INTEGRATED PEST MANAGEMENT IN LEEK AND CABBAGE, A PRACTICAL VIEW

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Introduction

DIRECTIVE 2009/128/EC: Sustainable use of pesticides

"Integrated pest management" means careful **consideration** of all available **plant protection methods** and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of **intervention** to levels that are **economically and ecologically** justified and reduce or minimise risks to **human health** and the **environment**. It emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.

Introduction

National Action Plan

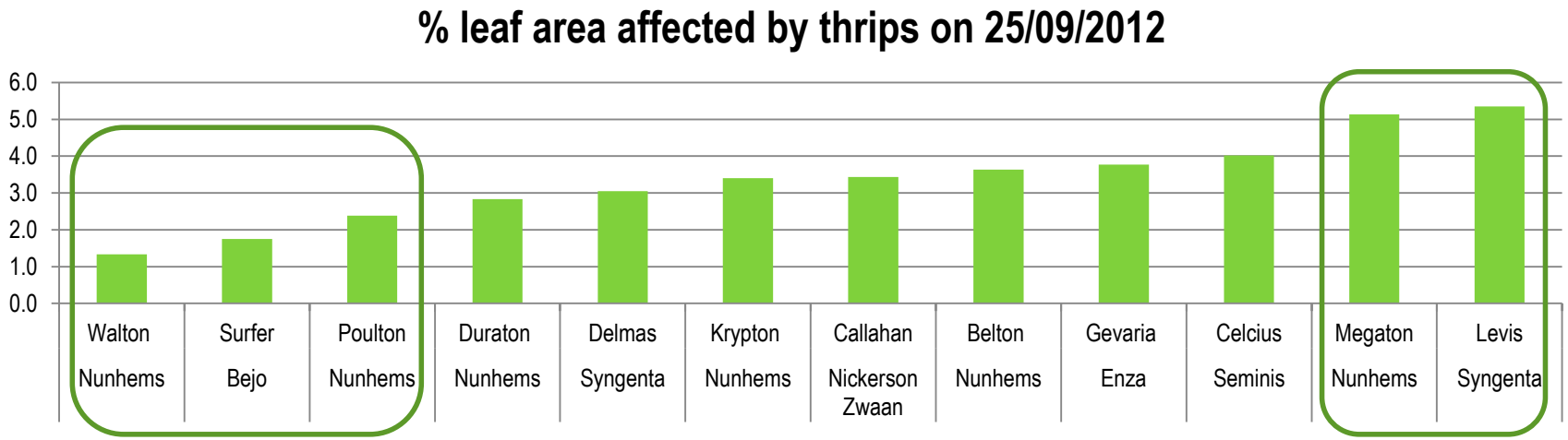
- Prevention: biodiversity, **resistant/tolerant cultivars**, rotation, fertilization, soil management, irrigation, hygiene, …
- Monitoring: observations in the field, **warning systems**, professionally qualified advisors
- Intervention:
  - Non-chemical methods: sustainable biological, physical, other
  - Chemical methods:
    - Goal-oriented (specific pest or disease)
    - **Limited side effects**
    - Resistance management: dose / alternation

