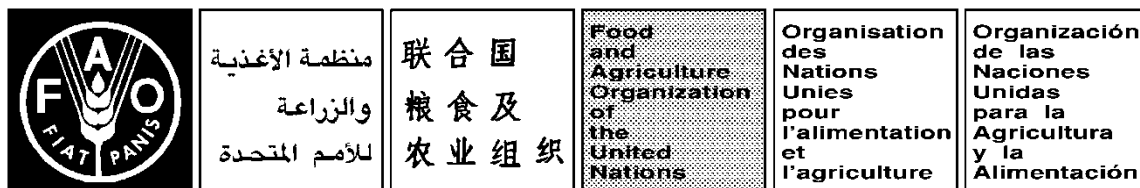


September 2015



**ASIA AND PACIFIC PLANT PROTECTION
COMMISSION**

**TWENTY-NINTH SESSION OF THE ASIA AND PACIFIC PLANT
PROTECTION COMMISSION (APPPC)**

Bali, Republic of Indonesia, 7 - 11 September 2015

AGENDA NO. 3

Country report

Myanmar

Country Report – Myanmar
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1. General Information

Myanmar is an agricultural based country and the agriculture sector is the backbone of its economy. The agriculture sector contributes 23% of GDP (2013-2014), 20% of total export earnings, and employs 61.2% of the labour force. About 75% of the total population reside in rural areas and are principally employed in the agriculture, livestock and fishery sectors for their livelihood.

New government has laid down the four economic policies of which one of the major economic objectives is “Building the modern industrialized nation through the agricultural development, and all-round development of other sectors of the economy”.

Much of the economy of Myanmar depends on the agriculture sector. Department of Agriculture is the main department responsible for crop production. Myanmar signed the International Plant Protection Convention, IPPC in 2006, and designated the Plant Protection Division as the National Plant Protection Organization (NPPO). It actively participates in the implementation of the country’s plant quarantine measures in line with both Regional Standards for Phytosanitary Measures (RSPMs) and International Standards for Phytosanitary Measures (ISPMs). The division is composed of various sections assigned with technically qualified personnel to carry out plant protection activities, assisted by trained personnel at state, division and district levels, co-operating with agriculture extension staff of Department of Agriculture as well as with those of other agencies. The nine sections under the division are: 1) Administration & finance, 2) pesticide registration board, 3) pesticide laboratory, 4) plant quarantine, 5) integrated pest management, 6) post-harvest & weed control, 7) entomology, 8) plant pathology, 9) rodent control.

The contact point for WTO-SPS is the Directorate of Investment and Company Administration (DICA). Following cooperation projects with AUSAID, NZAID, and ASEAN dialogue partners, technologies relating to insect and disease collection, duration, preservation, diagnostics, and identification methods became widely available. There were also marked improvements on SPS awareness, Pest Risk Analysis (PRA), plant quarantine methods, and the development of a pest list database. A pest museum was constructed with upgraded internet access.

In addition to agriculture extension staff employed throughout the country, farmer’s field schools (FFSs) have also been established. Priority has been given to rice, pulses and vegetable farmers.

2. Phytosanitary Matters (Plant Quarantine)

The Plant Protection Division, Department of Agriculture, is legally responsible for issuing phytosanitary certificates and import certificates, according to the Plant Pest Quarantine Law. The certificates for import and export are issued at the headquarters of the Plant Protection Division as well as the nine entry points and two inspection stations.

In relation to the ISPMs, Myanmar, as a developing country, has some technical barriers to implement the ISPMs. A serious constraint in Myanmar was a lack of adequate information on SPS measures.

