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Effect of different tillage methods on the amounts of treflan upon parts production and production application seedling canola cultivar Hayola 401 in the climatic conditions of DEZFUL

Seyed Mohammad Hashemi Nejad

PhD student in Agriculture, Department of Agriculture, Islamic Azad University Firuzabad, Iran.

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ABSTRACT

Background: Weeds are unwanted plants that grow outside main location. In another definition, weeds are introduced plants that application is not yet known. Another definition of weed plant is planted to grow up unexpectedly in the fields and gardens. Since agriculture is the main uninvited guests who greatly reduces the quantity and quality of the economic value of the crop and also interfere with agricultural operations raises production costs.**Objective:** In order to analyze the effect of different tillage methods on the amounts of treflan herbicide controlling weed in experimental seeding canola farms a test in the form of the factorial experiment was done as Randomized complete Block design in 4 frequencies and 9 treatments in DEZFUL Agriculture and industry Martyr Beheshti in farming year 2007-2008**Results:** Results of the test showed that ratings of herbicide treflan on weed of Berseem- clover has been meaningful at a level of 5 percent and hasn't been meaningful on several Bullwort weed, wild carrot, total weeds, dried weight of weeds, canola height, overall numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains, yield. different tillage methods on several Berseem clover and several weed of Bullwort, dried weight of weeds, yield and has been meaningful at a level of 1 percent and has been meaningful at a level of 5 percent of total weeds and hasn't been meaningful on several weed wild carrot, weight of thousand grains, sheath numbers in canola plant, Length of sheath, overall numbers of canola branches and harvest index**. Conclusion:** IN mutual effect of treflan herbicides and tillage methods on several of Berseem clover and several Bullwort weed, total weeds, dried weight of weeds, yield has beer meaningful at 1 percent level and hasn't been meaningful on several wild carrot, weight of thousand grains, sheath numbers in canola plant, sheath length in canola plant, total numbers of canola branches, harvest index, the numbers of seeds in sheath, canola height.

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INTRODUCTION

Weeds are unwanted plants that grow outside main location. In another definition, weeds are introduced plants that application is not yet known. Another definition of weed plant is planted to grow up unexpectedly in the fields and gardens. Since agriculture is the main uninvited guests who greatly reduces the quantity and quality of the economic value of the crop and also interfere with agricultural operations raises production costs. The term weed is used in those plants that farmers cannot grow them. Some weeds are edible or medicinal use, but have grown unintentionally; Weeds are competing for agricultural products (Sinaki JM, et.al.2007). As regards canola belongs to Crop plants and oilseeds and given that weeds will compete with canola and decreased performance, thus it is necessary to control weeds. Canola has Fatty acid with Long-chains and edible. And the importance canola seed production in the country and the importance oilseed crop, Canola cultivation is important. This experiment is intended to pay the combined effects of soil tillage and application of Treflan herbicides to combat weeds in fields of canola seed (Chauhan, B.S., G. Gill and C. Preston. 2006). chavhan and colleagues (2006) showed that Reduced availability of Treflan herbicide occurred in Sowing systems without tillage that The result was a reduction in weed control (chavhan, B.S& Gill,G& PRESTON,co 2006). Berger *et al* (1999) studied the effects of tillage on the persistence and spread of Treflan herbicide in the soil. Results showed that reduced tillage in the two years subsequent Treflan herbicide concentrations decreased in the layer 20-10 cm and 20-30 cm soil, On the contrary has increased to 0.019 mg/kg with plowing.9 Experiments were performed on two Silt - clay and loam – sand soil on the frequency of canola - wheat and rye (Berger, B.M, *et al*. 1999). Tanveer *et al* (2005) studied the effect of herbicides mixed with soil on weeds and yield of canola

Corresponding Author: Seyed Mohammad HashemiNejad, PhD student in Agriculture, Department of Agriculture, Islamic Azad University Firuzabad, Iran.

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seed. For this purpose use Treflan herbicides in amounts 0.094 and 7.20 and 1.50 kilograms per hectare and acetochlor in amounts 0.094 and 0.124 and 0.312 kilograms per hectare.

Results showed that the amount of Treflan herbicide 1.5 kilograms per hectare has resulted the maximum increase in seed yield by increasing the number of sheath per plant, seeds per sheath and weight of thousand grains (Tanveer,A.*et al*. 2005). In general aim of these experiments use different doses herbicide treflan (0-1.5-2.5) liters per hectare and use Different tillage methods (Disc - subsoiler - moldboard plow) on weed control In a crop of seedling canola And the yield and yield components of this crop.

Methodology:

This experiment was conducted in the BC region of martyr Beheshti AgroIndustry in the West of Dezful city And 15 km road of Andimeshk - Ahwaz With longitude 48:15' and latitude 22: 32' And *above 80 meters* from *sea level* in the crop year 1387 – 1386. The effect of the treatment groups was performed Includes different types of tillage treatments (Disc - subsoiler - moldboard plow) and different doses herbicide treflan (0-1.5-2.5) liters per hectare in the weed control of seedling canola.

