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FIELD STUDY OF DISOLKYN INSECTICIDE COMPARING WITH OTHER SEVEN COMPOUNDS

By

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ABSTRACT

Field experiment of the effect of three sprays of two rates of the surfactant group of Dss (Disolkyn) at 98 ml and 131.3 ml / 100 L .water compared with multiple mortality factors : Bemistop, Pyroxifen, Imidacloprid, Pirimifos methyl Fenobucarb , Natural oil and Biosect belonging to Kirmon, I.G.R, chloronicotinyl O.P, Carbamate, Veg. oil and Entomopathoginic Fungi *Beauvaria bassiane* groups respectively against adult and immature stages of whitefly *Bemisia tabaci* (Genn.) infesting cotton and tomato plants and two sprays against aphids *Myzus persicae* infesting cotton ,tomato ,and soybean plants was carried out at Etay El-Baroud Agriculture Research Station , El-Behera governorate ,during March - August 1999.

According to the initial kill values, all tested insecticides gave the same efficacy level against adult stages of whitefly and aphids . However *Beauvaria bassiana* (Biosect), gave the highest effect as the tested insecticides against adult stages of whit fly and aphids and moderate effect against immature stages of white fly . Disolkyn at 98ml/100 L. water was

more effective as the other tested compounds after three sprayes on both white fly and aphids infesting cotton , tomato and soy bean plants. The Efficacy was higher on cotton plants followed by tomato plants .

According to residual effect values of both white fly and aphids , the tested insecticide gave the same highest efficacy against both white fly adult and immature stages and aphids . Except *Beauvaria bassiana* (Biosect) gave the highest effect against aphids, and moderate effect against whitefly immature stages . The highest effect was on cotton plants followed by tomato and soybean plants. Dss (Disolkyn) at 98 ml/100 L. water , the new compounds , Bemistop,Byroxifen ,Imidaclopride, Natural oil , Biosect , that belong to Dss, Kirmon , IGR, Chloranicotinyl , Veg .oil and (Biosect) *Beauvaria bossiana* were leading to the tested materials in reducing both whitefly and aphid population .

It can be concluded that Disolykn; a natural compound gave a high initial and residual effect on both whitefly and aphid, and could be included as useful tactic in a comprehensive aphid and whitefly management program in Egypt. Development of a management program employing the different groups of insecticides would be a reasonable approach. This program would require a hierarchy of action thresholds. At low and moderate initial population of aphids and whitefly, *Beauvaria bassiana* (Biosect) alone might be used successfully, delaying and minimizing the subsequent aphid and white fly population increase.

INTRODUCTION

Cotton, tomato and soybean are from the most important crops. Several insect pests heavily infeste these plants, the whitefly *Bemisia tabaci* (Genn.) and green peach aphid, *Myzus persicae* are very serious pests and causes considerable loss. Severe attacks reduce the crop yield including plant

growth retarding, flowering, sucking juice and transmit viral diseases (Heydar *et al.* 1995). The chemical industry has focused primary toxic chemical over the past 50 years. Cotton, tomato, and soybean are sprayed frequently with conveniecial insecticides against white fly and aphid. The intensive use of insecticides caused failure control of sucking insects. They may be due to development of resistance (Kandil *et al.* 1991).

The utilization of natural products of plant origin is receiving a considerable attention in recent years to avoid the different disadvantages of synthetic insecticides use . At the last two decades , the investigators have directed their attention towards phytochemicals , which would be non hazardous , easy to use and specific in their action . Therefore today we have a number of contributions available in literature , which report many plant isolates of manifold activities viz. pheromonal compound ; juvenile hormone mimics ; repellent compounds, antifeediant compounds (Kaul 1982).Badawy *and* Elarnaaoty. 1999 found that Dss (Gerpon) in combination with semi chemicals could be included as useful tactic in comprehensive whitefly management program in Egypt . Badawy *et al.* (1999) found that although, the Kairmonal insecticide Bemistop, is a natural compound, but it gave highly initial and residual effect to whitefly population.