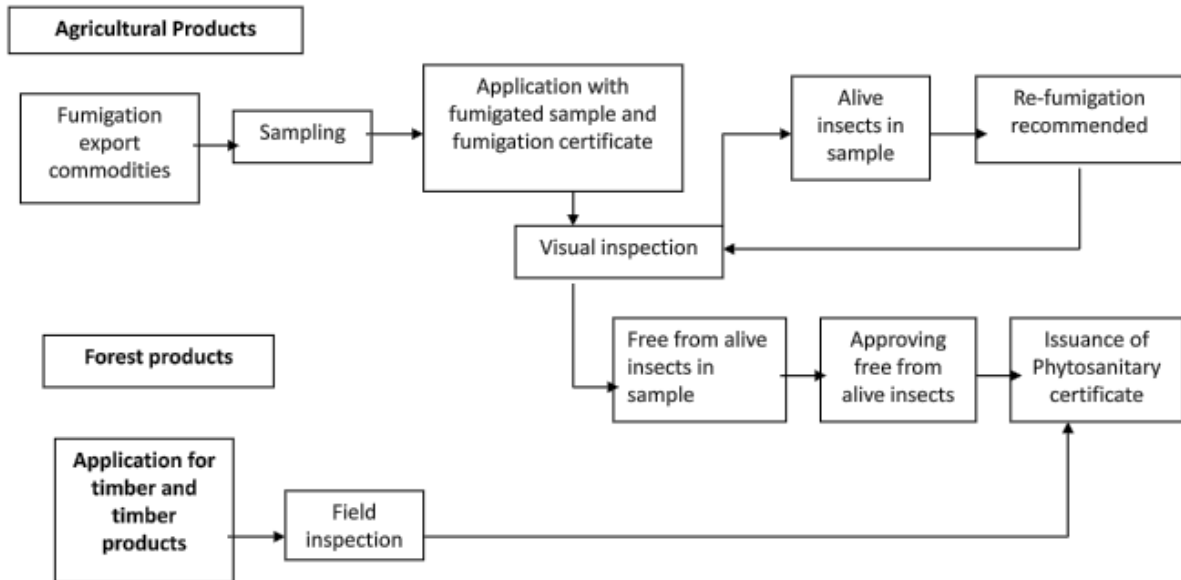
There is a need to set up appropriate databases that could be readily assessed by all stakeholders in order to enhance the implementation of SPS measures. In addition, Myanmar, on the other hand, many aspects of the legal/ legislative framework (e.g., food safety, sanitation laws and regulations) still needed to be reviewed/revised to make them more consistent with modern food safety systems, as well as with provisions of the SPS and other related agreements. Being faced with financial limitations, it needs infrastructure development support.

In Myanmar, the Plant Pest Quarantine Law was enacted on June 1993. It is now reviewed by FAO experts in 2006. In the same year, a national mango pest survey was conducted. A pest risk assessments team was also formed and is expected to begin PRA work by the end of 2007. Pest outbreaks occurred in rice, pulses, cotton, maize, tomato, potato, onion, and durian and were mainly controlled using chemicals. Regulation which is under progress also needs assistance of consultants for further developments, the objectives of Plant Pest Quarantine law are: to prevent quarantine pest from entering into Myanmar by any means, to suppress effectively the spread of quarantine pests, and to carry out, if necessary, disinfection, disinfestation treatment of plant and plant products to be exported and the issuance of Phytosanitary Certificates.

Table 1. Establishment of Inspection and Quarantine Stations

| No. | Entry/Station | State/Division | Bordering | By means of conveyance | Established Year |
|-----|--|---------------------|---------------------|------------------------|------------------|
| 1 | Yangon Head Office Yangon Int'l Airport | Yangon Division | International | | August 1995 |
| 2 | Mandalay Int'l Airport | Mandalay Division | International | | September 2001 |
| 3 | Tamu | Sagaing Division | India in the NW | Land | July 1996 |
| 4 | Muse | North Shan State | China in the NE | Land | July 1996 |
| 5 | Lwegye | Kachin State | China in the NE | Land | July 1996 |
| 6 | Tachileik | Eastern Shan State | Thailand in the E | Land | July 1996 |
| 7 | Myawaddy | Kayin State | Thailand in the SE | Land | March 1999 |
| 8 | Kawthaung | Taninthayi Division | Thailand in the S | Seaport | July 1996 |
| 9 | Maungdaw | Rakhine State | Bangladesh in the W | Land | September 2001 |
| 10 | Rei Khaw Da | Chin State | India | Land | 2006 |
| 11 | Kan Peik Tee | Kachin State | China in the NW | Land | 2011 |

Administrative process for certification of Export and Import
(a) Procedures of issuance of Phytosanitary Certificate



