

# CONTROL

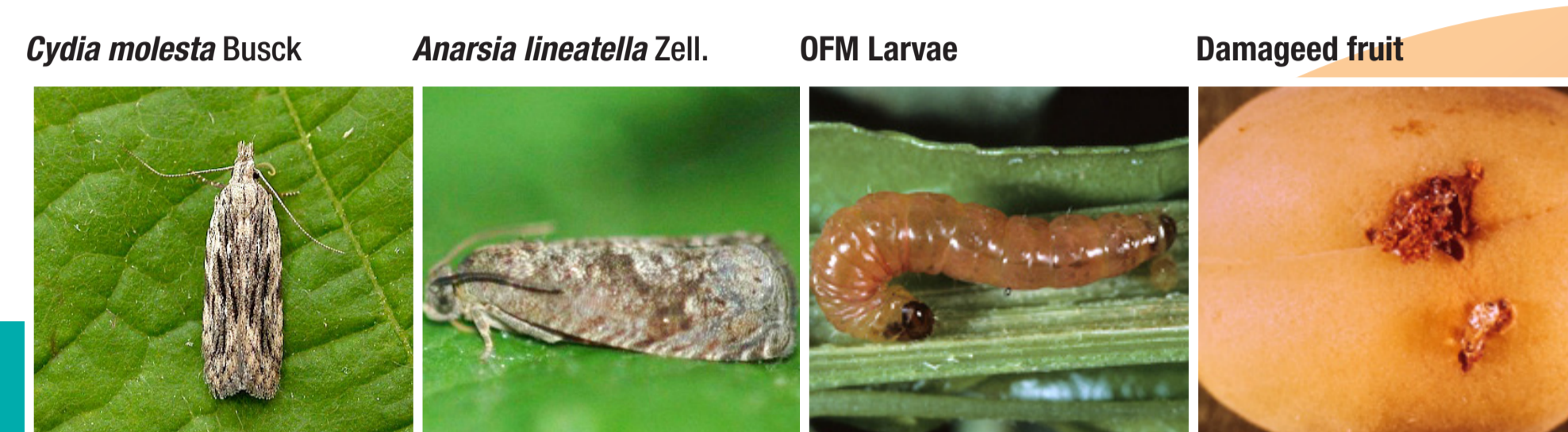
## of Peach Twig Borer *Anarsia lineatella* and Oriental Fruit Moth, *Cydia molesta*,

with **CIDETRAK® OFM/PTB MESO™**  
dispensers in Bulgaria

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### INTRODUCTION

The peach twig borer (PTB), *Anarsia lineatella* Zell., and oriental fruit moth (OFM), *Cydia molesta* Busck are the main pests of apricots and peaches in Bulgaria. Larvae of the first generation of both pests may damage young, current season, shoots. The most important damage is caused by summer generations to peach and apricot fruits. Conventional (chemical) treatments are not always effective and bring a risk of pollution of fruits by pesticides used. Accordingly, mating disruption appears to be a very promising solution.

Table 1.  
Percentage of fruits damaged by OFM larvae in the CIDETRAK® OFM/PTB MESO™ dispensers treated plot and in the reference peach orchard at successive dates in two seasons

2016			2017		
date	CIDETRAK® treated plot	Reference orchard	Date	CIDETRAK® treated plot	Reference orchard
June 15	0.0	0.1	June 13	0.0	0.2
July 26	0.0	0.6	July 26	0.0	0.5
August 12	0.0	1.0	August 10	0.0	1.0
August 23	0.0	1.1	August 25	0.0	1.2
30 August	0.1	1.3	August 31	0.1	1.4
at harvest	0.0-0.1	0.1-1.3	at harvest	0.0-0.1	0.2-1.4

Table 2.  
Percentage of fruits damaged by PTB larvae in the CIDETRAK® OFM/PTB MESO™ dispensers treated plot and in the reference peach orchard at successive dates in two seasons