The present investigation was conducted to demonstrate the role of the Dss (Gerpon) insecticide Disolkyn at two rates of application in reduction of the adult and immature stages of whitefly and aphid compared with different insecticide groups .

MATERIALS AND METHODS

1- Insecticides used : The tested insecticides and their rates of application are presented in (Table a) as follows : -

Table (a) : The tested insecticides and their rates of application : -

Common name	Insecticides	Group	Formulation type a.1. %	Rate/ 100L. water	Provided by
.Dss	Disolkyn	Surfactant	70% EC	98.0ml	Gross & Smi
Dss	Disolkyn	Surfactant	70% EC	131.3 ml	Gross & Smi
'Bemistop	Bemistop	Kirmon	21.1% EC	500 ml	N. M. Agro chemi.
Pyroxifen	Admiral	IGR	10% EC	75 ml	Sumitomo
Imidacloprid	Admir	Chloronicotinyl	20% EC	125 ml	Bayer
Pirimfos Methyl	Actillec	O. P	50% EC	375 ml	Shoara
Fenobucarb	Osbac	Carbamate	50E EC	3125 ml	Sumitomo
Natural Oil	Natural oil	Veg. Oil	93% EC	625 ml	El- Sheaty
Beauvaria bassiana	Biosect	Entomop – athogenic Fungi	30×10^{6} cell/ml	200 gm.	K. Z.

Disolkyn is a novel insect control compound produced by Promisol S.A. Company , Span. The common name, Diocty sulfosuccinate sodium . Dss is anionic an tensactive (surfactant)which acts as a solvent of chitin of aphid and white fly . It is important to understand that this compound have a specific activity to insects depending on the dose or concentration applied

2- Application method . The experiment was carried out under field conditions to evaluate the Dss (Disolkyn)efficiency comparing with different insecticides groups against whitefly and aphid on cotton , tomato and soybean plants during March –August 1999. The experiment were conducted in Etay EL-Baroud Agric Research Station . El-Behera Govarnorate representing north Egypt

A. Cotton plantation : An area of one feddan was planted with cotton seeds on 19/3/1999 The area was divided into 40 plots (10 treatments including control , 4 replicates for each treatment) . Cotton seeds Giza 89 variety was used . The first spray started on 6/8/1999 against the mixed population of both whitefly and aphids .

B. Tomato plantation: An area of half feddan was divided into 40 plots(10 treatments including control , 4 replicates for each treatment) .Tomato seedling variety Castle Rock was transplanted on 17/5/1999 . All cultural methods and fertilizers were followed as commonly practiced

C. Soybean plantation : An area of half feddan was divided into 40 plots (10 treatment including control , 4 replicates to each treatment) soybean Giza 82 variety was planted on 9/3/1999 . All cultural methods and fertilizers were followed as commonly practiced .

Disolkyn Dss was used at 131.3ml and 98 ml/100 L. water , and the other fested insecticides were sprayed at their recommended rates a mentioned in Table (1) . Three sprays were conducted weekly to evaluate the Dss and other insecticides efficiency against immature and adult stages of whitefly and two sprays against aphids A knapsack sprayer was used in applying the tested insecticides . Twenty five leaves were selected randomly

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in each replicate ,three leaves per plant representing three different levels (high, middle, and low) were collected from each plant , were evaluated to study the effect of the tested insecticides against whitefly, and twenty five leaves were selected randomly in each replicate to study the tested insecticide against aphids, with the aid of a binocular microscope. Counts were recorded immediately before spraying and .1,(initial kill) 3,5, and 7 (residual effect) days after spraying for adult of whitefly and aphids, and 2 (initial kill), 5, and 7days (Residual effect) after spraying for immature stages of whitefly.

