services of a specialized firm for spill response;
- (g) Notifying fire services, police and other government emergency response agencies of the location of hazardous chemicals and the routes of transport;
- (h) Installing mitigation measures, such as fire suppression systems, spill containment equipment, fire-fighting water containment, spill and fire alarms and firewalls;
- (i) Installing emergency communication systems including signs indicating emergency exits, telephone numbers, alarm locations and response instructions;
- (j) Installing and maintaining emergency response kits containing sorbents, personal protective equipment, portable fire extinguishers and first aid supplies;
- (k) Integrating facility plans with local, regional, national and global emergency plans, if appropriate; and
- (l) Regular testing of emergency response equipment and review of emergency response plan.

Emergency response plans should be prepared jointly by interdisciplinary teams that include emergency response, medical, chemical and technical personnel as well as representatives of labor and management. When applicable, representatives of potentially impacted communities should also be included.

Annex 5

Public Consultation

1. LIST OF CONSULTATION INVOLVED IN PMP

Order	Name of Company or Farmer	Location
1	Da Lat Hasfarm (Agrivina) Co., Ltd	450 Nguyen Tu Luc St., Da Lat City, Lam Dong Province
2	Mr. Le Van Lien, Production Director of Hasfarm	
3	Lang Biang Farm Co., Ltd	42 Xo viet Nghe Tinh St., Da Lat City, Lam Dong Province
4	Ms. Van Thi Tam (Vice Director of Lang Biang Farm)	
5	Mr & Ms. Nguyen Huu Binh	Da Lat
6	VFC (Branch in Da Lat)	B10 Phu Dong Thien Vuong St., Da Lat City, Lam Dong province
7	Mr. Nguyen The Hai – Chief of Da Lat Branch	
8	Lam Dong Plant Protection Sub-Department	43 Hung Vuong St. , Dalat City, Lam Dong province
9	Nguyen Duy Hai, Director of Lam Dong PPSD	
10	Golf Dalat Club	Phu Dong St., Da Lat City, Lam Dong province
11	Research Center for Potato Vegetable and Flower Dalat	
12	Lam Sinh Co., Ltd	Da Sa, Lac Duong District, (Lam Dong)
13	Tan Nong Phat Co., Ltd	Don Duong (Lam Dong)
14	Oriental -Lion Co., Ltd	
15	Hung Nong Ltd Co.,	Duc Trong (Lam Dong)
16	Lam Dai Ltd.Co.,	
17	Anh Duong Co., Ltd	
18	Green Co., Ltd	Lac Duong (Lam Dong)
19	Lam Thang Co., Ltd	Dilinh (Lam Dong)
20	Vietnam Thanh cong Co., Ltd	Baoloc (Lam Dong)
21	Donatechno Co., Ltd	Baoloc (Lam Dong)
22	Vipesco Co, Ltd	HCM City
23	Sai Gon Pesticide Co, Ltd	HCM City
24	FCC Co., Ltd.	45 Dinh Tien Hoang St., Distric 1, HCM City
25	Vietnam Inspection and Fumigation Joint Stock Company (VFC)	37 Nguyen Trung Ngan, HCM City
26	Fumigation and termite Control Joint Stock company	31B Hai Trieu, Distric 1 – HCM City
27	Vietnam Termite Control and Fumigation Joint Stock Company	212 Vong St., Hai Ba Trung District, Ha Noi
28	Cat Loi Lai Co, Ltd	Sapa (Lao Cai)
29	Muong Hoa Co, Ltd	Sapa (Lao Cai)
30	Taiwan Nong Lien Co, Ltd	72 Sapa District, Lao Cai province
31	Bac Ha Integrated Pest Management Company	67A Pho Duc Chinh Sr., Ba Dinh District, Ha Noi
32	Department of technology and Science	Hanoi
33	National Institution for Plant Protection	Tu Liem District, Hanoi
34	Plant Quarantine Dignostic Center	149 Ho Dac Di St., Dong Da District., Hanoi
35	Hanoi Agriculture University	Gia Lam District, Hanoi

36	National Store Department	Hanoi
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2. List of Workshops involved in PMP

No	Date	Location	Organized by	Number of participants
1	26 th Nov. 2005	Ha Noi	TSEC	14
2	30 th May 2006	Ho Chi Minh City	MONRE	28
3	5 th June 2006	Ha Noi	MONRE	30
4	28 th Aug. 2006	Ha Noi	PPD	36
5	30 th Aug. 2006	Ho Chi Minh City	PPD	25

3. List of REGIONAL PLANT QUARANTINE SUB DEPARTMENT PARTICIPATING IN IMPLEMENTATION OF PMP

No	Office	Address
1	Regional Plan Quarantine Sub-Department No 1	2 Tran Quang Khai Str., Hai Phong City
2	Regional Plan Quarantine Sub-Department No 2	28 Mac Dinh Chi Str., Distric I, Ho Chi Minh City
3	Regional Plan Quarantine Sub-Department No 4	66 Le Hong Phong Str., Quy Nhon City, Binh Dinh province
4	Regional Plan Quarantine Sub-Department No 5	149 Ho Dac Di Str., Dong Da Distric, Ha Noi City
5	Regional Plan Quarantine Sub-Department No 8	7 Nguyen Hue, Lao Cai City
6	Plant Quarantine Diagnostic Center	149 Ho Dac Di Str., Dong Da Distric, Ha Noi City