2016			2017		
date	CIDETRAK® treated plot	reference orchard	Date	CIDETRAK® treated plot	Reference orchard
15 June	0.0	0.0	13 June	0.0	0.0
26 July	0.0	0.0	26 July	0.0	0.0
12 August	0.0	0.5	10 August	0.0	0.6
23 August	0.0	0.7	25 August	0.0	0.8
30 August	0.0	0.8	31 August	0.0	0.8
at harvest	0.0-0.0	0.0-0.8	at harvest	0.0-0.0	0.0-0.8

Table 3.  
Percentage of fruits damaged by OFM larvae in the CIDETRAK® OFM/PTB MESO™ dispensers treated plot and in the reference apricot orchard at successive dates in two seasons

2016			2017		
date	CIDETRAK® treated plot	Reference orchard	Date	CIDETRAK® treated plot	Reference orchard
15 June	0.0	1.0	16 June	0.0	1.1
2 July	0.0	1.1	4 July	0.0	1.2
10 July	0.0	1.2	10 July	0.0	1.2
20 July	0.0	1.5	21 July	0.0	1.4
25 July	0.0	1.6	24 July	0.0	1.5
5 August	0.0	2.0	4 August	0.0	1.9
at harvest	0.0-0.0	1.0-2.0	at harvest	0.0-0.0	1.1-1.9

Table 4.  
Percentage of fruits damaged by PTB larvae in the CIDETRAK® OFM/PTB MESO™ dispensers treated plot and in the reference apricot orchard at successive dates in two seasons

2016			2017		
date	CIDETRAK® treated plot	Reference orchard	Date	CIDETRAK® treated plot	Reference orchard
15 June	0.0	0.0	16 June	0.0	0.0
2 July	0.0	0.0	4 July	0.0	0.0
10 July	0.0	0.0	10 July	0.0	0.0
20 July	0.0	0.6	21 July	0.0	0.5
25 July	0.0	1.3	24 July	0.0	1.4
5 August	0.0	1.5	4 August	0.0	1.5
at harvest	0.0-0.0	0.0-1.5	at harvest	0.0-0.0	0.0-1.5

### OBJECTIVES

The aim of this study was to test the effectiveness of mating disruption (MD) for control of PTB (peach twig borer) and OFM (oriental fruit moth) in apricot and peach orchards using CIDETRAK® OFM/PTB MESO™ dispensers at low rate – 20 dispensers per ha. These products were developed and are manufactured by Trécé Inc., USA

### RESULTS AND DISCUSSION

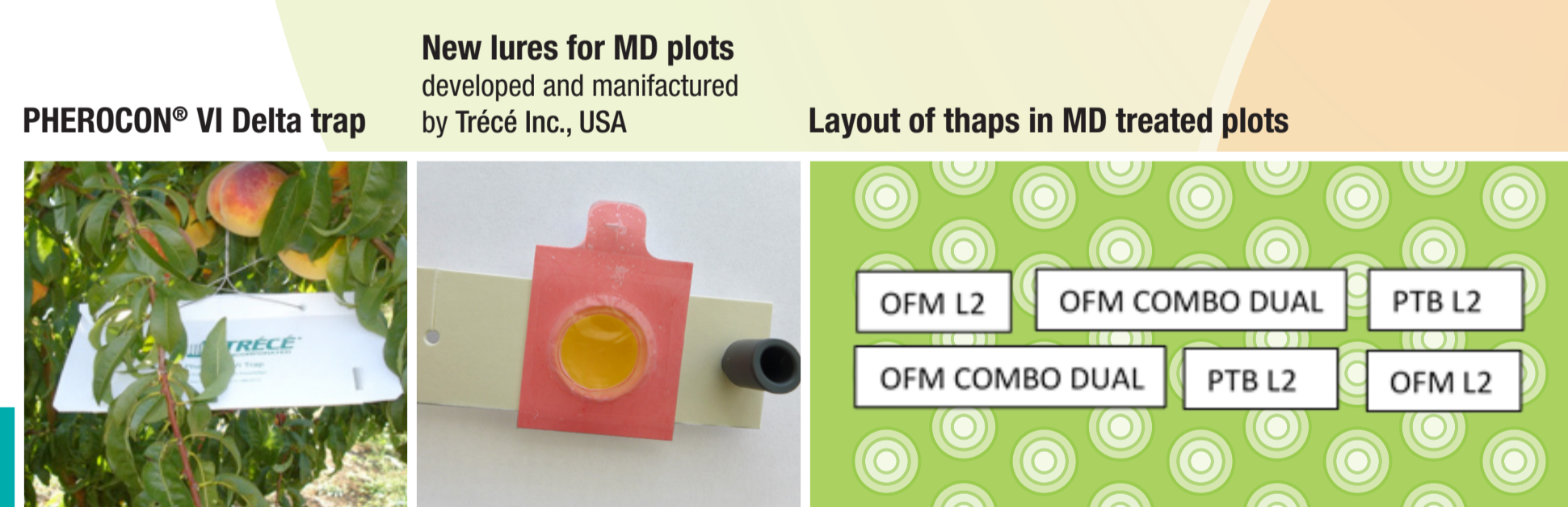
The results with **CIDETRAK® OFM/PTB MESO™** at 20 dispensers/ha in apricot and peach orchards was very positive and there was almost no difference between high (used in a previous years) and low rates of the dispensers used, in all the years of the study. Fruit damage in the trials plots were compared with that in a reference orchard treated with conventional pesticides only, which was located in the vicinity.

