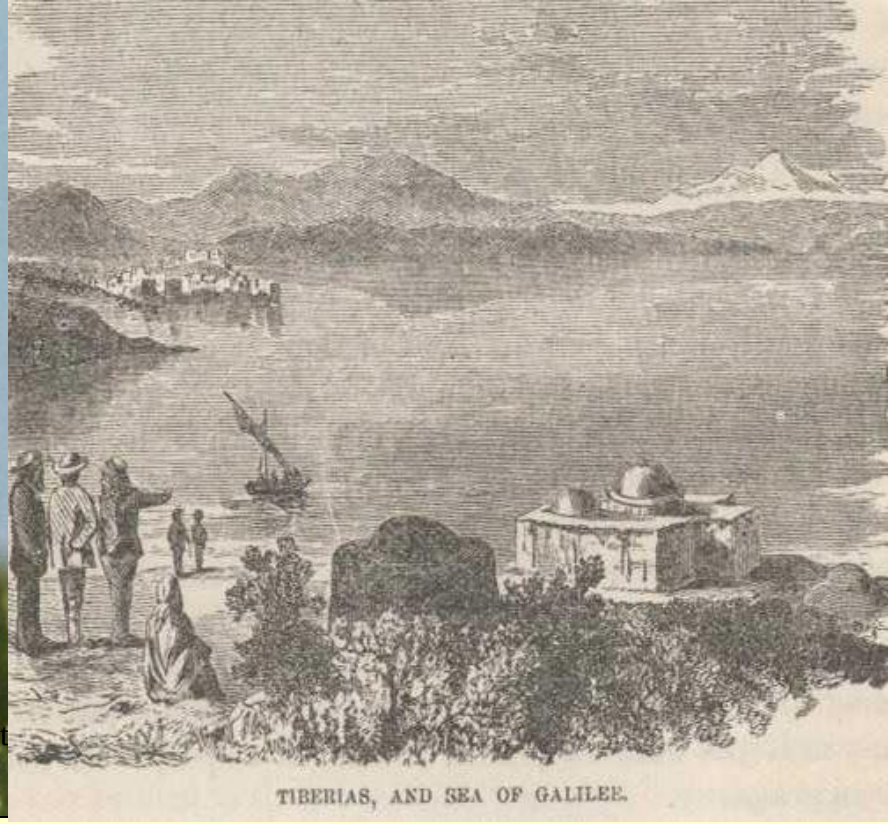

The current status of the tomato leafminer *Tuta absoluta* in Israel

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MIGAL
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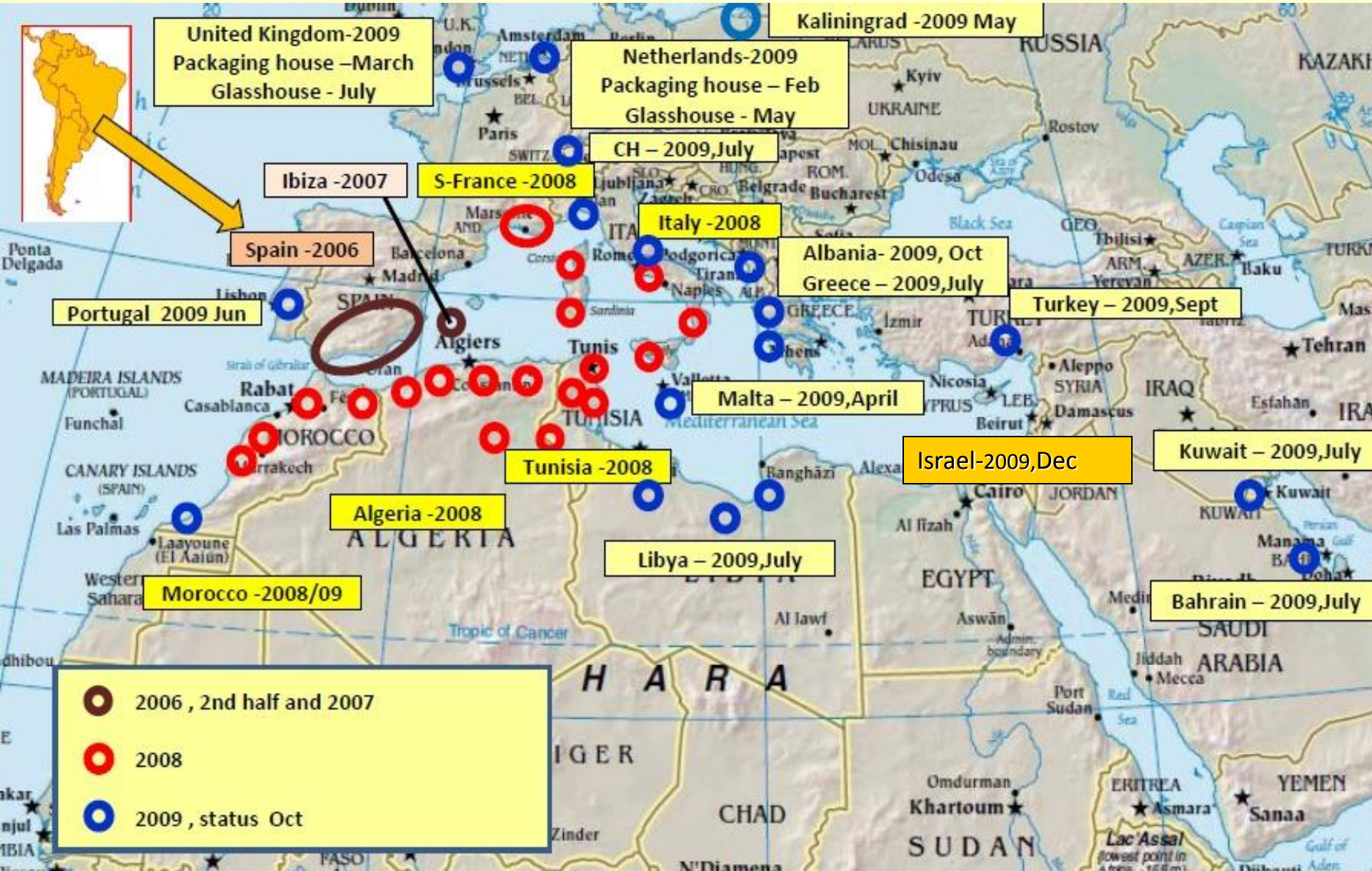
NORTHERN R&D • NORTHERN R&D • NORTHERN R&D
מו"פ צפון

