

## Savings on Micothon air supported spraying machines in greenhouses

Micothon spraying systems need higher investments. Their reasons for existence are pure economical profits .

The economical benefits of Micothon systems are based on 4 points:

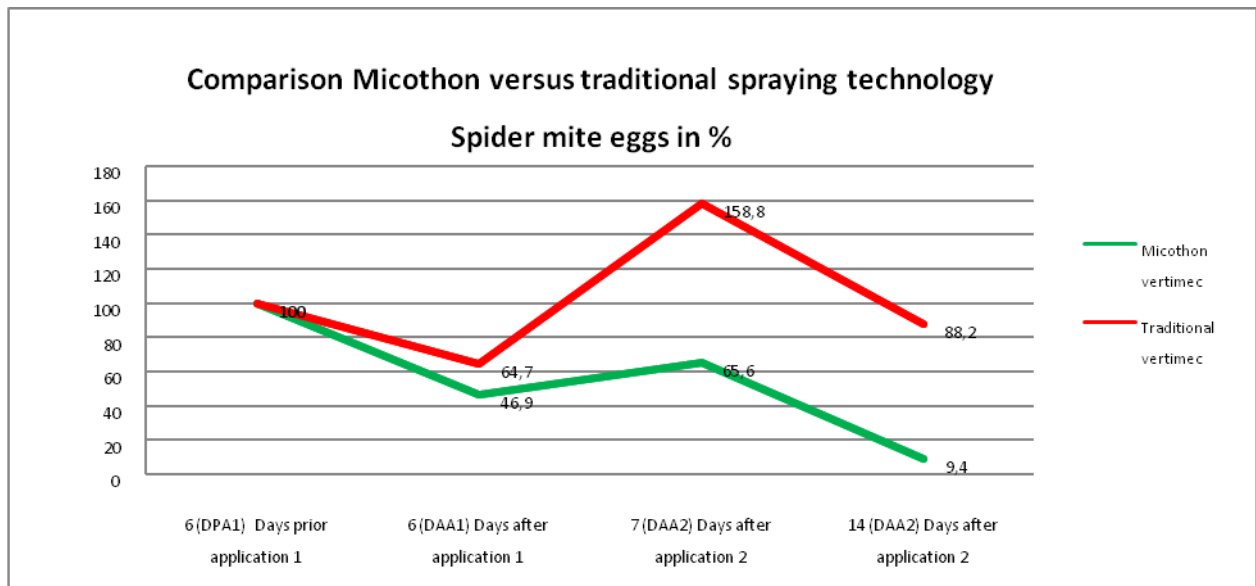
- Lower expenses on Plant Protection Products (PPP)
- Lower labor costs
- Higher crop yield due to less grow interference
- Products of better quality due to less usage of PPP ( Retail demands )

### Motivation

2 PPP producers did a combined investigation regarding Micothon's spraying results. Micothon's results were compared with an upgraded traditional spraying system with a basic air support system.

During the first test the number of spider mite eggs that survived the treatment was counted.

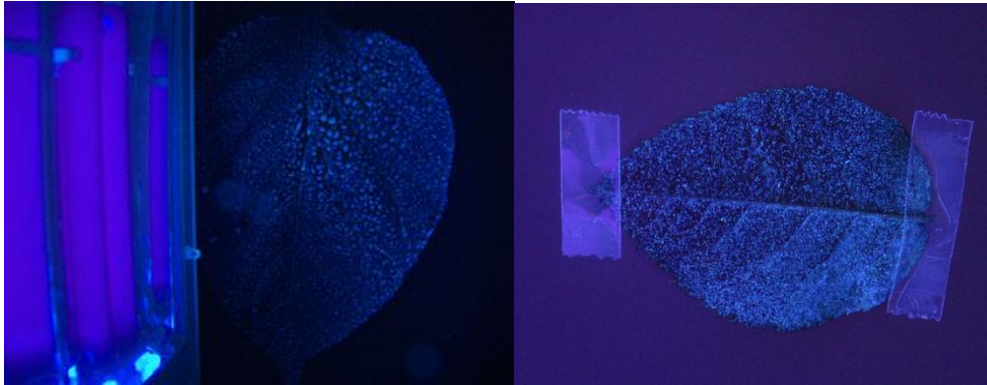
### Practical test 1: Egg calculation



### Conclusion 1:

- Traditional system: reduction **12 %** after 20 days
- Micothon: reduction **91 %** after 20 days. So **79 % better** result.

