

ENDURE Network of Excellence

Links between the European Union & Argentina

IPM the Global Challenge:

ENDURE fosters international collaboration

Paris, November 24 & 25 2010

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INTA, Área Estratégica Protección Vegetal



INTA

15 Regional Centers

47 Experiment Stations

313 Extension Units

4 Research Centers / 16 Institutes

7000 workers (44% professionals)

Conduct and promote activities aimed at innovation in the sector agricultural, food and agribusiness to contribute fully to the competitiveness of agro-industrial chains, environmental health and sustainability of production systems, social equity and regional development, through research, technology development and extension.

www.inta.gov.ar

INTA's projects related to Integrated Pest Management (IPM)

Maintenance of insect pests, weeds and plant pathogens at tolerable levels by a combination of cultural/mechanical (e.g. hand picking, pruning, use of machinery), biological and chemical control methods in order to keep environmental impacts and human health risk to a minimum.

- ❖ Field Crops (Cereal and oil crops)
- ❖ Stone and pome fruits
- ❖ Vegetables
- ❖ Forests

Major Agricultural Events in Field Crops in Argentina

- ✓ 1950' Plowing & Sowing agry machines
- ✓ 1980' Reduce Till farming
- ✓ 1990' NoTill (Direct Drilling) farming
- ✓ 1996 Soybean RR
- ✓ 2000 Bt Corn

History of IPM in Argentina

(mainly referred to entomology)

- ✓ Pesticide use by pest presence or calendar
- ✓ 1960's IPM in cotton (Chaco) and fruits (Alto Valle)
- ✓ 1978 FAO-INTA's Workshop in IPM
- ✓ 1980's INTA's IPM programmes on wheat, soybean, corn, sorghum and alfalfa.
- ✓ 1985 INTA-BID instructional program overseas

IPM on Field Crops

Research Topics

- Pest and Natural enemies population dynamics
- Bionomics of key pests - life table analysis
- Plant damage – action threshold
- Sampling programs
- Biological Control
- Plant Resistance to Key Pest
- Chemical Control
- Developing an IPM program / crop or farming system

Stone and Pome Fruits Río Negro Valley & Neuquén

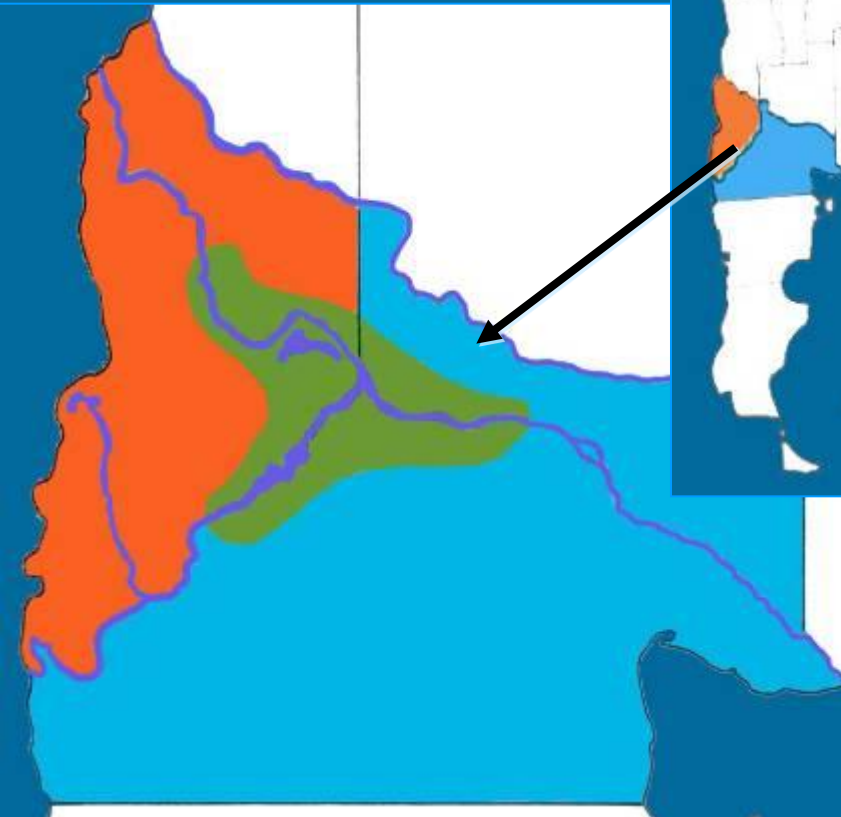
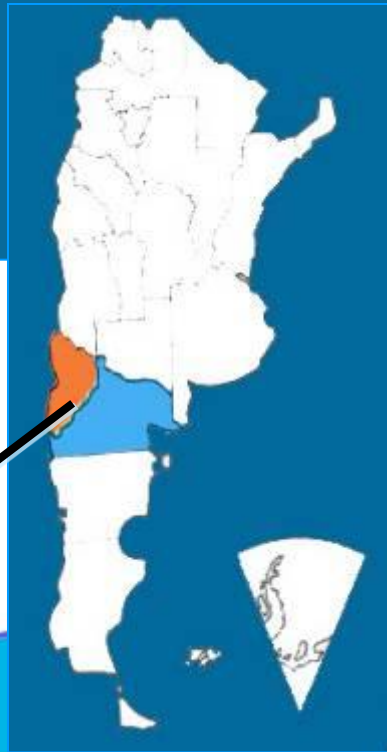
40.000 ha in Production

Apples: 806.300 tn

Pears: 525.000 tn

TOTAL: 1.300.000 tn

U\$S 300 millions exports
110% more than beef exports



Pheromones

✓ **Monitoring**



✓ **Sexual Confusion**



Monitoring of pesticide resistance

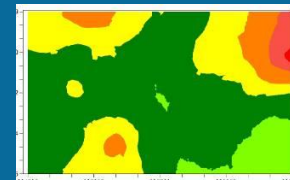
Types of Bioassays

- a - Toxicology
- b - Biochemical
- c - Genetics

Evaluation of insecticides of natural origin

- ✓ *Granulosis virus*
- ✓ *Bacillus thuringiensis* (Bt)
- ✓ *Derris elliptica* (Rotenone)
- ✓ *Azadirachta indica* (Neem)
- ✓ *Ryania speciosa*
- ✓ *Artemisia absinthrum*
- ✓ *Garlic Extract*
- ✓ *Chrysantemun cineraria efolium* (Piretrum)

Monitoring tools for control decision-making



Management of Pest & Diseases of Vegetables in Greenhouses

Reducing Inoculum

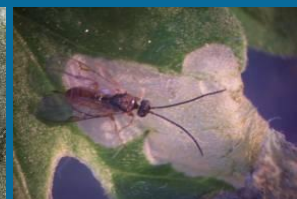
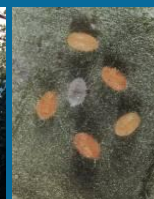


Forecasting systems and decision making. Models



Pesticide management

Integration into strategies for IPM



Expectations from ENDURE

- ✓ Partners for future research projects.
- ✓ To exchange experts between EU & INTA.
- ✓ To collaborate in human resource training:
 - Internships
 - Courses in IPM
- ✓ To share international platforms with ENDURE (EU), USA, and IPM Consortiums from Brazil & Argentina, mainly on Field Crops.

Thank you so much
for your attention !!!