

Statistics shows that Thailand ranked the world's number 5 in terms of the use of chemicals in agriculture. But when measured against the total land area, Thailand imported more chemicals than any other country in the world. The demand of the Network for the Surveillance of Chemical Overuse in Agriculture, therefore, to revoke the licenses of four highly toxic pesticides is only the tip of the iceberg. Dangerous chemical use in agriculture is now at crisis level, enmeshed within the significant and complex problems which have endangered the lives of farmers, consumers and the environment for more than 50 years in Thailand.

Revoking Licenses for Four Toxic Chemicals

Thailand's self-imposed ban on vegetable exports

In January 2011, the Ministry of Agriculture and Cooperatives announced a temporary moratorium on exports of 16 vegetables to European markets. This was a self-imposed ban to pre-empt an import ban by the European Union due to a higher-than-standard amount of prohibited pesticides. In Early July 2011, several kinds of vegetable imports from Thailand were indefinitely banned after detection of 15 prohibited chemicals. Six of these are chemicals prohibited in the United States, the European Union and many countries around the world.

Among these chemicals, four are still widely sold and used in Thailand: carbofuran, methomyl, dichrotophos and EPN. These chemicals have a combined import quantity of almost 7 million kilograms and

import values of approximately 550 million baht in 2010.

These events from the EU relating to Thai vegetable imports rattled relevant government agencies and vegetable exporters while the Network for the Surveillance of Chemical Overuse in Agriculture wondered out loud why government agencies were just waking up to the level of toxic residues in export vegetables when vegetables in domestic markets were many times more contaminated.



Table 1: Use and Toxicity of Four Dangerous Pesticides

	Carbofuran	Methomyl	Dichrotophos	EPN
Import quantity (kg) in 2010	5,301,161	1,550,200	356,908	144,001
Trade names in Thai market	Furadan, Curatare, Coccodi 3G, Lemon 3G	Lannate, Nudrin, Methomex, Sadist, Thontho	Krachao 330, Microwave 24, Bidrin, Carbicron	EPN, Coumaphos
Use	In the production of rice, watermelons, corns, coconuts, soy beans, string beans, cucumbers, coffee and oranges to eliminate a broad spectrum of insects including stem borers, maggots, mealy bugs and brown plant hoppers,	To eliminate many kinds of chewing insects, sucking insects, aphises and caterpillars in the production of tangerines, grapes, longans, strawberries, cabbages, onions and tomatoes	To eliminate sucking insects, boring insects, chewing insects in the production of rice, coffee, string beans, radishes, sugar canes, kales, oranges, soy beans and peanuts	As concentrate to mix with other chemicals in the production of rice, corns, gourds, fruits, flowers and ornamental plants to eliminate cotton bollworms, rice stem borers and rice hispas
Toxicity	Vomiting, loss of balance, blurry vision, severely carcinogenic, abnormal division of liver cells, oncogenic, mutation, sperm deaths, destroys enzymes of the meninges	Nausea, vomiting, diarrhea, seizure, cardiotoxicity, decreased male hormones, destroys epididymis and vas deferens, degrades DNA, abnormal chromosomes, spleen toxicity	Gene toxicity, mutation, oncogenic, carcinogenic, renal toxicity, chronic toxicity to nervous system, destroys central nervous system, needle-pricking pains, peripheral fatigues	Diarrhea, chest congestion, blurry vision, loss of balance, coughing, pneumonia, apnea, destroys nervous system, abnormal bone marrow, decreased brain mass
Banning countries	EU, USA	UK, Turkey, Germany, Finland, Singapore, Malaysia, India (some formulas)	India, Pakistan, Singapore, EU, Canada, Australia, Malaysia	USA, EU, Australia, Canada, Malaysia, Singapore, Myanmar, New Zealand, Vietnam, India

Source: Information Section of BioThai Foundation, www.biothai.net/node/9890 [accessed on 4th Feb, 2012].

The Department of Agriculture is aware of these four hazardous pesticides as they are among the 11 chemicals in the Watch List as Category 1A (extreme hazard) and Category 1B (serious hazard) in the WHO classification. However, these chemicals are still being sold, used and imported in the country and farmers can buy them in the markets under various trade names.

Shameful statistics

Every past government has aimed to make Thailand “the world’s kitchen” but the policy and practice on chemical use in agriculture appears to tell a completely different story.