UV lighted Pictures below show the equal and complete coverage of the leaves.

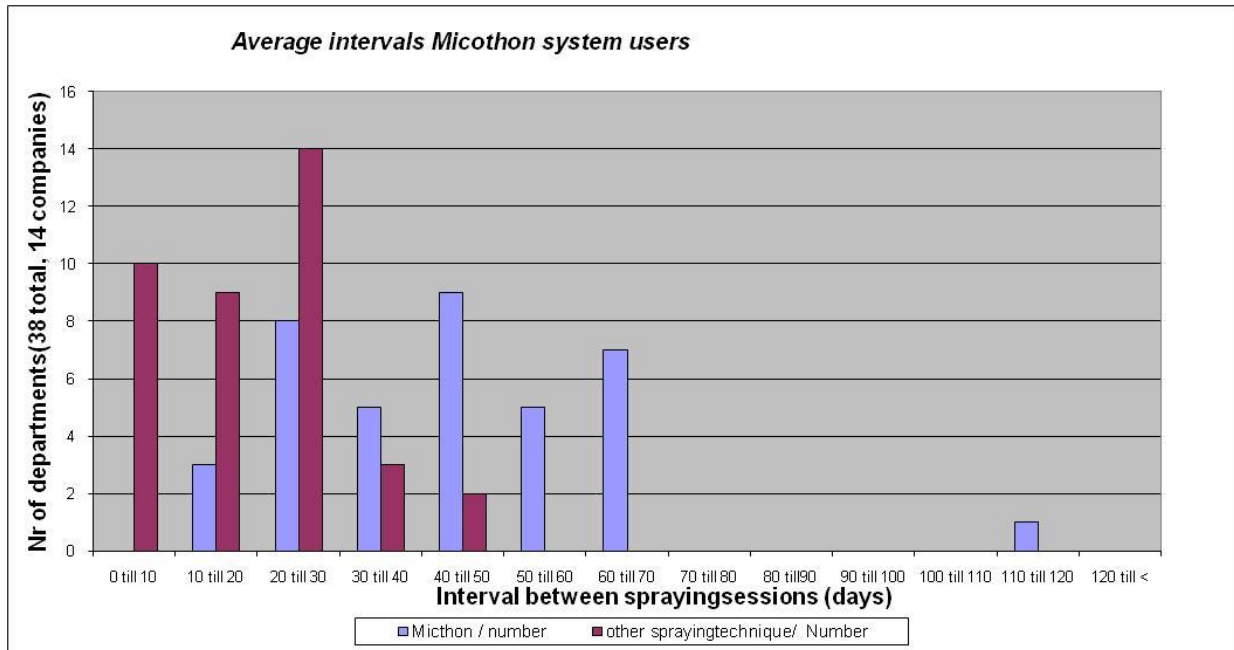


## Practical test 2: registration of number of treatments during 1 year

After delivery of the first 20 machines Micothon registered the use of the machine by means of the Micontrol Crop protection registration system.

### Review of results

Duration of interval between treatments	Micothon/nr of greenhouses	Traditional spr.system / nr of greenhouses
from 0 to 10	0	10
from 10 to 20	3	9
from 20 to 30	8	14
from 30 to 40	5	3
from 40 to 50	9	2
from 50 to 60	5	0
from 60 to 70	7	0
from 70 to 80	0	0
from 80 to 90	0	0
from 90 to 100	0	0
from 100 to 110	0	0
from 110 to 120	1 (3,5 months)	0
from 120 to >	0	0
<b>Total nr of greenhouses</b>	<b>37</b>	<b>38</b>
	<b>Micothon</b>	<b>Traditional spraying machine</b>
<b>Average duration of the interval</b>	<b>44</b>	<b>22</b>