The percentage of shoots infested by OFM and PTB larvae was nil in the MD plots.

Damage in the trial (MD) peach plot increased slowly with time and even in late cultivars, fruit damage by OFM and PTB in the MD plot was below the economical threshold – from 0.0 to 0.1% and respectively in apricots orchards was nil. Six to eight chemical treatments were applied in a nearby conventionally treated orchard during each season, to control OFM, PTB and other pests. The fruit damage by OFM and PTB in these orchards was below the economical threshold in the successive years. The economic threshold in Bulgaria is 4-6% damaged fruits at harvest time by OFM and 2% by PTB. The significance of differences in the damage rate between the trial and reference orchards was estimated by use of Chi-square tests.

0-0,1%

### METHODS



The trials were carried out during the years 2016-2017 in the north east region of Bulgaria. Monitoring of PTB and OFM flight was carried out by sex pheromone trapping in the years of the study. PHEROCON® VI Delta, sticky traps were installed in the trial orchards using a scheme provided by the producer. The traps were baited with standard PTB L2 – Anemone and OFM L2 – Orfamone and changed every 8 weeks. In 2017 we used PHEROCON OFM COMBO A&B DUAL lures a new product developed by Trécé Inc., USA for the orchards with MD. The lures were changed every 8 weeks. The traps were installed before PTB and OFM flights started. For comparison, PHEROCON® VI Delta sticky traps and PHEROCON OFM COMBO A&B DUAL were installed in a reference orchard treated with insecticides only, which was located in the same region. All pheromone traps were checked twice per week.

**CIDETRAK® OFM/PTB MESO™** mating disruption dispensers contain a unique combination of oriental fruit moth and peach twig borer pheromone. They are designed to deliver long-lasting performance with remarkably fast application for apricots and peaches.

**CIDETRAK® OFM/PTB MESO™** - provides a dramatic reduction of dispenser rate and increased performance. We used these dispensers at the dosage 20 dispensers per ha.

The damage to peaches and apricots was inspected during the season and at harvest on 2000 fruits.

### CONCLUSIONS

The present results confirm that mating disruption, using **CIDETRAK® OFM/PTB MESO™** dispensers against oriental fruit moth and peach twig borer, can provide more effective control compared to insecticide treatments alone. The usage of **CIDETRAK® OFM/PTB MESO™** dispensers at reduced rates of 20 dispensers per ha shows that the number of dispensers used does not affect the effectiveness of mating disruption. The reduced rate of dispensers used will help growers to decrease labor in the field. Applications of these dispensers can provide effective control of oriental fruit moth and peach twig borer, with better results than the conventional protection programmes employed in Bulgaria. This approach to controlling oriental fruit moth and peach twig borer is in line with the recent EU recommendations that take care of preservation of the natural environment and production of healthy fruits, with no pesticide residues.