(b) Procedures for issuance of Import Certificate

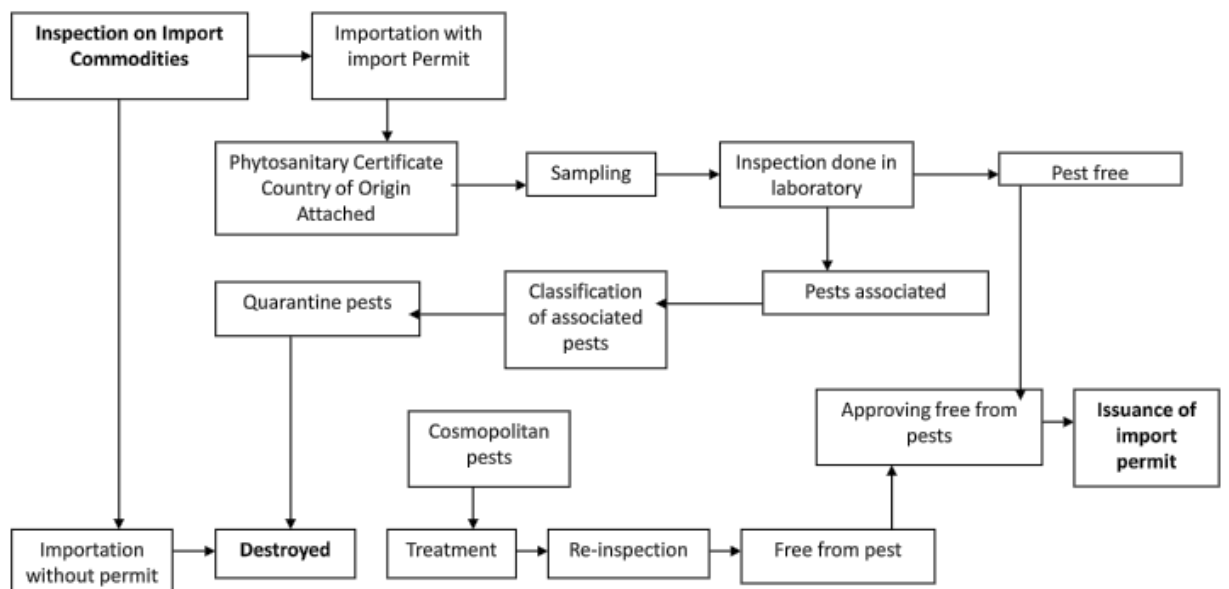


Table 2. Agricultural products for import and export from 2013 to 2015

| No. | Name of crop | Tonnage | | Phytosanitary certificate | |
|-----|----------------|-----------|-----------|---------------------------|-----------|
| | | 2013-2014 | 2014-2015 | 2013-2014 | 2014-2015 |
| 1. | Peas and Beans | 1471965 | 1527230 | 18164 | 18853 |
| 2. | Oil seed crops | 186872 | 59077 | 2251 | 1593 |
| 3. | Corn | 732909 | 1143735 | 1248 | 1701 |
| 4. | Cereal crop | 1219098 | 575278 | 2501 | 1802 |
| 5. | Other | 232092 | 240523 | 5472 | 6729 |
| 6. | Timber | 1088387 | 113237.3 | 8068 | 2603 |

Other = betel nut, ginger, taro, chilies, turmeric fingers, tamarind, rattan ware, bamboo

Table 3. Phytosanitary certificate and import certificate for 2014-2015

| No. | 1.4.2014 to 31.4.2015 | No. of certificates | | |
|-----|---------------------------|---------------------|--------|-------|
| | | HQ | Border | Total |
| 1 | Phytosanitary certificate | 26468 | 12538 | 39006 |
| 2 | Import certificate | 200 | 5124 | 5324 |