- According to the World Bank's 2011 data, Thailand's heavy use of chemicals in agriculture at 0.86 kilograms per hectare ranked as the world's 5th highest.¹

- An FAO report stated that Thailand was the world's number 48 by farming areas but imported more chemicals than any country at 117 million kilograms or 18 billion baht in 2010.²

- Out of the vegetable imports from 70 countries which the European Union randomly tested for chemical contamination in July 2011, vegetables from Thailand were the most contaminated with more positive tests than any other country, followed by Turkey and India.^{3,4}

- Thailand also licenses an astonishing number of chemicals for agriculture. 27,126 items may very well rank amongst the highest number in the world compared to China's 20,000, Indonesia's 1,158 and Vietnam's 3,423.⁵ The bewildering array of trade names is one trick which allows companies to repeatedly sell the same chemical formulas to farmers under different names.

Thai farmers' substance abuse

From the first National Economic and Social Development Plan (1961–1966), there have been systematic and extensive efforts by the government to turn agricultural practices from production for household consumption to production for the market and promote the use of all kinds of chemicals such as inorganic fertilisers, insecticides and herbicides to prevent and treat diseases. Thailand's farmlands quickly became evidence of a full-blown “chemo-culture.”

Past statistics clearly show that Thai farmers have increasing risks from chemical use, especially pesticides. The Ministry of Public Health stated that 6 million farmers are now at unsafe risk levels. The Health Systems Research Institute estimated that

every year 200,000 to 400,000 patients fell ill from chemical poisoning which leads to chronic diseases such as cancer, diabetes, endocrinal and other diseases. This estimate is in line with the study by the Food and Drug Administration and Department of Medical Sciences which found contamination levels in organic and fresh vegetables to be 63.8% and 67.4% respectively.⁶

There are more than 100 large companies trading inorganic fertilisers, pesticides and seeds, more than 500 wholesalers and more than 4,500 retailers. Most belong to the network of six transnational corporations with over 70% share of the global farm chemical market. These include Bayer (Germany) Syngenta (Switzerland), BASF (Germany), Dow Agrosience (US), Monsanto (US) and Dupont (US).⁷

These transnational corporations, with combined global sales of 3 to 6 billion dollars per year, do not pay tax in Thailand because the government has a policy to allow farmers cheap access to fertilisers and pesticides. There are also signs that farmers use this issue as a tax evasion measure by declaring higher expenses than actual costs.⁸

Witoon Lianchamroon, director of BioThai Foundation, urged Thai society to demand taxation on these transnationals not only in terms of income tax but also with import tax in the same ways that industrial chemicals are taxed. He also advised the Ministry of Commerce to control prices at reasonable levels.

Similarly, Dr.Pattapong Kessomboon from Khon Kaen University, an expert on chemical hazards in agriculture, recommended import taxes as in Denmark which employed annually increasing tax rates to discourage chemical use. Similar to those on tobacco and alcohol, this ‘sin tax’ could contribute to a fund for the treatment of those who suffer from toxic chemical use in agriculture.⁹

New regulations: another paper tiger?

Twenty years after the Hazardous Substance Act BE 2535 came into force dangerous chemicals are still flooding Thailand, combined with poor and excessive use. The government has been criticised as lax and negligent in enforcing the law as a result of possible conflict of interests. This Act was recently amended in 2008 with new standards.¹⁰

(1) From 22nd August 2011 onwards, the licenses for more than 20,000 farm chemicals will be revoked to pave the way for a new and more efficient licensing system. Vendors can continue to sell chemicals in stock but no new imports are allowed;

(2) For quality control importers, manufacturers and sellers of farm chemicals must have the Good Laboratory Practices (GLP) certifications from the 30 or so world-class laboratories and not from any laboratory as before;

(3) Each chemical can apply for only three trade names and not an unlimited number as before (n.b. certain chemicals have 500 trade names to confuse farmers).

(4) Approval for new licenses will be more stringent according to the 9 surveillance criteria as follows: 1) toxicity report in laboratory animals which may harm humans such as carcinogenicity, mutagenicity, and teratogenicity; 2) toxic residue in the environment and food chain; 3) biodegradability; 4) high levels of acute toxicity; 5) toxic residue in agricultural products; 6) toxic contamination in production and preservation; 7) high toxicity to beneficial plants or animals such as honey bees and silk worms; 8) chemicals prohibited in other countries; and 9) Effects in pest increase.