Distribution of *T.absoluta* in the world



Tomato growing area in Israel 2010-2011

Fresh market tomatoes
(open fields)

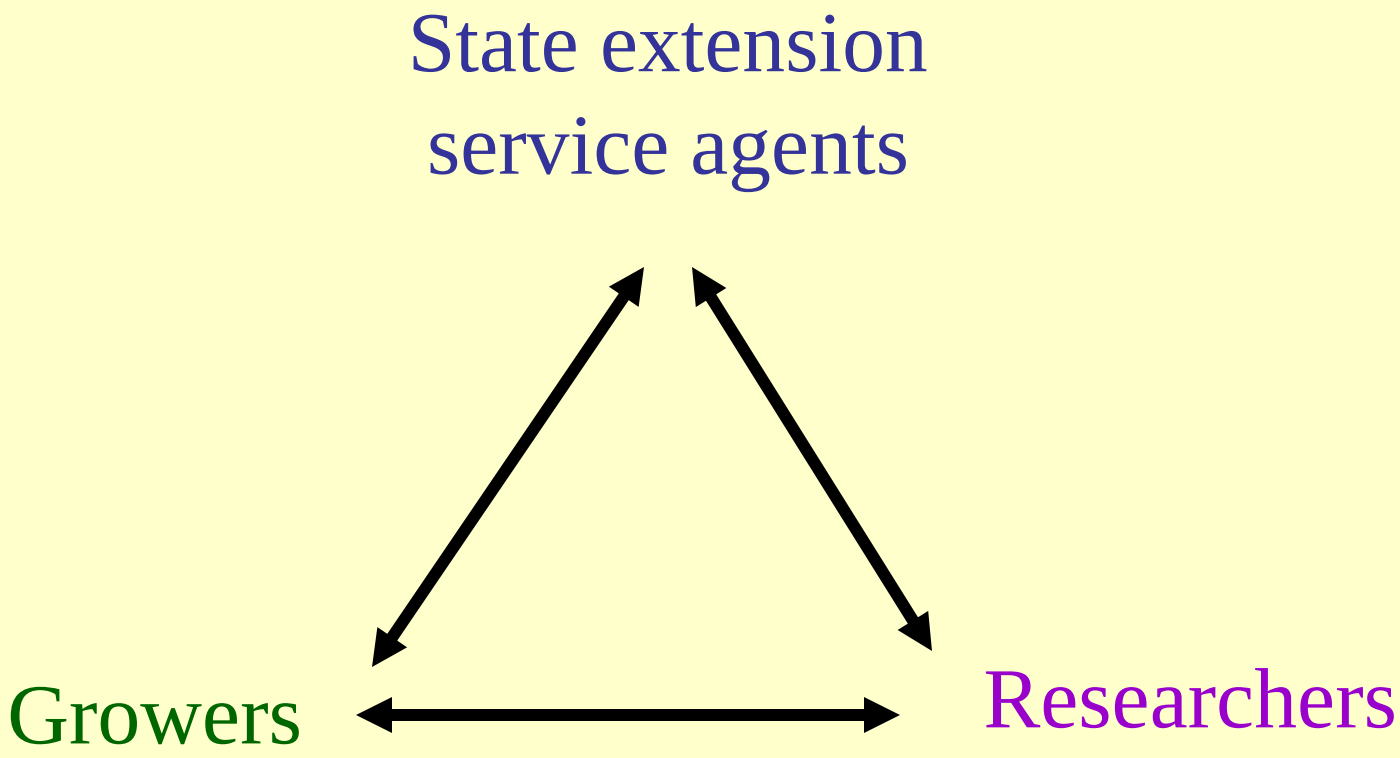
1375 acres

Processing tomatoes
5500 acres

Green/screen house tomatoes:
4750 acres


Tuta damage in a net house in the Galilee January 2010
Photo: Muhamad Abo Tuema

Agricultural knowledge triangle in Israel



Recommendation for *Tuta Absoluta* management in green/screen houses

Strict sealing

Proper situation

Mistake!

Sanitation

Extermination of infected plants

Carful monitoring

Pheromone traps

Professional pest scouts

Rotation in use of efficient Pesticeds

- Indoxacarb (avant)
- Spinetoram (sparta)
- Chlorfenapyr (pirat)
- Spinosad (triser ultra)
- Emamectin benzoate (prokleim)
