PRAKTIJKONDERZOEK
PLANT & OMGEVING
WAGENINGEN UR

Healthy fruit in European perspective: EUBerry & EUFruitbreedomics

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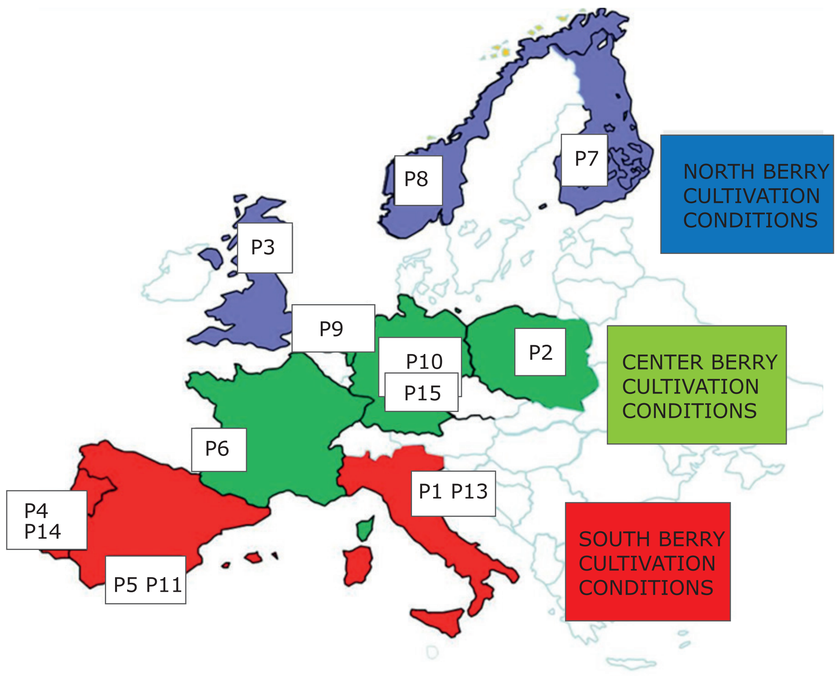
Figure 1. European partners in different climate regions



Goal

The main objective of the European funded project 'Healthy fruit in European perspective' is to bring together the necessary knowledge and tools to provide European consumers with high-quality fruit (apple, peach) and fresh berries at a competitive cost price. The activities of Wageningen UR in the various parts of EUBerry and EUFruitbreedomics are carried out in cooperation with a wide range of European partners.

Background

Production of (small) fruit in Europe is performed under a large variety of climatic and growing conditions. Increase of sustainability (economic sustainability, competitiveness, environmental sustainability) by developing environmentally friendly farming systems is necessary.

Burkard spore catcher to assess spore release of powdery mildew in strawberry. Vredepeel-NL, July 2013.

Development of sustainable control strategies in strawberry cultivation

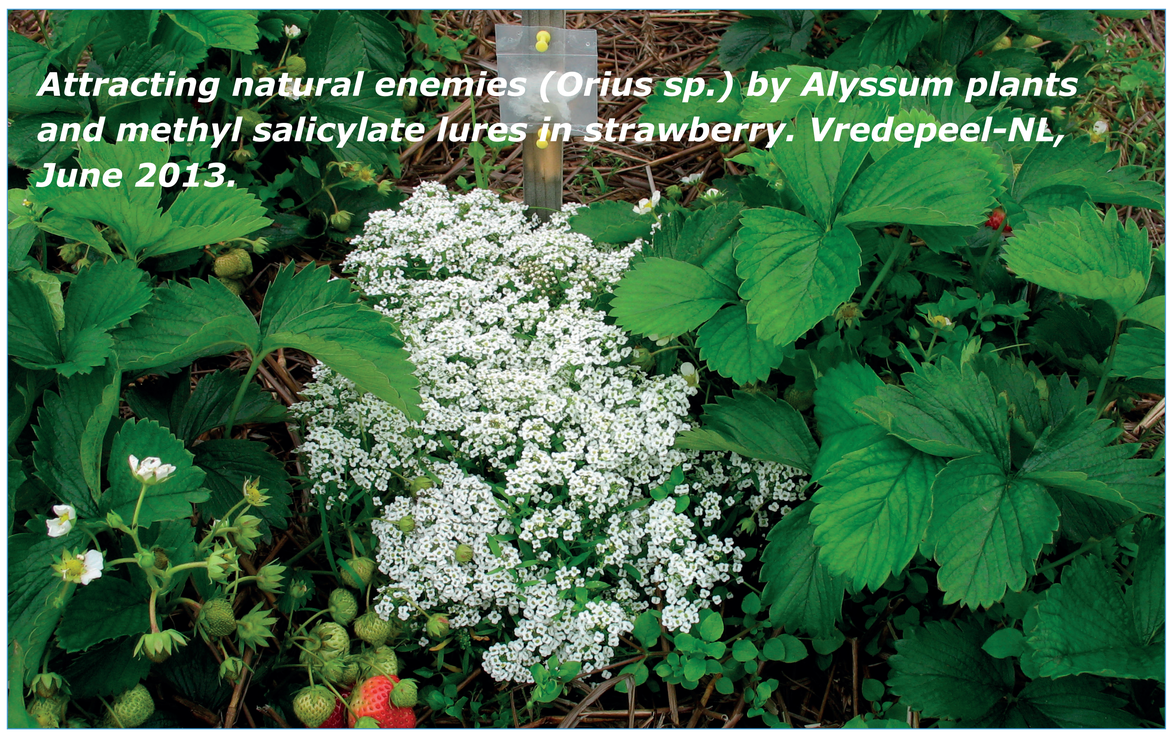
A. Minimizing spraying of fungicides and reduce residues

1. Optimize timing of spray application
- Use of decision support system (DSS) to control Botrytis
- Linking sporulation of powdery mildew to weather conditions
- Optimize and implementation of a DSS to control powdery mildew

2. Refine control strategy
- Choice of fungicides with low environmental impact
- Choice of fungicides which leave no or low residue levels during flowering and fruiting
- Compare traditional open field cultivation technique with cultivation on ridges

B. Developing a strategy for non-chemical thrips control in strawberry

1. Only at the first season plantations of strawberry an effective thrips control by deltamethrin was realized compared to biological control: it needs time to establish natural enemies
2. Later in the season fully biological control could be realized at presence of natural enemies: *Orius sp.*, predatory mites and predatory flies
3. Mulching with plastic film reduces significantly the number of thrips larvae and subsequently thrips damage of the fruit
4. Development of effective monitoring methods, lure and retain predatory bugs and other natural enemies can sharply reduce the use of chemicals to control thrips



Attracting natural enemies (Orius sp.) by Alyssum plants and methyl salicylate lures in strawberry. Vredepeel-NL, June 2013.

Future outlook

Application of DSS's, optimizing the fungicide choice and adapting the cultivation technique in the practice of strawberry production, will reduce sharply the residues of fungicides on the fruits. Further development of application methods of predatory bugs, mites or flies is necessary and will be assessed. Improvement of systems for 'lure & retain' *Orius sp.* are required. Alternative cultivation systems by application of mulching in combination with natural enemies can improve the tolerance against thrips attack.

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