Although these regulations and criteria are rigorous and efficient, they may be just a paper

tiger in effect. Networks of farmers and allied organisations noticed that during the first three months of 2011, these four dangerous chemicals continued to be imported in large quantities. It may be that importers got “inside information” that the Department of Agriculture would allow a two-year’s grace period or would soon re-license these four chemicals.¹¹

Confrontation

Around the 22nd August 2011 deadline became a testy time of confrontation between those who supported and those who opposed the new measures. Both sides tried to gain the upper hand with information, demands and even threats through the media.

Those who opposed re-licensing included network of farmers, civil society, academics, NGOs, consumers’ groups and green groups who met with the director-general of the Department of Agriculture, held a seminar on “The Great Danger of Toxic Chemicals” to raise public awareness and disseminate information, submitted an open letter to the Prime Minister and Minister of Agriculture and Cooperatives and held a protest in front of the Ministry of Agriculture and Cooperatives on 29th August. The demands of the farmers’ networks and allied organisations were:

(1) An immediate import ban and revoking of the licenses of at least four kinds of pesticides, namely carbofuran, methomyl, dichrotophos and EPN;

(2) To ensure transparency and public participation, the Department of Agriculture should publicly disclose the information on license applications, laboratory data on effectiveness, toxicity in short-term, long-term and residues and the name lists of members in relevant committees, sub-committees and working groups as well as their decisions;

(3) Regulation of advertising and marketing of farm chemicals should be undertaken by a committee represented by farmers' networks, the Academic Network for the Surveillance of Chemical Overuse in Agriculture and consumers' groups.

On the other hand, the opposing arguments demanded a two-year grace period and was led by the Thai Crop Protection Association¹² whose members are big-name importers with import values between 100 to 6,000 million baht and the "Association of Thais in Agribusiness". They contested the new measures on two fronts:¹³

a) *Time constraint*—it was impossible to apply for a new license before the deadline because of the short notice given, ambiguity around criteria and licensing procedures and the Department of Agriculture's unpreparedness;

b) *Expenses*—toxicological data from GLP laboratories would take between 6 months to 2 years to obtain and cost no less than 1 to 1.5 million baht per item which was a burden on entrepreneurs

Claims immediately rebutted

These demands and 'threats' were immediately rebutted by opponents who published material stating that, as the law came into force on 25th February 2008 the deadline allowed 3.5 years for re-licensing which was more than sufficient. The expense claim was greatly overblown, it was argued, as the same tests are also required in Vietnam and costs only around 3,000 to 5,000 US dollars (100,000 to 150,000 baht) per item.

Finally, the claim that the ban would cause shortages, affect the control of brown plant hoppers and cut production by half was also refuted. Instead, indiscriminate use of these chemicals was claimed to have killed off beneficial insects while the brown plant hoppers had become resistant. Conclusions from an international conference held in Singapore that the insect "plagues" in Asia were caused by chemical overuse were also cited at this time.

Poisoning of the land

According to 10th September 2011 data, the Department of Agriculture was preparing a recommendation to ban these four toxic chemicals by the end of 2011 to the Committee on Hazardous Substances. The Department was in the process of collecting data on impact, toxic residue in agricultural products, the environment and food chain as well as hazards to human health. Another seven chemicals were also put on the watch list. If found to have similar hazards, their import ban would be recommended also.¹⁴

After more than 50 years of turning Thailand's "fields of gold" into a "chemo culture", problems have mounted involving production methods, local lives, national economy, transnational interests and domestic capitalists with their web of connection with political power at local and national levels. The question of whether Thai farmers should continue to depend on chemical-intensive farming is a matter of life and death on a national scale.

BioThai Foundation researcher Rapichan Phurisamban said "If we choose to remain in the export-oriented agro-business model, monoculture and use of chemicals like herbicides, insecticides and fertilisers are inevitable because it's a fragile system which has to keep up with export cycles and it's prone to pests. Organic farming, on the other hand, doesn't need chemicals. It depends on natural enemies to control pests and maintain balance. Organic farming is therefore an option which is sustainable and healthy to human. It's not impossible"¹⁵

The choice, however, may not be determined by the people. The battle for resources as a result of intensifying natural disasters may, in the end, do the choosing for people instead.