- Novaluron (rimon)
- Chlorantraniliprole (coragen)

Use of Pheromones for mass trapping

2-5 traps for 1 Dunham (1000 m^2)

Carful use of the natural enemy

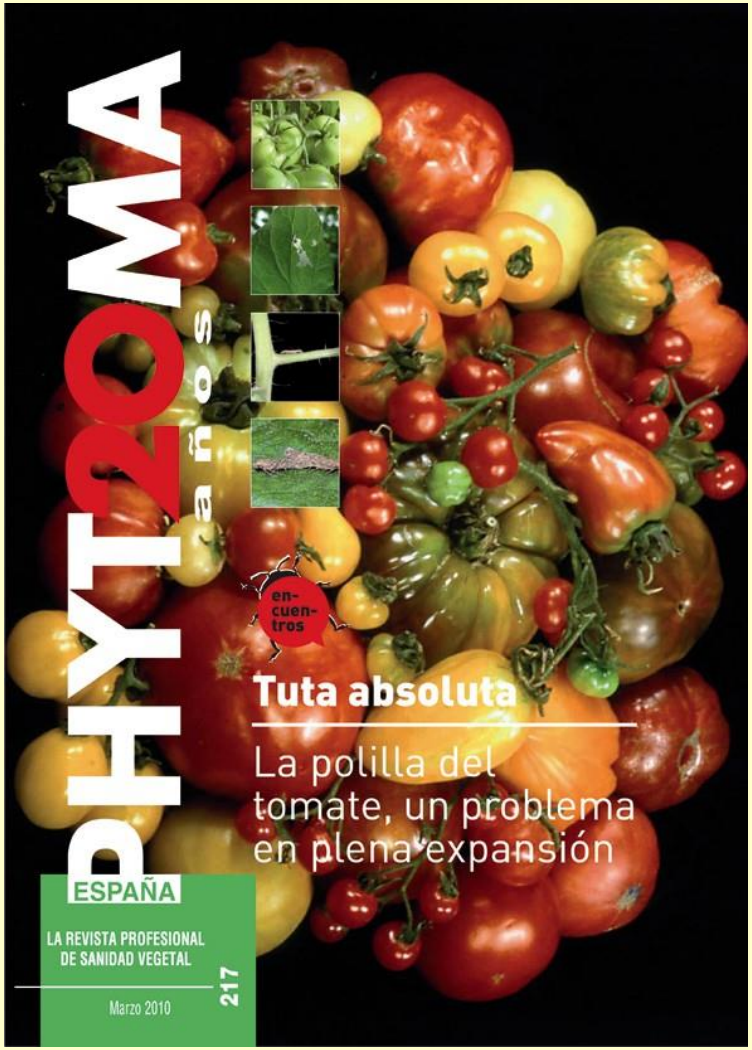
Nesidiocoris tenuis

Results in green/screen houses

- Spraying with pesticides every 2-3 weeks up to 15 treatments in a growing season (6-8 month) and no economical damage.
- In some cases mass trapping was very successful (only 2-3) and no economical damage.
- Since the Chlorantraniliprole was licensed spraying treatments went down to 2-3 in a growing season.
- In some case application of *N. tenuis* was very successful in controlling the *T.absoluta* population. In a few cases it caused damage to the crops.
- In cases of neglect there is sever damage to the crops!