The percent reduction of infestation was calculated according to Henderson and Tilton formula (1955). Analysis of variance were carried out according to analysis of variance at 5% level. In each Table, means followed by the same letters in each collumn are not significantly different.

RESULTS AND DISCUSSION

The initial and residual effect of the three sprays of two rates 98ml and 131.3ml/100 L. water of the surfactant Dss (Disolkyn) compared with Bemistop, Pyroxifen, Imidaclopride, pirimifos methyl, Fenobucarb, Natural oil, Biosect on adult and immature stages of whitefly infesting cotton, tomato plants and aphids infesting cotton , tomato and soybean plants are shown in Tables (1-6) .

Concerning the initial kill of whitefly adult stage (Table1), data showed that no significant difference between the efficiency of Dss at two rates and the other tested insecticides .The effect was higher on cotton plants followed by tomato plants. The initial kill of the tested Insecticides on whitefly immature stages data showed that (Table2) no significant difference between Disolkyn at 98 ml / 100 L. water and the other tested insecticides. Both Natural oil and Biosect efficiency come next . The residual effect of the tested insecticides on whitefly adult stage,(Table3).

Table (1): Initial kill of tested insecticides on whitefly adult stages after spraying both cotton and tomato plants three times.

Treatments	First spray		Second spray		Third spray		Mean	
	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato
Dss (98 ml)	89.4[a]	88.6[a]	90.1[a]	89.7[a]	90.8[a]	90.1[a]	90.1[a]	89.5[a]
Dss (131.3 ml)	93.1[a]	92.4[a]	94.3[a]	93.2[a]	91.4[a]	92.9[a]	92.9[a]	92.8[a]
Bemistop	94.6[a]	94.3[a]	95.8[a]	95.2[a]	93.2[a]	94.5[a]	94.5[a]	94.6[a]
Pyroxifen	94.8[a]	94.2[a]	95.2[a]	95.1[a]	93.8[a]	94.5[a]	94.6[a]	94.6[a]
Imidacloprid	94.9[a]	94.1[a]	94.9[a]	94.8[a]	93.9[a]	92.2[a]	94.6[a]	93.7[a]
Pirimfos Methyl	92.2[a]	90.1[a]	92.8[a]	91.2[a]	91.8[a]	91.3[a]	92.3[a]	90.9[a]
Fenobucarb	91.8[a]	90.0[a]	92.4[a]	91.1[a]	91.2[a]	90.4[a]	91.8[a]	90.5[a]
Natural Oil	83.2[a]	80.2[a]	83.2[a]	80.4[a]	82.8[a]	81.6[a]	83.1[a]	80.7[a]
Beauvaria bassiana Biosect	82.6[a]	81.2[a]	83.1[a]	82.4[a]	83.4[a]	82.1[a]	83.0[a]	81.9[a]

Table (2) : Initial kill after two days of tested insecticides on whitefly immature stages after spraying both cotton and tomato plants three times .

Treatments	First spray		Second spray		Third spray		Mean	
	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato
Dss (98 ml)	86.4[a]	85.4[a]	89.4[a]	84.3[a]	87.8[a]	81.9[a]	87.9[a]	83.9[a]
Dss (131.3 ml)	91.4[a]	90.9[a]	92.8[a]	90.8[a]	91.9[a]	90..6[a]	92.1[a]	90.8[a]
Bemistop	94.8[a]	92.5[a]	93.8[a]	92.4[a]	94.6[a]	92.8[a]	94.4[a]	92.6[a]
Pyroxifen	93.7[a]	91.7[a]	93.7[a]	92.8[a]	92.6[a]	91.8[a]	93.3[a]	92.0[a]
Imidacloprid	92.6[a]	92.4[a]	93.2[a]	91.6[a]	92.7[a]	92.8[a]	92.8[a]	92.3[a]
Pirimfos Methyl	95.7[a]	90.6[a]	91.8[a]	90.5[a]	93.5[a]	91.9[a]	92.0[a]	91.0[a]
Fenobucarb	91.8[a]	90.2[a]	91.4[a]	90.7[a]	92.6[a]	90.3[a]	91.0[a]	90.4[a]
Natural Oil	61.8[a]	61.9[a]	61.3[a]	62.4[a]	62.5[a]	61.5[a]	61.9[a]	61.9[a]
Biosect	61.7[a]	61.4[a]	62.5[a]	60.2[a]	66.8[a]	60.5[a]	63.1[a]	60.7[a]

