Recent Developments of Plant Protection in P. R. China

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Main Topics

1 Recent Development

2 Plant Quarantine

3 Outbreak of Pests

4 Pest Management

5 Issues of Pesticides

6 Int'l Cooperation

∆Conclusion Remarks

1 Recent Development —*Tech aspects (1/4)*

- Pest control: Insect pheromone, *Trichogramme & predacious mites, and* Eco-engineering tech
- Pest monitoring: GIS for pest monitoring & TV forecasting
- Pest detection: PCR & ELISA for PRA



1 Recent Development —*Legal aspects (2/4)*

- **Laws Issued: National Food Safety Law**
- **Regulations settled: Six regulations for pesticide labeling & standards**

1 Recent Development —*Policy aspects (3/4)*

- New list of quarantine pests for entry: issued in 2007 based on pest risk analysis
- Control strategy: Pest control actions organized via unified or specialized teams or associations
- Subsidizes for key pest control: Key pest controls subsidized from the center & local governments
- Banning the use of pesticides: *Fipronil* banned in rice pest control in 2008

1 Recent Development —*Infrastr. aspects (4/4)*

- **Designing & Implementation of 2nd-run national plant protection projects: Pest forecasting and control facilities were set up or upgraded, with functions of plant quarantine, pest forecasting & control, pesticide testing, and pest resistance-monitoring**
- **Coverage & period: all counties nationwide from 2008 to 2012**

2 Plant Quarantine
—*Regulated pests (1/4)*

- Updated lists for regulated pest following ISPM No19

—species for entry: 436

—species for domestic agro-quarantine: 29

—species for domestic forestry quarantine: 21

2 Plant Quarantine
—*Pest-free areas (2/4)*

- In accordance with relevant ISPM standards:

—established areas free of codling moth in Gansu, Shaanxi & Shandong provinces

—established areas free of citrus flies and citrus canker in Chongqing



2 Plant Quarantine
—*Risk assessment (3/4)*

- **Establish: The National Technical Committee of PRA**
- **Conduct: PRA for drafting new regulated pests lists**
- **Carry out: PRA for decision-making by experts**



2 Plant Quarantine —*Standard settings (4/4)*

- **Priority for ISPM: Guideline for intern'l postal material treatment method of *Mediterranean fruit fly***
- **Priority for RSPM: Guideline for plant quarantine in border trade testing and treatment method of *Cucumber green mottle mosaic virus***

3 Outbreak of Pests
—*Migratory insects (1/2)*

- **Migratory locusts: N-China, SW-China, NW-China; 2.2–2.3 mil. ha. infested**
- **Lawn moth: NE- & N- China; 5.2-6.8 mil. ha. infested during 2007-2008**
- **Rice BPH & Leaf folders: S-China, SW-China; 29.0-33.3 mil. ha. & 25.2-25.4 mil. ha. Infested, respectively**



3 Outbreak of Pests
—*Epidemic diseases (2/2)*

- **Wheat stripe rust: NW-China, SW-China, C-China; 4.0-4.1 mil. ha. Infested**
- **Rice blast: S-China, SW-China and NE China; 9.2 mil. ha. Infested**



4 Pest management —*Policies orientation (1/4)*

- **Public orientation: Pest control actions organized via unified teams or specialized associations**
- **Green orientation: Strategies, tactics & tech. mainly emphasized with green (environmental friendly) trends**
- **Public service: Key pest control actions mainly organized by governments**

4 Pest management —*Overall situation (2/4)*

- Acreage for pest mgt: 0.52-0.54 bil. ha with 69.2-71.3 mil. tons of yield loss saved
- IPM training: 8 TOT in Beijing, Yunnan, Guangxi etc.，247 FFS with 7,657 farmers trained from 2007 to 2008
- Implication of IPM: Chemicals application reduced by 30-90%



4 Pest management
—*Assessment of IPM (3/4)*

- **Acreage for IPM:**
  7-8 mil. ha.
- **Reduction of pesticides:**
  30-60%
- **Decrease pest mgt cost:**
  20-40%

4 Pest management —*Challenges/difficulties (4/4)*

- **Difficulties:** Small production scale & low organization level
- **Challenges:** Poor labor quality due to rapid transfer of better-educated farmers into cities
- **Improvements:** Corporation & share-holding practice, professional pest management service, etc.

5 Issues of Pesticides
—*Convent. Implemented (1/5)*

- Implementing the National Work Plan for Stockholm Convention since 2007
- Completely phased out the regist. & prod. Certification of 5 highly toxic OP pesticides in 2007
- Started the consultation on amending national pesticides registration and management regulations in 2008
- Monitor pesticide residues in food and environment