1st International PHYTOMA-Spain Conference on *Tuta absoluta*. Tomato leaf miner, a serious problem in expansion.

Valencia, 23rd and 24th March 2010



Temporary Recommendations for IPM of *T. Absoluta* in open field tomatoes

- Start spraying with “natural enemies friendly” pesticides in order to let parasitoids and predators a chance to establish, and only gradually move to less “natural enemies friendly” pesticides.
- Rotation of pesticides.
- Carful monitoring and spraying according, only when reaching action thresholds.
- Do not Panic!

Results in processing tomatoes 2010-2011

2010

- 2-9 treatments against *T.absoluta* along the season,
- no economical damage (The tomato factories accept up to 1% pest presence inside the fruit).

2011

- 2-4 treatments against *T.absoluta* and no economical damage.

Research groups in Israel working on *T.Absoluta*:

- N.Mor S. Gantz -Ministry of agricultur: IPM in green houses.
- Dr. A. Harari -Volcany center: Sexual behavior and "attract and kill pheromone traps.
- R. Or.- Eden research station: Resistance of adult moth to pesticides.
- Bio-Bee: The use of *N. Tenuis* as a natural Enemy.
- Dr. L. Shaltiel- Migal: IPM in processing tomatoes.

Death rate (%) of *T. absoluta* adults (mostly males) in scintillation gars

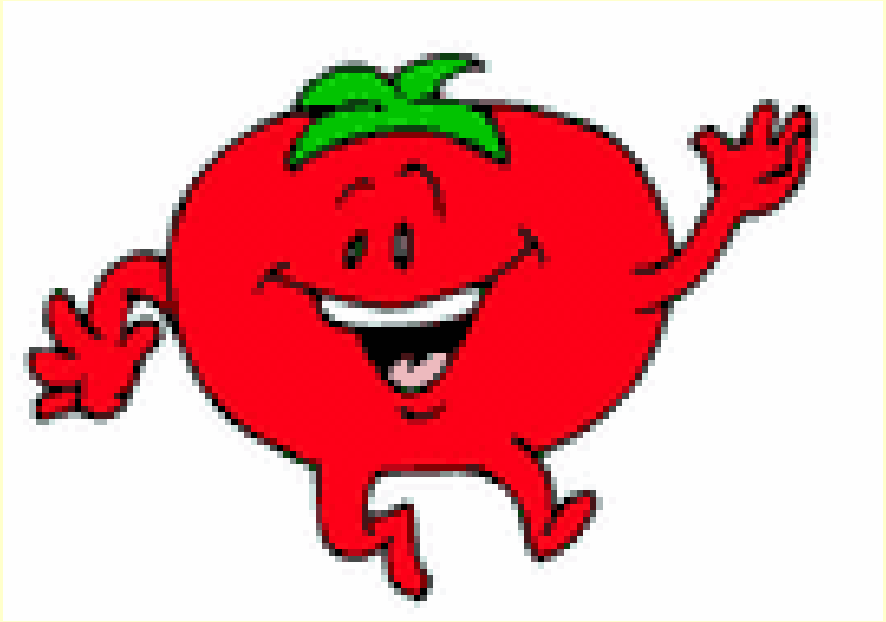
(in bracelets Number of tested moth)

pesticide	(%)			
	1.0	0.1	0.01	0.0
Control (water)				**(245) 6.9**
Bifenthrin	**(94) 100**	**(81) 79.6**	**46.3 (108)**	
Cypermethrin	**(45) 35.6**	**(38) 20.8**	**(39) 0.0**	
CYFLUTHRIN+1% oil	**(23) 95.7**	**(18) 66.7**		
Indoxacarb	**(49) 97.9**	**(51) 59.9**		
Emamectin benzoate	**(91) 65.7**	**(65) 12.5**	**(95) 3.9**	
Spinetoram	**(95) 54.8**	**(48) 39.6**	**(38) 29.3**	
Spinosad	**(44) 100**	**(70) 53.9**	**(90) 5.7**	
Timor C ext. of Melaleuca alternifolia+Sophora	**(14) 50**			

Reuven Or Eden Research station

Summary

- In Israel today *T. Absoluta* is present all over the country but is **under control** and considered a" Discipline Pest".
- In tomatoes for processing, natural enemies, if not harmed, manage to reduce populations under economical thresh holds.
- In green/screen house tomatoes, strict agro technical procedures combined with pesticed application, mass traping or *N. tenuis* (in some cases) work well.



Thank you for your attention!