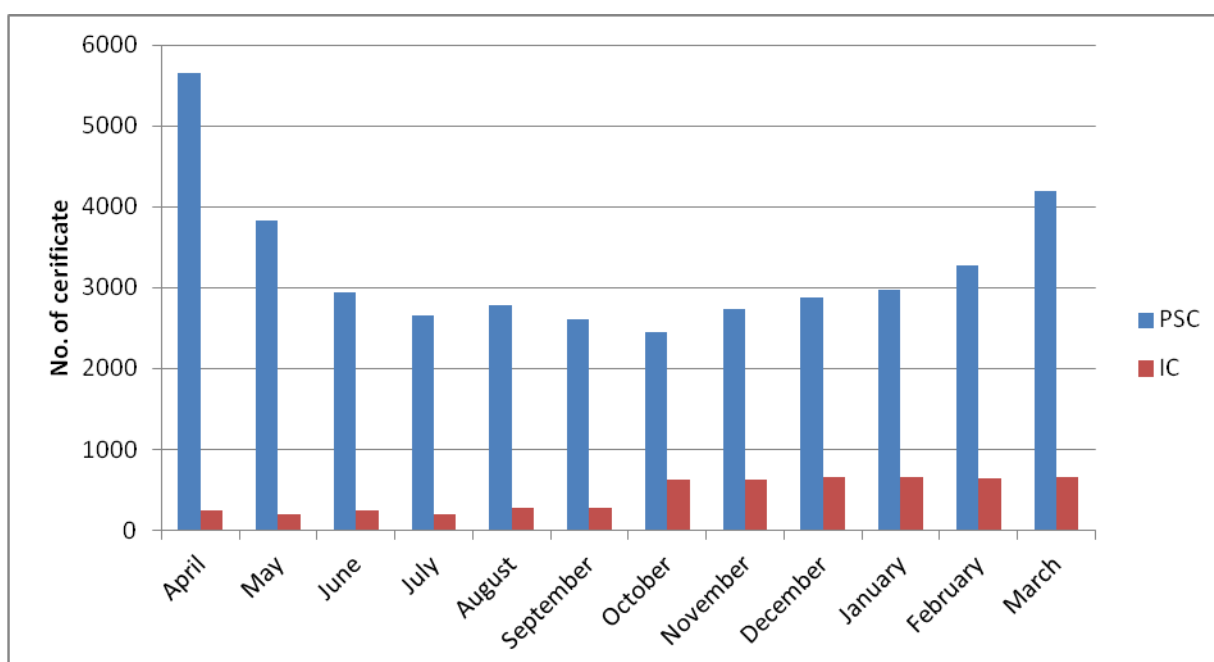


Figure 1. Number of Phytosanitary and Import Certificates issued in each month during 2014-2015

3. Surveillance, Pest Outbreaks and Invasive Species Management

The survey of pests and diseases occurred in Myanmar has been carried out. There were rodent outbreaks in the northern part of Myanmar in 2008 and rice stem borer outbreaks in the Sagaing Region in 2013. Rice Stem Borer outbreaks affected 10000 acres of monsoon rice but damaged economically only to 3000 acres. The major reasons for stem

borer outbreaks are pesticide misuse or overuse, not practicing of plowing and harrowing, continuously growing of a single rice variety.

In 2014-2015 monsoon season, the golden apple snail infested the rice field in Ayeyarwaddy Region. Among the 700 acres of rice field, 150 acres were serious affected. As control measures, hand picking was found to be the most effective non-chemical way and widespread control method to reduce the snail numbers by the use of food attractants or baits such as melons, lettuce, tomatoes, sweet potatoes leaves, and papaya leaves to collect and facilitate hand picking easily and placing stakes to lay egg.

There was no invasive species management in Myanmar.

Table 4. A list of key rice insect pests and diseases in Myanmar that are potentially of economic importance and may require regular control measures