Table (3): Residual effect of tested insecticides on whitefly adult stages after spraying both cotton and tomato plants three times .

Treatments	First spray		Second spray		Third spray		Mean	
	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato
Dss (98 ml)	77.3[a]	76.2[a]	77.9[a]	74.9[a]	78.3[a]	76.7[a]	77.8[a]	75.9[a]
Dss (131.3 ml)	81.2[a]	80.4[a]	82.6[a]	82.9[a]	82.4[a]	82.2[a]	82.1[a]	81.8[a]
Bemistop	80.6[a]	89.6[a]	83.7[a]	84.1[a]	84.2[a]	83.2[a]	82.8[a]	85.6[a]
Pyroxifen	80.4[a]	80.2[a]	82.3[a]	81.6[a]	81.6[a]	81.4[a]	81.4[a]	81.1[a]
Imidacloprid	81.4[a]	80.1[a]	81.9[a]	82.8[a]	82.8[a]	82.3[a]	82.0[a]	81.7[a]
Pirimfos Methyl	73.6[a]	70.1[a]	74.8[a]	73.5[a]	74.3[a]	73.5[a]	74.2[a]	72.4[a]
Fenobucarb	80.5[a]	80.1[a]	82.4[a]	82.4[a]	82.6[a]	81.4[a]	81.8[a]	81.3[a]
Natural Oil	73.2[a]	70.2[a]	72.4[a]	71.3[a]	72.8[a]	71.4[a]	72.8[a]	70.9[a]
Biosect	72.8[a]	70.1[a]	72.9[a]	72.3[a]	73.2[a]	72.3[a]	72.9[a]	71.6[a]

Table (4) : Residual effect of tested insecticides on whitefly adult stages after praying both cotton and tomato plants three times .

Treatments	First spray		Second spray		Third spray		Mean	
	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato	Cotton	Tomato
Dss (98 ml)	81.3[a]	80.7[a]	80.4[a]	80.2[a]	81.3[a]	81.1[a]	81.0[a]	80.6[a]
Dss (131.3 ml)	86.4[a]	84.6[a]	84.3[a]	83.5[a]	87.5[a]	81.9[a]	86.1[a]	83.2[a]
Bemistop	88.9[a]	85.4[a]	86.4[a]	84.9[a]	85.4[a]	82.6[a]	86.9[a]	84.3[a]
Pyroxifen	87.4[a]	86.2[a]	84.4[a]	83.1[a]	83.7[a]	82.1[a]	89.1[a]	83.6[a]
Imidacloprid	86.5[a]	84.9[a]	85.2[a]	84.7[a]	85.2[a]	82.6[a]	85.9[a]	84.1[a]
Pirimfos Methyl	75.6[a]	74.6[a]	74.3[a]	73.6[a]	72.9[a]	71.5[a]	77.4[a]	73.2[a]
Fenobucarb	77.5[a]	74.4[a]	73.2[a]	72.4[a]	74.6[a]	73.6[a]	75.1[a]	73.2[a]
Natural Oil	65.7[b]	63.2[b]	64.2[b]	62.6[b]	63.2[b]	64.6[b]	64.1[b]	63.5[b]
Biosect	62.6[b]	64.1[b]	64.1[b]	62 1[b]	63.2[b]	65.2[b]	63.2[b]	63.4[b]

