

#### **4.9. - TRIALS TO STUDY THE MOVEMENT OF DIFFERENT COMMERCIAL INSECTICIDES ALONG THE LENGTH OF TALL DATE PALMS.**

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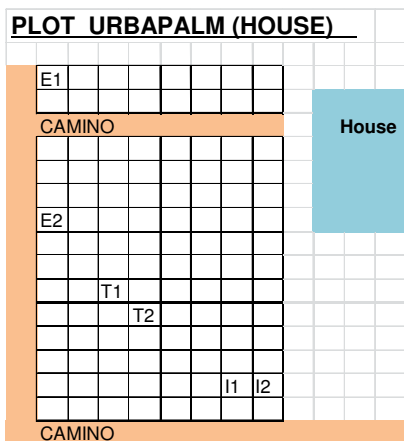
##### **1.- Introduction.-**

The aim is to discover if insecticides applied with SOSPALM pegs at a distance of a meter from the base of a plant reach the growing point at a height of 10 meters and the persistence of the pesticide at the growing point 3 months after injection.

##### **2.- Materials and methods.-**

On 22nd of August, 6 tall palms were selected from the property of Mr. Francisco Serrano and a further 6 palms with similar characteristics were selected from the property of Mr. Antonio Urban. To each of them, on 23rd of August, SOSPALM pegs were installed. Two were injected with Imidacloprid, two with Tiametoxan and two with Emamectine according to the doses shown in the table below. They were cordoned off with an orange plastic tape. Emamectine was injected again on 25th of October and the other two insecticides each month (22/08, 27/09 and 25/10).





#### Trial in tall palms

Aug-23 1<sup>o</sup> INYECTION

Sep-27 2<sup>o</sup> INYECTION

Oct-25 3<sup>o</sup> INYECTION

<b>E</b>	Emamectine	25 cc.
<b>T</b>	Tiametoxan	6 gr.
<b>I</b>	Imidacloprid	6 cc.

Emamectine was only applied on the 23rd of August and the 25th of October.



Palm E-1 (10-10-2013)



Palm E-2 (10-10-2013)



Palm T-1 (10-10-2013)



Palm T-2 (10-10-2013)



Palm I-2 (10-10-2013)



Palm I-1 (10-10-2013)







The samples were taken observing the following procedure:

Using a harness, a laborer climbed to the top of the palm with a tape measure, a wide edged bolster chisel, a previously marked bag, and a drill.

Once seated at the top of the stem, near the crown, two measurements were taken: the height of the palm and the distance to the perforation point. The perforation was carried out at a distance of between 0.5 metres and 1 metre from the tallest part of the stem. The chisel was used to remove the dry part in order to reach the tender tissue underneath.

A 22 mm holesaw attachment was fitted to the drill in order to take shavings which were then deposited into the plastic bag.

Once sufficient material had been obtained, the labourer closed the bag, climbed down and placed the sample into a cool box with freezer blocks.

The same procedure was later repeated with the remaining palms..







When the labourer climbed the palm from de Imidacloprid 2 test belonging to Mr. Francisco Serrano, he observed that the palm had been damaged, possibly by a bolt of lightning. There was a hole where red palm weevil, white worms, fungus, etc could later have entered. As it was not safe he stopped below the hole and took the samples from there.



The following table shows the height at which the samples were taken and the identification of each sample.

Plot		Insecticide	Sample Height	Palm Height
Paco Serrano	Dat	Emamectine	8,1	9
Paco Serrano	Dat	Emamectine	9,8	10,3
Paco Serrano	Dat	Imidacloprid	7,75	8
Paco Serrano	Dat	Imidacloprid	9	13
Paco Serrano	Dat	Tiametoxan	9,05	9,5
Paco Serrano	Dat	Tiametoxan	9	9,5
Antonio Urban	Dat	Emamectine	10,5	11
Antonio Urban	Dat	Emamectina	10,5	11
Antonio Urban	Dat	Tiametoxan	11	11,5
Antonio Urban	Dat	Tiametoxan	9	10
Antonio Urban	Dat	Imidacloprid	9,6	10
Antonio Urban	Dat	Imidacloprid	10,6	11
Antonio Urban	Con	Imidacloprid	3,6	4
Antonio Urban	Con	Imidacloprid	3	3,7
Antonio Urban	Met	Imidacloprid	2,7	3,2
Antonio Urban	Met	Imidacloprid	3	3,5