| Region | Monsoon Rice | | Summer rice | |
|---------------------------------|-----------------------|-------------------|-----------------------|-------------------|
| | Insect pests | Diseases | Insect pests | Diseases |
| Yangon (Taikgyi Township) | YSB | BLB | YSB | BLB |
| | Gall midge | BLS | Hispa | BLS |
| | Hispa | Narrow Brown spot | Thrip | Narrow Brown spot |
| | | Sheath blight | | |
| | | False smut | | |
| Irrawaddy | YSB | Ufra | YSB | Rice Blast |
| | BPH | Rice Blast | BPH | Root Knot |
| | WBPH | Sheath blight | WBPH | Sheath blight |
| | Caseworm | BLB | Caseworm | Root rot |
| | Rice leaf folder | BLS | Cutworm& Army Worm | Foot rot |
| | Cutworm& Army Worm | Foot rot | RLF | |
| | Hispa | False smut | Thrip | |
| | Gall midge | Root rot | | |
| | | Narrow brown spot | | |
| Mon | YSB | Narrow brown spot | Caseworm | BLB |
| | Golden Apple Snail | sheath blight | RLF | BLS |
| | Caseworm | Sheath rot | BPH | Narrow brown spot |
| | Hispa | Stem rot | | |
| | RLF | BB | | |
| | | BLS | | |
| | | False smut | | |
| Pegu | Stem borer | BLS | Stem borer | Blast |
| | Caseworm | BB | Caseworm | Sheath Blight |
| | Gall midge | Blast | BPH | Sheath Rot |
| | WBPH | Sheath Blight | Thrip | |
| | Hispa | Sheath Rot | | |
| | Leaf folder(HB) | Foot Rot | | |

| | | | | |
|----------|-------------|-----------------------|------------|---------------|
| | | Ufra, deep water rice | | |
| Shan | Stem borer | Brown Spot | Stemborer | Brown Spot |
| | Gall midge | Blast | Thrips | Blast |
| | Caseworm | Leaf scald | | BB |
| Sagaing | Stem borer | BB | Stem borer | BLB |
| | BPH | BLS | BPH | Sheath Blight |
| | | Sheath Rot | | Sheath Rot |
| | | False smut | | |
| Mandalay | Stem borer | BLB | Stem borer | BLB |
| | Leaf Folder | BLS | | |
| | Thrips | Blast | | |

4. Pest Management

Myanmar has a national IPM policy. IPM is one of the main pillars to the development of the Plant Protection Division.

Since it has been established by a steering committee in 1999, the Division advocates the need for Integrated Pest Management to be adopted as a national crop protection policy. It also makes decision on crop information exchange between Myanmar and other ASEAN countries and international association.

Currently, the IPM practices are being adopted to mitigate pest damage. The other aspect of the botanical insecticide such as neem pesticide has been tested against vegetable pests in the field condition.

The Farmer's Field School (FFS) has been established since 2000. However, during the beginning stage, emphasis was placed only on the rice farmers.

The FAO South and South-East Asian Rice IPM Project from 1982 to 1997 to bring IPM to rice farmers during massive pesticide subsidies encouraged over hopper, caused widespread production losses across Asia.

This project focused on removing subsidies for the un-needed rice pesticides as well as promoting farmer education on a large scale by FFS.

IPM FFS consists of three activities: agro-ecosystem observation, analysis, and presentation of results. They collect field data such as the number of tillers per hill, the varieties of insects pests, natural enemies and their populations and samples of insects and diseases, weeds, others (e.g. weather, soil) affecting growth. The facilitator is present throughout the observation to help participants in their observations.

Table 5. Implementation of Farmer Field School from 2000-2001 to 2014-2015

| No. | Year | No. of state/ division | Crops | No. of farmers trained in IPM |
|-----|-----------|---------------------------|--|----------------------------------|
| 1 | 2000-2001 | 3 | Rice | 212 |
| 2 | 2001-2002 | 3 | Rice | 90 |
| 3 | 2002-2003 | 2 | Rice | 64 |
| 4 | 2003-2004 | 4 | Rice, pulses | 113 |
| 5 | 2004-2005 | 4 | Rice, pulses, winter crops | 194 |
| 6 | 2005-2006 | 3 | Rice, pulses, oilseed crops | 135 |
| 7 | 2006-2007 | 7 | Rice, pulses, oilseed crops, vegetables | 298 |
| 8 | 2007-2008 | 7 | Rice, pulses, oilseed crops, vegetables, horticultural crops | 183 |
| 9 | 2008-2009 | 11 | Rice, pulses, oilseed crops, vegetables, horticultural crops | 400 |
| 10 | 2009-2010 | 16 | Rice, pulses, oilseed crops, vegetables, horticultural crops | 803 |
| 11 | 2010-2011 | 17 | Rice | 948 |
| 12 | 2011-2012 | 28 | Rice, pulses, sesame | 882 |
| 13 | 2012-2013 | 18 | Rice, pulses, summer rice | 862 |
| 14 | 2013-2014 | 13 | Monsoon and summer rice | 469 |
| 15 | 2014-2015 | 24 | Rice, pulses, oilseed crops, vegetables, monsoon sesame | 905 |

5. Pesticide Management

The work related to the country's pesticide management has been progressing steadily. It covers pesticide registration schemes, licensing programme, control of Persistent Organic Pollutants, disposal of toxic wastes, as well as management of transboundary movement of illegal products.