Table (5) : Initial effect of the tested insecticides on aphids infesting cotton , tomato, and soybean plants three times. (1999 season)

Treatments	First spray			Second spray			Mean		
	Cotton	Tomato	Soy bean	Cotton	Tomato	Soy bean	Cotton	Tomato	Soy bean
Dss (98 ml)	91.4[a]	90.8[a]	90.2[a]	99.3[a]	93.2[a]	92.6[a]	92.8[a]	92.0[a]	91.4[a]
Dss (131.3 ml)	94.8[a]	93.7[a]	93.1[a]	96.8[a]	94.3[a]	93.6[a]	95.8[a]	94.0[a]	93.4[a]
Bemistop	95.2[a]	94.8[a]	93.2[a]	98.6[a]	93.2[a]	92.5[a]	96.9[a]	94.0[a]	92.9[a]
Pyroxifen	95.8[a]	94.5[a]	95.8[a]	94.3[a]	92.6[a]	91.8[a]	95.1[a]	93.6[a]	93.8[a]
Imidacloprid	91.2[a]	92.1[a]	91.7[a]	97.6[a]	95.2[a]	92.8[a]	94.4[a]	93.7[a]	92.3[a]
Pirimfos Methyl	91.3[a]	90.6[a]	90.2[a]	94.3[a]	93.2[a]	92.6[a]	92.8[a]	91.9[a]	91.4[a]
Fenobucarb	92.6[a]	91.8[a]	90.7[a]	94.3[a]	93.2[a]	92.8[a]	93.5[a]	92.5[a]	91.8[a]
Natural Oil	91.6[a]	91.4[a]	90.8[a]	93.2[a]	92.4[a]	92.3[a]	92.4[a]	91.9[a]	91.6[a]
Biosect	90.8[a]	90.6[a]	90.3[a]	92.6[a]	91.5[a]	90.8[a]	91.7[a]	91.1[a]	90.6[a]

Table (6) : Residual effect of the tested insecticides on aphid infesting cotton , tomato, and soybean plants two times (1999 season) .

Treatments	First spray			Second spray			Mean		
	Cotton	Tomato	Soy bean	Cotton	Tomato	Soy bean	Cotton	Tomato	Soy bean
Dss (98 ml)	80.4[a]	80.1[a]	79.6[a]	84.3[a]	83.2[a]	81.6[a]	82.4[a]	81.6[a]	80.5[a]
Dss (131.3 ml)	81.3[a]	81.1[a]	80.9[a]	86.5[a]	84.3[a]	82.5[a]	83.9[a]	82.7[a]	81.7[a]
Bemistop	86.5[a]	84.3[a]	83.2[a]	78.4[a]	83.2[a]	82.5[a]	86.9[a]	83.3[a]	82.8[a]
Pyroxifen	82.5[a]	82.3[a]	81.6[a]	85.4[a]	84.3[a]	84.3[a]	83.9[a]	83.8[a]	82.9[a]
Imidacloprid	74.3[a]	74.1[a]	73.6[a]	76.4[a]	75.2[a]	74.3[a]	75.4[a]	74.6[a]	73.9[a]
Pirimfos Methyl	73.2[a]	72.6[a]	71.5[a]	73.2[a]	71.2[a]	70.4[a]	73.0[a]	71.9[a]	70.9[a]
Fenobucarb	81.3[a]	80.4[a]	79.6[a]	84.3[a]	83.2[a]	82.1[a]	82.8[a]	81.8[a]	80.9[a]
Natural Oil	70.2[a]	70.1[a]	70.0[a]	72.3[a]	71.2[a]	70.3[a]	71.3[a]	70.7[a]	70.2[a]
Biosect	71.2[a]	70.6[a]	70.1[a]	70.4[a]	71.3[a]	70.1[a]	70.8[a]	71.0[a]	70.1[a]

data showed that no significant difference between Disolkyn at the 98 ml /100 L.water and the other tested insecticides. The effect on cotton was higher than tomato plants.