In the form of factorial experiments as *randomized block designs* in 4 frequencies and 9 treatments. From planting to harvesting was performed seven times the sampling interval of 12-10 days. The samples were measured Number of weeds, Dry weight of weeds, sheath length (cm), Number of seeds per sheath and grain yield ($kg/_{hec}$). For statistical analysis of the resulting data was used SAS software, for drawing the chart from Excel and to compare the mean test, Duncan's multiple range tests.

Results:

The results of the analysis of variance indicated a significant difference was 1% level of grain yield in the tillage systems and Interaction of tillage systems and Treflan herbicide. Tanveer and *et al* (2005) also showed that Treflan herbicides with the 1.5 liter per hectare was a maximum increase in the grain yield by increasing the number of sheath in the plant and seeds per sheath and weight of thousand grains. Also difference was statistically significant at the 5% level for the number of sheath per plant and the amount of Treflan poison.

According to the results canola heigh, numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains was not affected by the different treatments of Treflan herbicides and tillage methods. (Table1).

Table 1: Analysis of variance of the effects Treflan toxin and tillage method on grain yield of canola

Sources of variation *(S.O.V)*	Degrees of freedom	weight of thousand grains (go)	Number of sheath per plant	length of sheath (cm)	numbers of canola branches	Harvest index (percent)	sheath seed number	grain yield (kg per hectare)
frequency	3	0.16 ^{ns}	79132.7 ^{ns}	0.07^{ns}	0.170.6 ^{ns}	5.2^{ns}	4. 6 ^{ns}	6061.4 ^{ns}
The first factor amount of Treflan Toxin	2	0.15 ^{ns}	*179724.7	0.19 ^{ns}	230.8 ^{ns}	0.2 ^{ns}	10.6 ^{ns}	18120.3 ^{ns}
The second factor Tillage	2	0.08 ^{ns}	121646.2 ^{ns}	0.13 ^{ns}	469.9 ^{ns}	9.7 ^{ns}	4.7 ^{ns}	**160095.3
Interaction	4	00.37 ^{ns}	2729.8 ^{ns}	^{ns}0.15	46 ^{ns}	11.5 ^{ns}	4 ^{ns}	**86776
Error	24	0.14 ^{ns}	51589.9	0.15	183.2	6.2	5.1	5556.9
The coefficient of Distribution (%)		15.9	19.2	5.6	43.2	13.9	11.9	14.4

^{ns} No significant differences * Significant difference at 5% ** Significant difference at 1%

As a result of these experiments were not significant the amount of Treflan poison in the canola yield. Tillage methods was a significant difference in the the mean effect plow and disk tillage methods at the 5% level. Thus tillage systems with a disc are better.

The averages were compared by Duncan was best grain yield, Interaction effects without Treflan toxins and subsoiler tillage, without Treflan toxins and disk tillage, The 1.5 liters per hectare Treflan toxins and disk tillage, The 2.5 liters per hectare Treflan toxins and plow tillage (table 2,3).

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Table 2: Comparison of the average Effect the amount of the Treflan poison and Tillage methods

Treatment	Average characteristics and compare them to the Duncan test (at the 5% level)*					
	The number of Berseem clover	The number of wild carrot	The number of Bullwort	The number of The total weed	Dry weight (Gr)	Height (Cm)
The amount of Treflan poison						
Without the poison (S1)	0.7 b	0.2 a	8.7a	9.7 a	130.1 a	106.5 a
(S2) 1.5 liter	1 ab	0.3 a	5.4b	7.3b	98.7 b	93.7 a
2.5 liter (S3)	1.3 a	0.2 a	3.3c	6.5b	127.9 a	96.6 a
Tillage methods						
subsoiler (T1)	1 ab	0.2 a	5.6 ab	7.3b	97.6 b	91.9 a
plow (T2)	1.5 a	0.3 a	4.4 b	7.7b	109.1 b	105.4 a
disc (T3)	0.5 b	0.2 a	7.3a	8.4a	150.0 a	99.5 a
Interaction						
S1*T1	1.5 ab	0.0 a	7.5 b	9.3 b	94.9 def	100.2 a
S1*T2	0.5bc	0.5 a	6bcd	7.3 bcd	89.2 ef	108.3 a
S1*T3	0.0 c	0.0 a	12.5a	12.5 a	206.0 a	111 a
S2*T1	0.8 bc	0.3 a	5cde	6.3cd	4.3 f	77.7 a
S2*T2	2.3 a	0.0 a	4.8cde	8bc	89.7 ef	105.7 a
S2*T3	0.0 c	0.5 a	6.5bc	7.5bc	132.0 bc	97.7 a
S3*T1	0.8 bc	0.3 a	4.3def	Cd	123.5 bcd	97.7 a
S3*T2	1.8 ab	0.3 a	2.5f	bc	148.3 b	102.2 a
S3*T3	1.5 ab	0.0 a	2ef	d	112.0 cde	89.9 a

* No significant difference between the means in each column that share at least a letter.

