

## **Late blight control and development in 2014 to NIRDPSB Brasov including technological elements**

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National Institute of  
Research and Development  
for Potato and Sugar Beet  
Brasov - ROMANIA

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## Introduction.

The research aim is to establish the density possibilities and late blight control in Riviera Christian and Rocicas varieties, grown without irrigation in the context of climate change. The main objective of the research is linked to highlight the complementary aspects that accompany chemical control of late blight. At present there is an impression, unjustified, that the treatments solve problems without due attention to cultural hygiene, agro-technical elements (density, weeds etc.).



## Materials and methods

- Location of the field trial: NIRDPSB Broome
  - Size of plots: 25 m<sup>2</sup>
  - Lay out of the plots in the field trial: randomized complete block design with four replicates. A plot was made in 31 March 2014. Cultivation and maintenance was in line with current good agricultural practice
  - Yield assessment: daily yield observation
  - First symptom of late blight appearance: daily check for all plots after emergence till first symptom observed in one of the plots (2014; June 17th)
  - Yield assessment: daily yield observation
  - Yield assessment: each tuber is weighed
  - The heaviest tuber is assessed as a whole for percentage disease severity
  - Yield assessment: two rows in the center of each plot were harvested mentioned the number and the weight of tubers with bright (unbruised) tubers and the number and the weight of tubers with dark (bruised) tubers. If necessary the tubers are cut to examine the flesh.)

## Results and discussions

Media effects of control technologies regarding late blight attack to different varieties (Brasov, 2014)

Control technology Tech 2 was more effective to the analyzed varieties throughout the period the attack intensity was lower. At the beginning of the observations, in 17 June the thickening on the row result in a significant intensity of attack only to Riviera variety. To Rocío and Christian varieties did not find significant differences of

attack intensity during the observations.

Average interaction effects of late blight control technologies with the planting distances (Brasov, 2014)

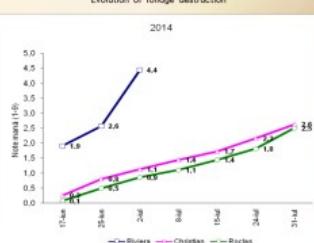
Planting distance cm	Late blight control	Yield									
		Rivers		Rocky		Christian		Means			
		Tiba	Test Duncan	Tiba	Test Duncan	Tiba	Test Duncan	Tiba	Test Duncan	Tiba	Test Duncan
30	Tech 1	18.4	1P	24.8	1C	23.9	1B	22.4	4B		
	Tech 2	18.5	1P	26.8	A	26.2	B	24.6	A		
	Tech 3	18.5	P	23.1	CD	22.5	C	20.8	C		
25	Tech 1	18.4	1P	24.8	1C	23.9	1B	22.4	4B		
	Tech 2	18.5	1P	26.8	A	26.2	B	24.6	A		
	Tech 3	18.5	P	23.1	CD	22.5	C	20.8	C		

Average of total yield was 22.7% (CV = 7.2%). Average yield were 18.6 t/ha (100%) to Riviera, 25.3 t/ha (136.0%) to Rocelas and 24.2 t/ha (130.1%) to Chrisitan. Although Rocelas and Christian yield exceeded Riviera with 3.6% and 30.1%, the differences were not

To the 25 cm distance plants density were more frequent and total production was reduced on average by 6.4%, densities effects manifested significant only in *Rubus*.

Significantly better effects on average total production of Tech 2 occurred in all varieties studied and averaged over

#### Evaluation of follow-up treatment



## Conclusions

- Riviera variety leaves little freedom protection, so the fight should begin as soon as the amount of inoculum in the medium is able to produce a general infection (after observing symptoms on leaves detached).

- The other two varieties, Christian and Roclas allow a reduction in the number of treatments.
- Reducing numbers of applications or reducing the amount of active substance used in treatment or delaying the

- reducing numbers of applications or reducing the amount of active substance used in treatment, or delaying the application of the first treatment, it can make a saving of one to three treatments at the beginning of the season.

- To Riviera and Christian varieties positive effects on production Tech 2 occurred significantly only when planting was done to turn higher density, at a distance of 25 cm. To Rocca variety yield differences are higher at the distance of 30 cm

The highest yield (28.8 t/ha) was achieved by Bocla's variety using Tech 2 and a distance between rows 30 cm.

The biggest yield (26.8 t/ha) was achieved to Hocitas variety using Tech 2 and a distance between rows 30 cm.



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## Preface

### **EuroBlight Workshop Brasov, Romania 10-13 May 2015**

A European network of scientists and other specialists working on potato early and late blight meet every 2<sup>nd</sup> year. The network combines two previous networks originating from European Concerted Actions and has 150 members.

- EU.NET.ICP: "European network for development of an integrated control strategy of potato late blight" (1996-2000). Coordinated by Huub Schepers.
- EUCALIGHT: "A potato late blight network for Europe" (2003-2006). Coordinated by Alison Lees.

The 15<sup>th</sup> Workshop was hosted by the National Institute for Research and Development for Potato and Sugar Beet. The Workshop was attended by 103 persons from 22 countries, including Russia, Chile, Argentina, China, Israel and USA. Representatives from all countries presented recent research results regarding integrated control, decision support systems, resistance of varieties, late blight in organic potatoes and population biology of the late blight pathogen in potatoes. Since early blight is an increasing problem in Europe reports on this disease are also included.

The papers and posters presented at the Workshop and discussions in the subgroups are published in these Proceedings, PPO-Special Report no. 17. The current and previous Proceedings are also available on the EuroBlight website [www.EuroBlight.net](http://www.EuroBlight.net).

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