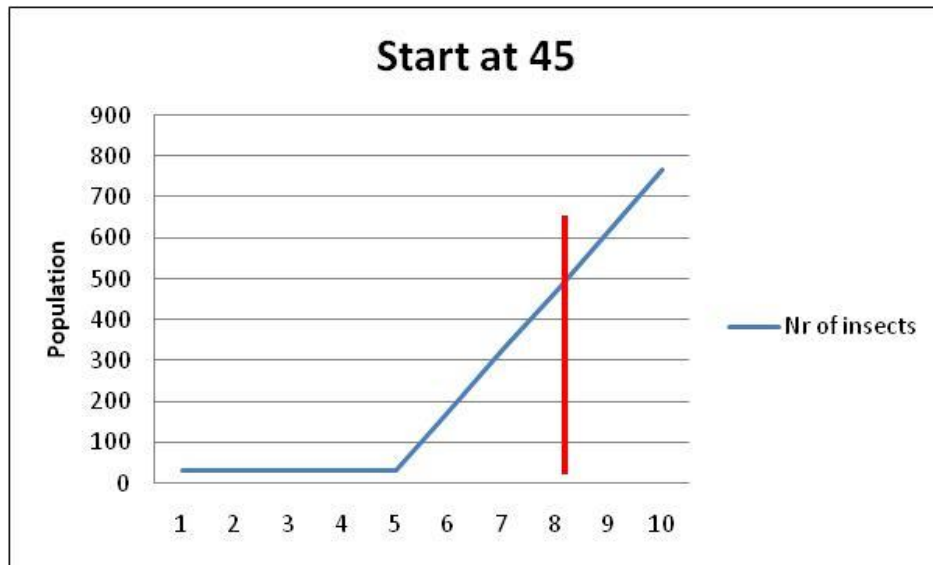
## Conclusion 2:

The usage of Micothon helped to double the interval time between applications from 22 days till 44 days

## The economic importance of optimal result of treatments: model

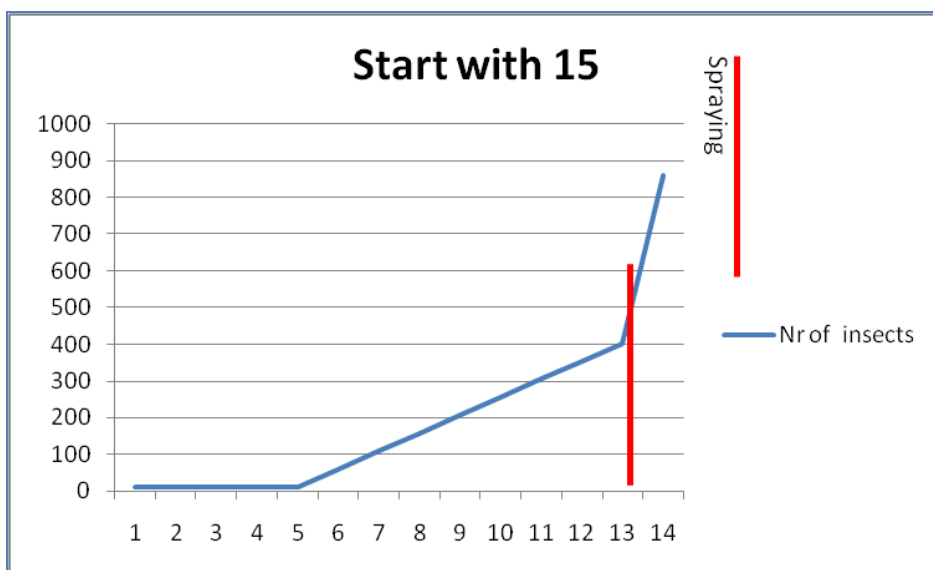
Assumptions: we make two successive treatments when there are 500 active pest units. A pest undergoes 3 stages in its development: egg (5 days), nymph (3 days), adult insect (6 days). An adult insect produces around 50 eggs, that is 8 eggs per day. The present model is based on real figures. The first diagram shows the result of the treatment with a traditional spraying device. There are 45 pest units on the plants left, the effectiveness is 91%.