While the residual effect of the tested insecticides on immature stages of white fly (Table4), data showed that no significant difference between Disolkyn at 98ml/100 L. water and the other tested insecticides. Natural oil and Biosct efficiency come next. The means percent reduction of the three sprays of Disolkyn 98ml, 131,3ml / 100 l. water, Bemistop , Pyroxifen , Imidaclopride , pirimifios-methyl , Fenobucarb , Natural oil and Biosect was on tomato plants respectively. The initial effect of the tested insecticides on aphids (Table 5) , data showed that no significant difference between Disolkyn at 98 ml/100 L .water and

the other tested insecticides . the efficiency was higher on cotton plants followed by tomato and soybean plants . The mean reduction percentage of two sprays of Disolkyn at 98ml , 131.3 ml / 100 L. water , Bemistop , Pyroxifen , Pirimifos-methyl , Fenobucarb , Imidaclopride , Natural oil and Biosect on soybean plants respectively . While the residual effect of the tested insecticide on aphid (Table 6) data showed the same trend. There are no significant difference between Disolkyn on soybean plant 98 ml/ 100L water and the other tested insecticides , the effect was higher on cotton followed by tomato and soybean plants .

The tested insecticides could be classified into two groups of efficiency against whitefly (adult and immature stages) and aphids. The first one was Dss at 131.3 ml / 100 L. water, kirmon (Bemistop), IGR (Admiral) , Chlornicotinyl (Admiral) , O.P (Actillec) , Carbamate (Osbac) which .were the most effective compounds in reducing adults , immature stages of whitefly and aphids. The second group contains Veg Oil, Dss at 98 ml/100L water and intomopathogenic fungi (Biosect) that gave satisfactory control of whitefly and aphids population .The decreased effectiveness of Primifos- methy and Fenobucarb that belong to the organophosphorus and

carbamate groups may be attributed to their intensive and wide use for controlling different pests in Egypt . These results agree with those obtained by kandil *et al.* (1991). In contrast, the new compounds Dss, Bemistop, Admiral ,Admir that belong to Surfactant, kirmon, IGR , Chloronicotinyl group, respectively, were leading the materials to reduction whitefly and aphid .The highly effect against whitefly may be attributed to their new mode of action .

Chemical methods are currently the only management technique used on cotton , tomato and soybean against whitefly and aphid populations in Egypt . Although other means of control might be used in an integrated program , insecticide treatments currently represent the means of dealing with whitefly and aphids infestations must accessible to growers . Alternative and supplements to conventional chemical insecticides are being sought for whitefly management because of this resistant problem environmental contamination and potential hazardous to beneficial organisms and man. Entomopathogenic fungi , Dss , kairmon , IGR are prominent among the potential alternative control agents . Biosect gave satisfactory control to whitefly adults and aphids and gave moderate effect against whitefly immature stages. It was found that both Biosect and Natural oil need more time on immature stages to show their efficacy. These results agree with Campbell *et al.* (1985) who reported that when *Beauveria bassiana* is applied , colorado potato beetle mortality is not rapid but adds up in later life stages . Therefore, *Beauveria bassiana* treatments for first generation may display their greatest impact in reducing second generation populations . Yousri *et al* . (1995) reported that the biocide Naturalis – L (*Beauveria bassiana*) need from three to five days after spraying to show their efficacy against whitefly on tomato plants .

To discuss these results , it could be mentioned that the new product Dss (dioctyl sodium sulfsuccinate) acts as a physicochemical agent like fatty acids and potassium salts of fatty acids. These products have a general

insecticide activity (Liu and Stansly 1995). Dss is chitin solvent acting by devolymerisation of chitin complex and disturbing the process of chitin formation.