5 Issues of Pesticides
—*Personnel & facilities (2/5)*

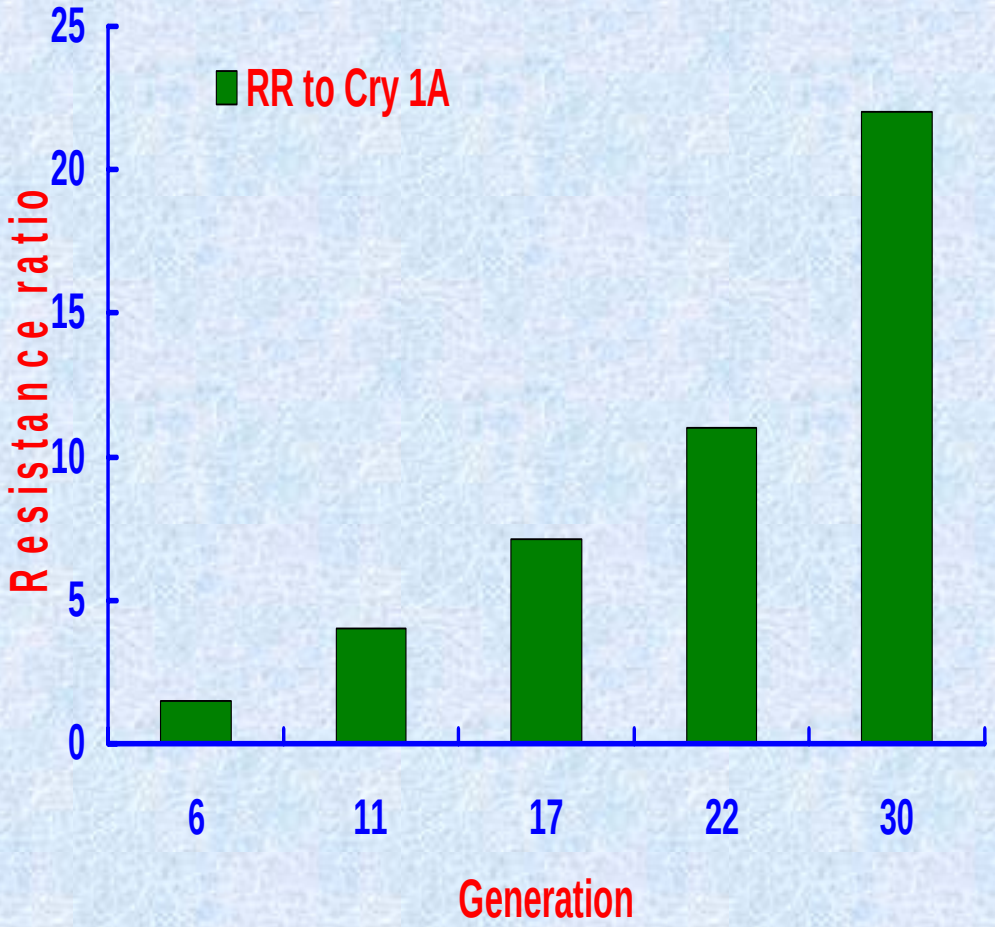
- Built teams for conducting pesticide registration & quality examination, and monitoring pesticide production in market
- Establish labs for pesticide managements at national, provincial & county levels

5 Issues of Pesticides
—*Residue control (3/5)*

- Enacted pesticides application standards
- Determined maximum residue levels in food (GB: - 2007, 2008)
- Detected the pesticide residue for agro-products at regular basis

5 Issues of Pesticides
—*Pesticide resistance (4/5)*

- **Network: One expert group, 2 training centers & 50 monitoring stations**
- **Projects: Cotton bollworm and rice borer**
- **New focus: Resistance of CBW to Bt cotton**



5 Issues of Pesticides
—*Bio-control agents (5/5)*

- **Natural enemies widely applied: *Trichogrammtid*, *cococinellid*, predacious mite, etc.**
- **Plant-origin pesticides:**

  20 plants and their active constituents found, over 300 botanic pesticides registered



6 Int'l Cooperation
—*On pest management (1/3)*

- FAO Vegetable IPM-FFS Project in Yunnan (completed in 2007), and FAO Pesticide Risk Reduction (PRR) Project in Yunnan & Guangxi
- ADB/IRRI Eco-engineering Project for Controlling Rice Brown Plant Hopper in Zhejiang and Guangxi
- Sino-South Korea & Sino-Vietnam Projects for Monitoring Migratory Rice Pests
- Sino-Kazakhstan Project for Locust Control

6 Int'l Cooperation
—*On plant quarantine (2/3)*

- Participate activities of IPPC and APPPC, as drafting of ISPM and RSPM
- Establish cooperation mechanism with many countries for import & export

6 Int'l Cooperation
—*On pesticide issues (3/3)*

- Sino-German Cooperative Project on Pesticides Wastes Management
- Sino-Netherlands Project on Mini. Lethal Herbicide Dose Technology
- Sino-US Cooperative Project on the Continued Good Laboratory Practice Standards Compliance Monitoring
- Chairman Country of the Codex Committee on Pesticide Residues

ΔConclusion Remarks
——*Problems (1/3)*

- Pressure for high per unit yield
- Complication of pest control for intensified cropping
- Threat of pesticide residues to food safety
- Competition for both domestic and int'l markets

∆Conclusion Remarks —*Challenges (2/3)*

- **Global warming: Shift status of primary & secondary pests; change pest population dynamics; and then complicate pest control**
- **Trade globalization: Increased the risks of pest introduction, and more difficulties for preventing pests form invasion**

ΔConclusion Remarks —*Perspectives (3/3)*

- Strengthen regulation systems for fitting with int'l rules
- Improve infrastructures
- Subsidize for key pest control
- Support research & extension
- Promote int'l cooperation


Thanks !