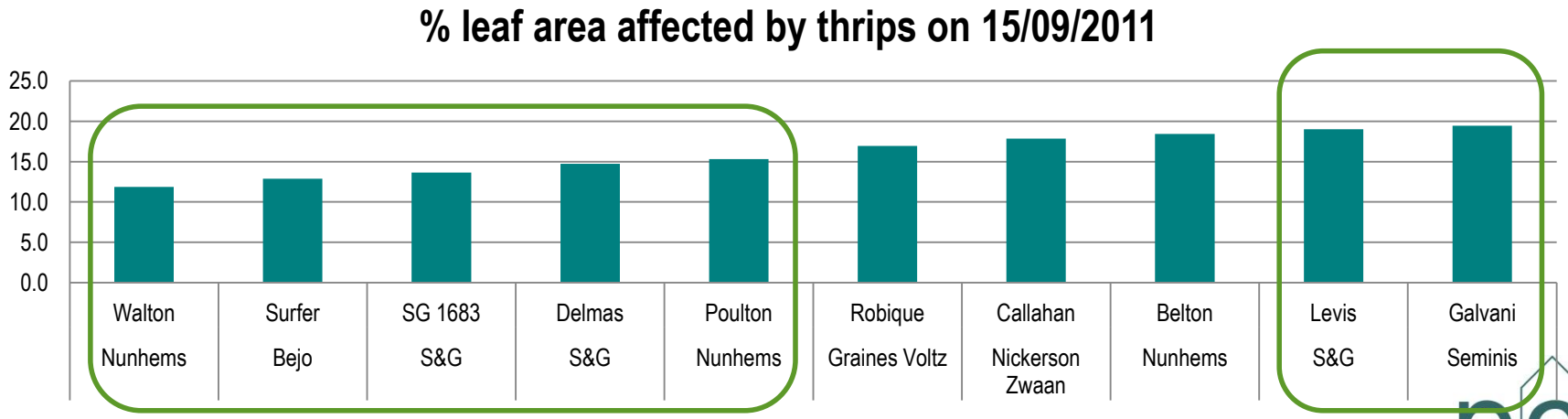
PREVENTION

Resistant / tolerant cultivars

Cultivar trials – leek

Cultivar trials – leek





Cultivar trials - leek

Legende

--	heel gevoelig
-	gevoelig
+/-	matig gevoelig
+	weinig gevoelig
++	niet gevoelig

Subsidy:

- ✓Jumper
- ✓Walton
- ✓Belton
- ✓Poulton
- ✓Curling
- ✓Pluston
- ✓Aylton

	Roest	Papiervlekken	Trips
Zomerrassen			
Faraday	-	+/-	-
Jumper	+	+	++
Megaton	+	+/-	--
Striker	+/-	--	+/-
Krypton	-	+	+
Duraton	+	-	+
Rassen vroege herfst			
Galvani	+	--	-
Levis	+	-	--
Surfer	+/-	+	+
Walton	+	++	++
Celcius	+/-	-	+/-
Callahan	--	+	+/-
Rassen late herfst			
Hawking	+	--	+
Antiope	+	+/-	+
Belton	++	++	+
Cousteau	--	+	+
Delmas	-	-	+/-
Poulton	+	++	+
Tadorna	--	--	--
Curling	+/-	+	++
Winterrassen			
Lucretius	+/-	-	+
Pluston	+	++	++
Fahrenheit	--	+/-	-
Harston	--	-	+/-
Kenton	++	+/-	+/-
Natan	++	+/-	+
Vitaton	+/-	+/-	++
Triton	+	--	-