List to key legislation/regulations/rules for pesticide management

- 1990 Pesticide Law
- 1991 Implementation Rules to the Pesticide Law
- 1995 National Food Law

The Pesticide Law is under review. The draft has been already submitted to the National Parliament. Old pesticide formulations such as EC, WP, GR, and SL are still widely used in Myanmar. However, no pesticides specified under the Rotterdam Convention and Stockholm Convention has been registered in Myanmar. Insecticides had the biggest share followed by fungicides and herbicides. Pesticide residue analysis was done on commodities both for export and local consumption. At present, there are three neem pesticide formulations being

promoted for vegetables and food legumes. Myanmar like many developing countries faces many challenges brought about by the changes in international trading.

Table 6. Pesticide Trainings (2014 April – 2015 March)

| No. | Region/State | Times | No. of trainees | | |
|--------------|--------------|----------|-----------------|-----------|-------------|
| | | | Entrepreneur | Staff | Total |
| 1 | Yangon | 1 | 112 | | 112 |
| 2 | Yangon | 1 | 153 | | 153 |
| 3 | Yangon | 1 | 74 | 37 | 111 |
| 4 | Bago | 1 | 310 | 5 | 315 |
| 5 | Ayeyarwaddy | 1 | 201 | 12 | 213 |
| 6 | Sagaing | 1 | 138 | 5 | 143 |
| 7 | Magwe | 1 | 111 | 9 | 120 |
| Total | | 7 | 1099 | 68 | 1167 |

In Myanmar Pesticide usage, insecticides accounts for 60%, fungicide for 16%, herbicides for 22% and others for 2%. Due to Myanmar later opening policy, it extremely lacks plant protection knowledge, products and sales network. Larger pesticide dealers in Myanmar are only about 15. Meanwhile, due to political reasons, multinational company products has not yet to enter Myanmar market. Its market competition is very low. The pesticide registration is managed by plant protection division, Department of agriculture. Comparing to China registration policy, it is relatively simple. According to agriculture ministry statistics, Myanmar agrochemical market is about \$500 million. **(2th ACE-Myanmar Review)**

Table 7. Governmental departments responsible for implementation of food safety

| No. | Toxic Substances | Responsible Department | National Legislative |
|-----|---|---|---|
| 1 | Food additives e.g. Antioxidants, Salt, Color, Flavors, Preservative | National Food and Drug Administration, Ministry of Health | National Food Law and consumer protection law |
| 2 | Microbiological contaminants e.g. Bacteria, Fungus, Virus | National Health Laboratory, Ministry of Health | Public Health Law and consumer protection law |
| 3 | Veterinary Drug residue | Veterinary Assay Labor | Animal Quarantine Law |
| 4 | Mycotoxin | Plant Protection Division, Ministry of Agriculture and Irrigation Post Harvest Application Department center, Ministry of Commence | National Food Law and sonsumer protection law |
| 5 | Heavy metal | Plant Protection Division, Ministry of Agriculture & Irrigation Post Harvest Application Department Center, Ministry of Commence | National Food Law and consumer protection law |

| | | | |
|---|-------------------|--|---|
| 6 | Pesticide Residue | Plant Protection Division, Ministry of Agriculture and Irrigation Post Harvest Application Department Center, Ministry of Commence FDA, Ministry of Health | Pesticide Law Noational Food Law and consumer protection law |
|---|-------------------|--|---|

