INTERNATIONAL REGIONAL ORGANIZATION FOR PLANT AND ANIMAL HEALTH (OIRSA)

WORKSHOP ON THE INTERNATIONAL MOVEMENT OF GRAIN
Vancouver, British Columbia, Canada
December 6-8, 2011

Specific PRAs for grain pests

Edgar Santamaría
Plant Health Director - Honduras

Area and production of basic grains of the OIRSA region countries 2010/11

Countries	MAIZE		RICE		SORGHUM		BEANS	
	Area (ha)	Production ™	Area (ha)	Production ™	Area (ha)	Production ™	Area (ha)	Production ™
Guatemala	840,000	1625,120	8,540	25,088			231,000	195,944
Honduras	335,850	587,682	9,099	49,273	36,063	62,682	104,163	88,864
Costa Rica	8,600	18,765	66,415	264,756			22,849	12,830
Nicaragua	382,900	600,386	80,500	237,727	79,450	188,227	275,800	245,364
El Salvador	253,894	768,113	4,916	34,479	83,773	106,529	102,507	71,294
Panama	58,600	85,959	112,940	304,059	1,329	3,849	10,790	3,150
Dominican Republic	22,988	35,110	185,399	552,518	794	796		
Belize	3,584	7,509	223	6,692	2,846	6,855	7,456	6,899
Mexico	7,726,109	20,142,815	60,771	263,027	1,955,206	6,108,085	1,676,681	1,041,349
TOTAL	9,632,524	23,871,459	528,803	1,737,619	2,159,461	6,477,024	2,431,246	1,665,694

Sources: Statistics of the Ministries/Secretaries of Agriculture and Central Banks of the countries

Imports of grains to Central America during 2010 (in MT)

Guatemala	Honduras	El Salvador	Nicaragua	Costa Rica	Central America
1,292,415	678,225	917,418	452,496	1,033,643	4,374,200

Cases on PRA in grains

PRA on *Steneotarsonemus spinki* Smiley*

- **PRA area:**

  Guatemala
  Belize
  El Salvador

- **In the list of pathways for this PRA, it is included "Seed of host plants (rice for planting, including paddy rice or rice husks not intended for planting)"**
- **Paddy rice is considered a likely entry pathway for *S. spinki* to enter the PRA area, especially due to the high volumes moving internationally**

* ECHEGOYEN RAMOS, P.E. 2005. Pest risk analysis for *Steneotarsonemus spinki* Smiley in the Central American area where it has not been reported yet. San Salvador, El Salvador. Unit for Support in Epidemiological Surveillance and Pest Risk Analysis, OIRSA. 26 P.

ARP sobre *Steneotarsonemus spinki* Smiley

As options for risk management for hulls and paddy rice are proposed:

- **Prohibit importation of hulls (rice husks) and other milling residues originated from rice coming from infested areas, or;**
  - **Permitted entry if the product is subject to a proper phytosanitary treatment**
- **Prohibit importation of paddy rice and rice seed for planting if it comes from infested areas, or;**
  - **Permitted entry if the product is subject to a proper phytosanitary treatment or tested to verify if consignments are mite-free**

PRA for grains and flours*

PRA area: Guatemala

Potentials of pest risk[1] and number of species by type

Risk potential	Arthropods	Bacteria	Fungi	Weeds	Nematodes	Viruses and phytoplasms
Low	0	0	0	8	0	0
Medium	57	6	13	18	2	20
High	17	4	8	9	0	0
162	**74**	**10**	**21**	**35**	**2**	**20**

1 The pest risk potential is obtained by adding the ratings of the risk of "Likelihood of Introduction" and "Consequences of Introduction“

* CANIZ TERREAUX, L.C. 2007. Pest risk analysis for importation of grains and their flours from USA to Guatemala. Guatemala. Version received by Plutarco Elías Echegoyén Ramos for information and comments, as per letter signed by Edgar Santiago, Ref. OIRSA.OA.102.2007, Guatemala, 18 October, 2007.