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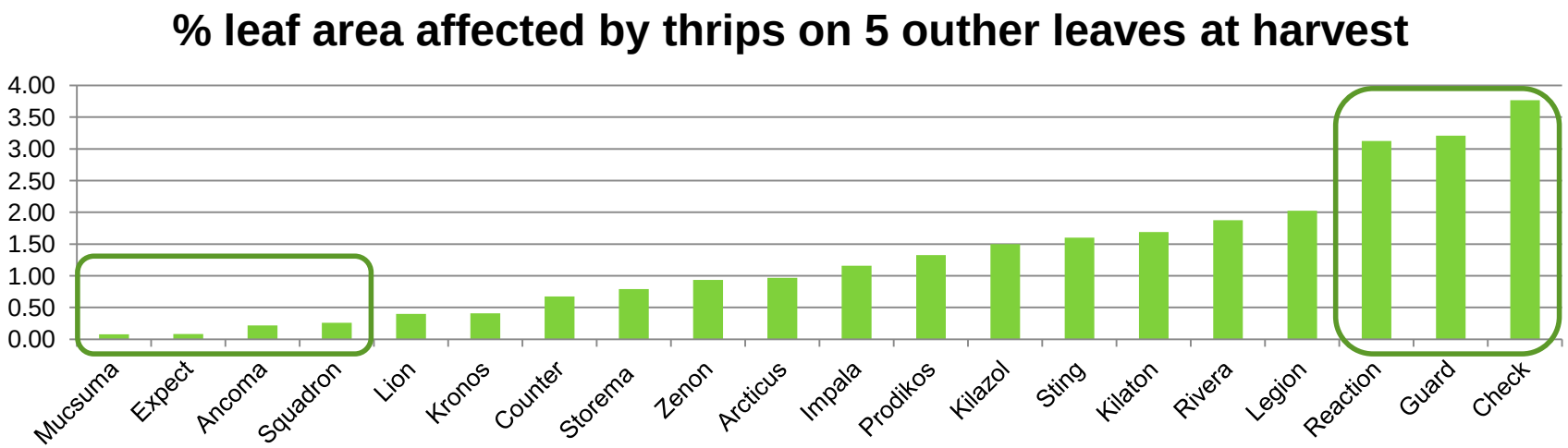
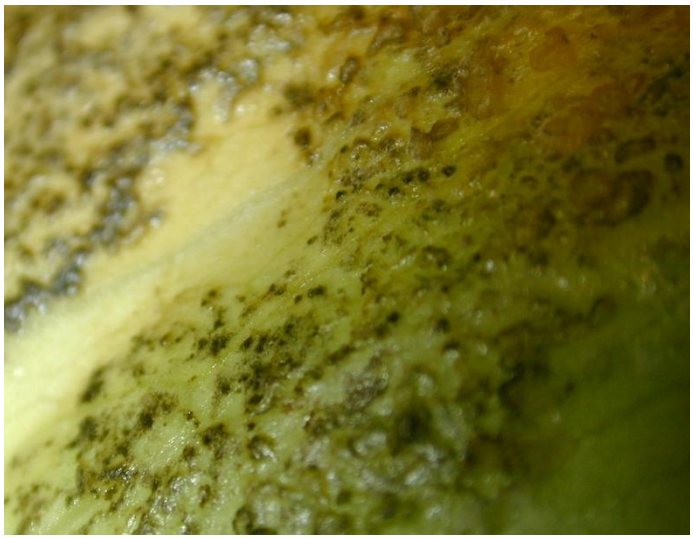
Cultivar trials – white cabbage





MONITORING

Warning systems

Warning system - general

- Aim:
  - Reduce the use of crop protection products
  - Intervene at the right time
- Funded by auctions (LAVA) and performed by Inagro, PSKW and PCG (for leek and cabbage)
- Crops: leek, cabbage, Belgian endive and carrots
- How:
  - Observation: pheromones, sticky traps, on the plants, …
  - Climatological predictions

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Warning system - leek

Waarneming prei

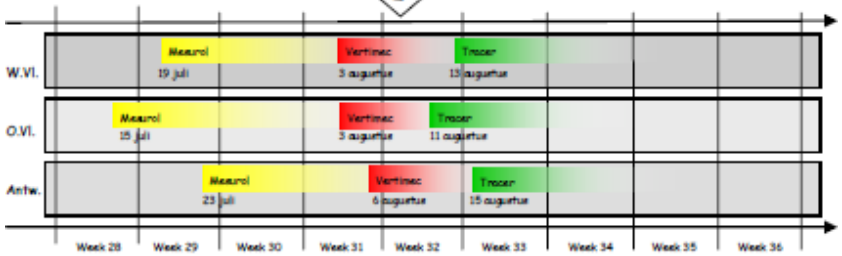
Preimot

Het aantal preimotten dat gevangen wordt, is op zowat alle waarnemingspercelen laag. Een behandeling tegen preimot is enkel nodig in de regio Handzame. Daar worden 13 motten per val geteld.

Trips

In Oost-Vlaanderen stijgt het aantal trips overal. Er worden maximaal 166 tripsen per val geteld. In West-Vlaanderen stijgt het aantal trips op de meeste percelen, er worden maximaal 127 tripsen per val geteld. In Antwerpen blijft hat aantal vrij stabiel met maximaal 33 tripsen per val.