Table 8. List of Pesticides used in Myanmar

| Commercial name | Targeting pests | Active ingredient (AI) | % AI | Formulation | Applied dosage | Pre-harvest interval | WHO hazard class |
|-----------------|--------------------------|---------------------------|--------|-------------|------------------------|----------------------|----------------------------------|
| Pymetrozine | Planthoppers | Pymetrozine | 25% | WP | 240-300 g/ha | 14 d | II |
| Buprofezin | Planthoppers | Buprofezin | 25% | WP | 300-450 g/ha | 14 d | unlikely to present acute hazard |
| Imidacloprid | White-backed planthopper | Imidacloprid | 10% | WP | 750 g/ha | 20 d | II |
| Diazinon | YSB | Diazinon | 95 % | TG | | | II |
| Phosdrin | YSB | chlorpyrifos | 40% EC | EC | 150-600 g/ha | | Organophosphate |
| Acehero | Hspa | Acephate | 75% | SP | 200-500 g/ac | | II |
| Dagger | Gall midge | Dimethoate | 40% | EC | 200-400 cc/ac | | II |
| Kasumin Liquid | BB | Kasugamycin Hydrochloride | 2.3% | SL | 400-600 cc/ac | | U |
| Kocide | BB | Copper Hydroxide | 61.9 % | DF | 450-1500 g/ac | | II |
| Coptex | BB | Copper Oxychloride | 85% | WP | 600-1000 g/100 l water | | II |
| Forazole | Sheath blight | Hexaconazole | 5% | SC | 160-400 cc/ac | | U |
| Bavistin | Sheath blight | Carbendazim | 50 % | FL | 50 g/100 l water | | U |
| Fusin-M | Narrow brown spot | Thiophanate Methyl | 70% | WP | 0-20 g/4 gal water | | U |
| Nominee | weeds | Bispyribac-sodium | 2% | SL | 400-600 cc/ac | | U |
| Broma- | rodent | Bromadiol | | | | | III |

| | | | | | | | |
|--------------|--|--------------|------|----|---|--|----|
| diolone | | one | | | | | |
| Cypermethrin | Stem borer, leaf folder and brown plant hopper | Cypermethrin | 25 % | EC | 100-150 ml/ac | | II |
| Abamectin | Leaf folder, rice thrip, stem borer | Abamectin | 1.8% | EC | 20-25 mL/tank of 16 L, 22.5 tank/1,000 m ² | | |
| Carbaryl | Leptocoris a oratorius | | 85% | WP | 0.75 a.i./ha | | II |

Table 9. Key Situation Indicators

| Pesticide use profile: | Tons (a.i./formulation to be specified) |
|--|---|
| Agriculture | |
| Chem. Insecticides | 3165 |
| Chem. Fungicides | 2065 |
| Chem. Herbicides | 462 |
| Chem. Others: e.g. molluscicide, acaricide | 40 |
| Other: e.g. Avamectin, Bt, Neem | 441 |
| Other purposes | 12 |
| TOTAL | 6185 |

Table 10. Key operation indicators

| Registration/regulation/monitoring | Years: 2015 | |
|--|-------------|-------------|
| | a.i. | Trade names |
| Number of registered pesticide products | | 3346 |
| Number of registered biopesticides (Avamectin, Bt, Neem, etc.) | | 17 |
| Number of restricted-use pesticides/formulations | 7 | |
| Numbered banned pesticides | 39 | |
| Number of licensed outlets | | |
| Number of licensed field applicators (professional and/or farmers) | | 15293 |
| Number of licensing violations reported during year | | |
| Number of quality control analyses conducted during year | | |
| Number of food samples analyzed for pesticide residues during year | | |
| Number of samples exceeding MRL | | None |
| Number of environmental samples analyzed for pesticide residues | | |

| | |
|---|------|
| Number of pesticide retailer/wholesaler | 3496 |
|---|------|

6. Appendix

1. http://www.agrochemex.org/exhibition/last_cake_in_asia_agrochemical_market-2/
2. Plant Protection Division, 2015. Annual Report, Department of Agriculture, Ministry of Agriculture and Irrigation
3. Myanmar Agriculture in Brief, 2014.
4. Soe Naing Win, 2014. Country report on APPPC workshop on Building Understanding and Preparedness for Electronic Phytosanitary Certificate, 28-30 October 2014, Bangkok, Thailand.