Options proposed for risk management of grains and flours

- Inspection of the product at points of entry (this option is especially recommended for low risk pests)

- Sampling (for inspection or to test at a laboratory)

Options proposed for risk management in grains and flours

- **Where appropriate, apply treatment with methyl bromide or phosphine** [phosphane - phosphorus trihydride] **to consignments, either in origin or in destiny**
  - **If treatments in origin are certified prior to the formation of the consignment, verify the absence of pests in the ship's holds before loading the ship with grain**
  - **In case of treatments with phosphine during transportation, in trips shorter than the required exposure period, or at temperatures lower than the required, the treatment is ineffective**
- **As regards weed seeds, carry out a screening of the product either in origin or in destiny with the appropriate biosecurity measures**

Options proposed for risk management of grains and flours

- **Prohibited entry when in consignments are detected specific quarantine pests for which do not exist options for risk management (e.g. certain fungi and bacteria)**

- **For paddy rice, if *Aphelenchoides besseyi* is detected, treat the product with heat at 56°C during 15 minutes**

PRA for *Polygonum lapathifolium**

PRA area: Nicaragua

This PRA was carried out due to the repeated interceptions of *Polygonum lapathifolium* seeds and of other weeds in imports of paddy rice, consigned to the milling industry of the country

ECHEGOYÉN RAMOS, P.E. 2009. Análisis de riesgo de plagas (ARP) preliminar sobre *Polygonum lapathifolium* L. para Nicaragua. San Salvador, El Salvador. Sanidad Vegetal, OIRSA. 72 p.

PRA for *Polygonum lapathifolium*

Two cases of *P. lapathifolium* in environments similar to those of the PRA area

Case 1: In the state of Sao Paulo, Brazil. At the Tropic of Capricorn (south)

Case 2: In the state of Veracruz, Mexico. At the Tropic of Cancer (north)