In Oost-Vlaanderen zal de volgende temperatuursom (adulten) donderdag overschreden worden, in West-Vlaanderen (larven) zaterdag en in Antwerpen (adulten) volgende maandag. Er dient overal een behandeling uitgevoerd te worden op de overschrijdingsdatum.



Ziekten

Op verschillende percelen worden papiervlekken waargenomen. Komende dagen wordt er wat neerslag voorspeld. Hierdoor zal papiervlekkenziekte nog verder kunnen uitbreiden en is er dus op veel percelen een bestrijding nodig. Vanaf heden kunnen preitelers beroep doen op een webapplicatie (www.prei-info.be) als hulpmiddel ter bestrijding van papiervlekkenziekte in prei. Met deze tool wordt het mogelijk om de timing van de behandelingen af te stellen op de werkelijke druk van papiervlekkenziekte in het veld. Meer info in Proeftuinnieuws nr. 15.

- Leek moth *(Acrolepia assectella):*
  - Damage: larvae feed on leaves
  - Pheromone in a trap
  - Economic threshold: 10 per trap
- Thrips (*Thrips tabaci*):
  - Damage: silver patches on leaves
  - Sticky trap
  - Threshold: temperature sum
- Diseases:
  - Plants
  - Model for white tip disease

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Warning system - leek

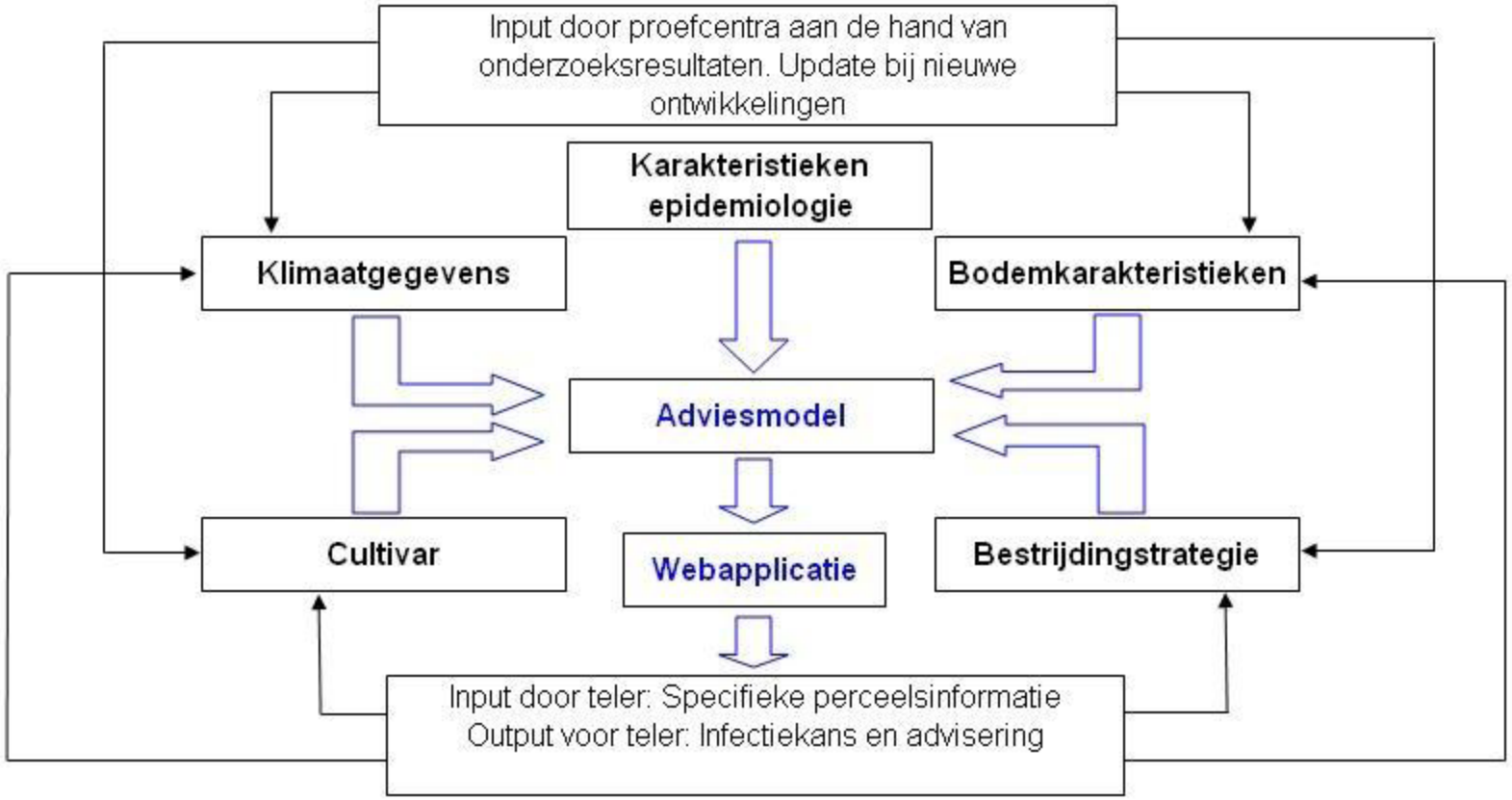
Phytophthora porri
white tip disease

- www.prei-info.be