**Effectiveness - 91 %**



The second diagram show the result of the treatment with a Micothon spraying machine. There are 15 pest units left on the plants. Thus, the effectiveness is 97 %.

**Effectiveness - 97 %**



## **Conclusion:**

**Table1:** Good result. The interval between two treatments is 13 days. Thus, 28 treatments are done within the term of 1 year.

**Table 2:** Average results. The interval between treatments is 8 days. Thus, 45 treatments are done within the term of 1 year.



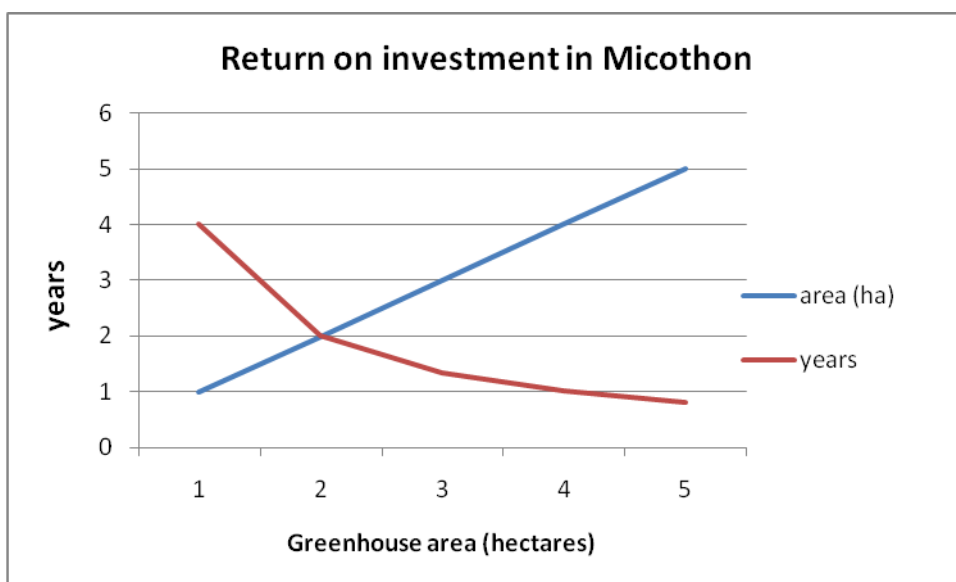
**So 6 % better result saves 17 treatments a year**



**Savings on plant protection products and less growth interference**

**Funds saved on the usage of a Micothon (assumption: “Vertimec” is used for treatment)**

What you save	How you save	How much you save
Plant protection products (Vertimec)	Usage ~3 litres of Vertimec / 1 ha If you have 17 times less treatments a year, you save 3x17 = 51 litres/ hectare 1 liter ~ 120 €	<b>6.120 €/1 ha/year</b>
Less growth interference	Assume: after treatment with a chemical plant protection product you lose 1 tomato per 1m <sup>2</sup> If you have 17 times less treatments a year, you save 1,7 kg / m <sup>2</sup> If 1kg costs ~0,8 €, you save 1,36 €/ m <sup>2</sup> /year	<b>13.600 €/1 ha/year</b>
	<b>TOTAL</b>	<b>19.720 €/1 ha/year</b>



**Conclusion 3:**

**A 4 ha greenhouse has a ROI in Micothon - 1 year**

*Thus, the results of usage of high tech spraying machines Micothon are:*

**Result 1:**

- Traditional system: reduction of spider mite eggs by 12 % after 20 days
- Micothon: reduction of spider mite eggs by 91 % after 20 days. So **79 % better** result.

**Result 2:**

The usage of Micothon helps to double the interval time between applications from **22 days till 44 days !!!**

**Result 3:**

A 4 ha greenhouse has a ROI in Micothon - **1 year!!!**

**Other advantages:**

- Fewer treatments means higher customer appeal of the product
- Less often and automatic treatments save labor costs and mean less health risk for your employees