Case 1. Distribution and abundance of *P. lapathifolium*, Sao Paulo

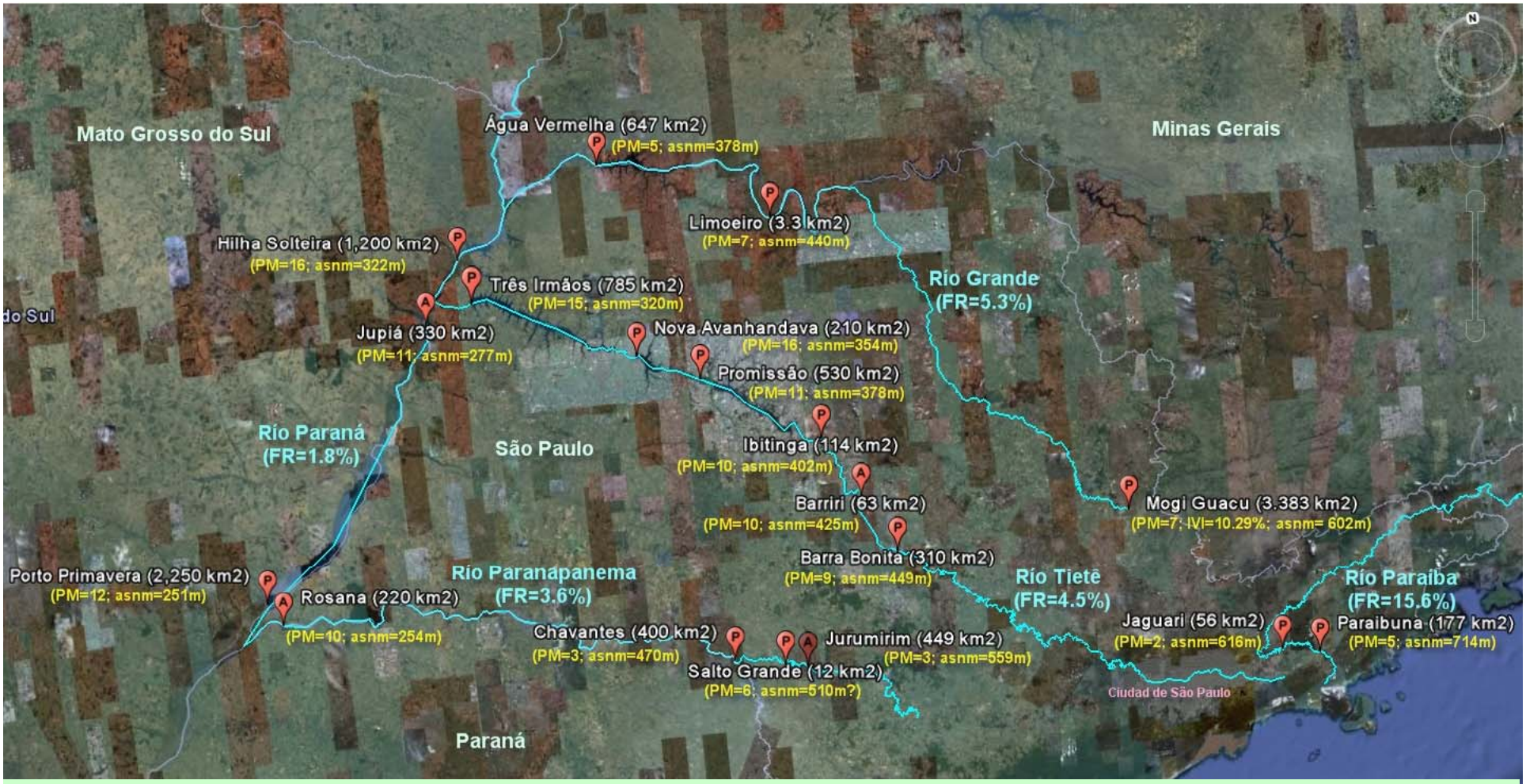

Fig. 22. Status of *Polygonum lapathifolium* in 18 dams of five ribers in the state of Sao Paulo, Brazil. Abbreviations: asnm = above sea level (approximately determined with Google Earth); FR = Relative Frequency of *P. lapathifolium* in the basin (Martins *et al.* 2008); IVI = Importance Value Index (Cavenghi *et al.* 2005); SP = Sampled points per dam (Martins *et al.* 2008); km2 = square kilometers.

Tags: = dam; **A** = dams where *P. lapathifolium was not detected* ; **P** = Dams where *P. lapathifolium was detected.* (Martins *et al.* 2008)

Case 2. Populations of *P. lapathifoluim* in the state of Veracruz, Mexico (Pictures courtesy of Eric Estrada Cruz, CESVVER)

PAR for *Polygonum lapathifolium*

Risk assessment:

- ***P. lapathifolium*** **easily adapts to different tropical fresh water environments, so it is very likely that it establishes and disseminates in this type of environments in Nicaragua**
- **It is very likely that P. lapathifolium be introduced to Nicaragua through the pathways under study, if no effective measures are implemented to manage these risks**
- **Some areas for tourism, fishing and other human activities probably would not be used any longer due to being invaded by weeds**

PRA for *Polygonum lapathifolium*

Options proposed for pest management:

- **Prevention of contamination, or decontamination of consignments and their certification as free of weed seeds by the exporting country**

- **Inspection of consignments (including sampling)**

PRA for *Polygonum lapathifolium*

Options proposed for risk management (cont.):

- **Setting a tolerance for weed seed in products that can be satisfactorily decontaminated (parameters have to be defined)**

- **Decontamination of the product (screening or other process) and destruction or devitalization of weed seed (by heating or methyl bromide)**

Conclusions

- **Most countries in the OIRSA region import large quantities of grains, however, their productions are very significant, especially basic grains, which are key to food security of their citizens**
- **The international movement of grains involves risks of quarantine pests, so it is necessary to manage them in order to protect grain importing countries from the introduction of these pests**