- Based on: precipitation, cultivar, rotation, pesticide and pressure
- Parameter cultivar and rotation important role

Thrips tabaci

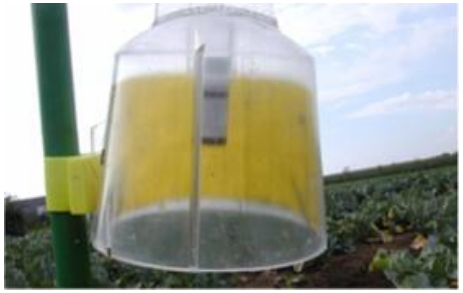
- Under construction
- Current model: temperature
- New model: temperature, period (summer, autumn, winter), cultivar, pesticide and pressure
- Parameter cultivar important role: reduction of pesticide up to 50%

Warning system - leek



Warning system - cabbage

- Cabbage moth *(Plutella xylostella)*:
  - Damage: larvae feed on leaves
  - Pheromone in a trap
- Cabbage fly (*Delia radicum*):
  - Damage: larvae feed on roots and sprouts
  - Attractant in a trap
- Diseases
  - Plants



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INTERVENTION

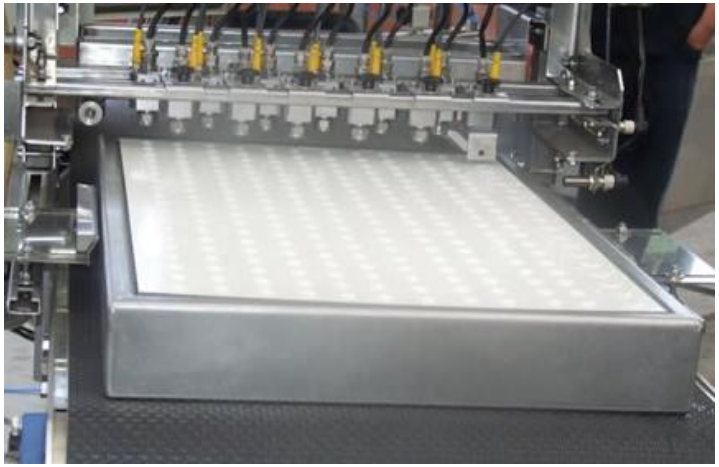
Limit side effects

Reduction of side effects

- “Minimise risks to **human health** and the **environment**”

- Phyto-drip®: product is dripped onto the seed at sowing
  - lower risk for farmer: treatment at plant raiser, computer controlled;
  - lower risk for beneficials: no foliar treatment;
  - lower product amount.

- Tray application: product is sprayed on the tray before plant
  - lower risk for beneficials: no treatment in the field;
  - lower product amount.



Thank you for your attention!