It can be concluded that Dss (Disolkyn) could be included as a useful tactic in a comprehensive aphids and whitefiles management program in Egypt . Development of a management program employing the different groups of insecticides would be a reasonable approach . This program would require an hierarchy of action thresholds. At moderate initial population of whitefly and aphids population (*Beauveria bussiana)* Biosct alone might be used successfully ,delaying and minimizing the subsequent whitefly and aphid population increase. At the extremely high population the insecticides that belong to different groups as described above should be applied in sequential alternation. This program would allow a reduction in the rate on perhaps the number of application of insecticide while introducing multiple mortality factors that should delay expression of insecticides resistance .

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الملخص العربى

دراسات حقلية باستخدام مبيد الديسولكين مقارنة مع سبعة مبيدات حشرية من مجاميع مختلفة

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أجري هذا البحث بمحطة البحوث الزراعية بإيتاي البارود - محافظة البحيرة تمثل شمال جمهورية مصر العربية ، لتبين قابلية المبيدات الحشرية المختلفة في طريقة فعلها ضد الأطوار الكاملة وغير الكاملة للذبابة البيضاء على نباتات القطن والطماطم ، و ضد حشرة المن على نباتات القطن والطماطم وفول الصويا. قورنت فعالية معدلين من المركب الديسولكين بالمقارنة مع المركبات وذلك خلال مارس- أغسطس ١٩٩٩م .طبقا لقيم الإبادة الفورية أظهرت جميع المبيدات المختبرة نفس الفاعلية ضد الحشرات الكاملة للذبابة البيضاء وكذلك حشرة المن- بينما المركبات زيت الناتيرلو ،والبيوسكت كانتا ذو تأثير أبادي أعلى ضد الحشرات الكاملة للذبابة البيضاء وكذلك المن من التأثير على الأطوار غير الكاملة للذبابة البيضاء . أثبتت نتائج ثلاثة رشات ضد الذبابة البيضاء أن الديسولكين عند التركيز ٩٨ مل /١٠٠ لتر ماء كان أكثر فاعلية ضد حشرة المن والذبابة البيضاء وقد كان التأثير أعلى ما يمكن على نباتات القطن ثم نباتات الطماطم كذلك كان التأثير أعلى ما يمكن على نبات القطن ثم الطماطم ثم فول الصويا في حالة حشرة المن .

كذلك أظهرت دراسة الأثر الباقي بعد ٥ ، ٧ يوم من الرش ضد الذبابة البيضاء والمن أن جميع المركبات المختبرة كان لها نفس الفاعلية العالية بينما كانا المبيدان زيت الناترلو، والبيوسكت (مبيد من اصل فطري) ذو تأثير أبادي أعلى ما يمكن على الحشرات الكاملة، وحشرة المن من التأثير على الأطوار غير الكاملة للذبابة البيضاء . وفي جميع الأحوال كان لتأثير أعلى ما يمكن على نباتات القطن ثم نباتات الطماطم ثم نباتات فول الصويا على الرغم من أن مركب الديسولكين م-ركب طبيعي إلا أنه يعطي إبادة فورية عالية وأثر باقي

فعالا ضد الذبابة البيضاء والمن ، وعلى ذلك يمكن أستخدم الديسولكين بنجـــاح في برنامج مكافحة حشرتي الذبابة البيضاء والمن في مصر خصوصا في حالـة الإصابات العالية – كذلك يمكن استخدام الزيت النباتي تاترلو ، وكذلـــك المبيـد الحيوي الفطري بسكت عند الإصابة الأقل نسبيا .

إن تطوير برنامج مكافحة الذبابة البيضاء والمـــن بحيـث تشـتمل علـى مركبات تابعة لمجاميع مختلفة في طريقة فعلها على الذبابة البيضاء والمن يكـــون فعالا حيث أن اختلاف طرق موت الحشرة طبقا لمجموعة المبيد المستخدم يـــؤدى إلي إعاقة بناء المقاومة في حالة الإصابة بحشرتي المن والذبابة البيضـــاء ضـد المبيدات الحشرية .