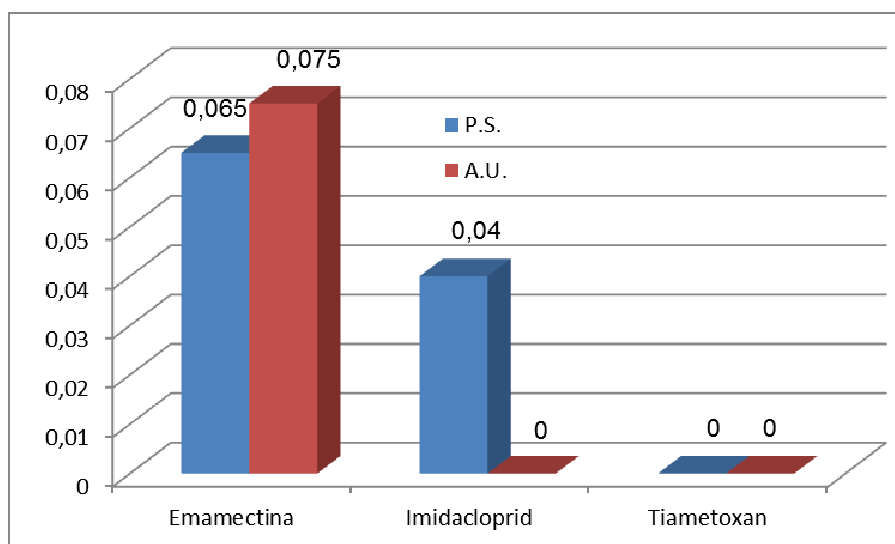
On the 21st of November the cool box with the samples was taken to the Regional Agriculture Laboratory at the Conselleria de Agricultura in Burjassot, where they were labelled with an entry code.

#### 4.- Results.

On the 4th of December the following results were obtained:

Palm tissue (in order of insecticide)				
Entry No.	Sample No.	Code	Insecticide	mg/kg
303986	1	P.S.E.1	Emamectine	LC
303987	2	P.S.E.2	Emamectine	0,13
303988	3	P.S.I.1	Imidacloprid	0,02
303989	4	P.S.I.2	Imidacloprid	0,06
303990	5	P.S.T.1	Tiametoxan	LC
303991	6	P.S.T.2	Tiametoxan	LC
303992	7	A.U.E.1	Emamectine	0,1
303993	8	A.U.E.2	Emamectine	0,05
303994	9	A.U.T.1	Tiametoxan	LC
303995	10	A.U.T.2	Tiametoxan	LC
303996	11	A.U.I.1	Imidacloprid	LC
303997	12	A.U.i.2	Imidacloprid	LC

303996	11	A.U.I.1	Imidacloprid	LC
303997	12	A.U.i.2	Imidacloprid	LC
303998	13	A.U.C.1	Imidacloprid	LC
303999	14	A.U.C.2	Imidacloprid	LC
304000	15	A.U.M.1	Imidacloprid	LC
304001	16	A.U.M.2	Imidacloprid	LC



## 5.- Conclusion.-

In the tall palms belonging to Mr. Francisco Serrano, traces of Emamectine and Imidacloprid were found.

In the palms belonging to Mr. Antonio Urban only Emamectine was found.

It can be said that the two treatments with Emamectine on the 23rd of August and the 25th of October kept the product at the growing point until November in both plots (0.13 ppm and LC in one plot, and 0.1 and 0.05 ppm in the other)

As for Imidacloprid, low levels (0.02 and 0.06 ppm) were only detected in one plot. Coincidentally, in the palm where the highest levels were found, the sample was taken at a maximum height of 4 metres as there was a hole at 9 metres.

No traces of Tiametoxan were found in any of the analyzed palms.