Comparison of the mean amount of Treflan toxins and tillage on weed numbers indicate not significant canola height, overall numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains, grain yield has been only Meaningful the number of sheath per plant without using toxins and 2.5 liters per hectare Treflan toxins.

Tillage methods were not significant canola height, overall numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains and the only way to plow and disk yield was significant. The Interaction effects all treatment means was not significant and only grain yield treatment was in some cases Meaningful and in some cases not significant (Figures 1-8).

Table 3: Comparison of the average amount of the Treflan poison and tillage on grain yield of canola

	Average characteristics and compare them to the Duncan test (at the 5% level)*						
	weight of thousand graing (gr)	Number of sheath per plant	length of sheath (cm)	numbers of canola branches	Harvest index (percent)	sheath seed number	grain yield (kg per hectare)
The amount of Treflan poison							
Without the poison (S1)	2.24 a	366.8 b	6.83 a	27.7 a	7.28 a	19.02 a	481.8 a
(S2) 1.5 liter	2.41 a	419.2 b	6.71 a	30.2 a	7.50 a	18.03 a	513 a
2.5 liter (S3)	2.46 a	600.1 a	6.96 a	36.2 a	7.25 a	19.92 a	559 a
Tillage methods							
plow(T1)	2.28 a	348.5 a	6.80 a	26.4 a	6.58 a	18.82 a	403 b
subsoiler (T2)	2.43 a	540.3 a	6.75 a	38.4 a	7.12 a	18.47 a	516.8 ab
Disc (T3)	2.40 a	497.3 a	6.95 a	29.4 a	8.33 a	19.68 a	634 a
Interaction							
S1*T1	2.10 a	259.8 a	6.65 a	24.7 a	6.50 a	18.35 a	315 e
S1*T2	2.58 a	422 a	6.90 a	30.7 a	8.85 a	19.25 a	621 abc
S1*T3	2.05 a	418.8 a	6.95 a	27.6 a	6.50 a	19.45 a	508.5 cd
S2*T1	2.12 a	329.2 a	6.73 a	25.1 a	6.00 a	17.95 a	327 e
S2*T2	2.55 a	502.3 a	6.43 a	37.3 a	7.00 a	16.40 a	546 bc
S2*T3	2.55 a	431.5 a	6.98 a	28.3 a	9.50 a	19.75 a	666 ab
S3*T1	2.60 a	461.8 a	6.03 a	29.3 a	7.25i a	20.15 a	567 bc
S3*T2	2.18 a	696.8 a	6.93 a	47.1 a	5.5 a	19.75 a	382.5 de
S3*T3	2.60 a	641.8 a	6.93 a	32.3 a	9 a	19.85 a	727.5 a

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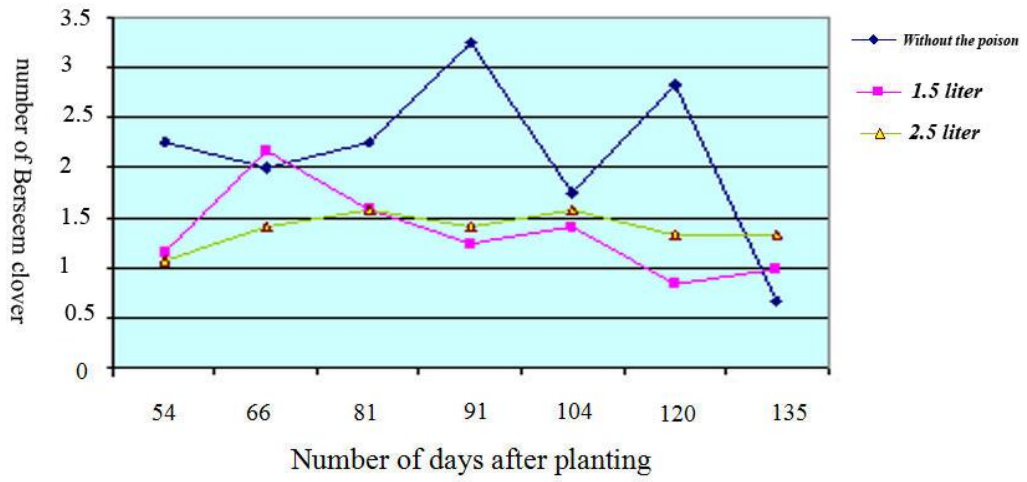

Fig. 1: The effect of the Treflan toxins on the number of Berseem clover (Trifolium alexanderinum)

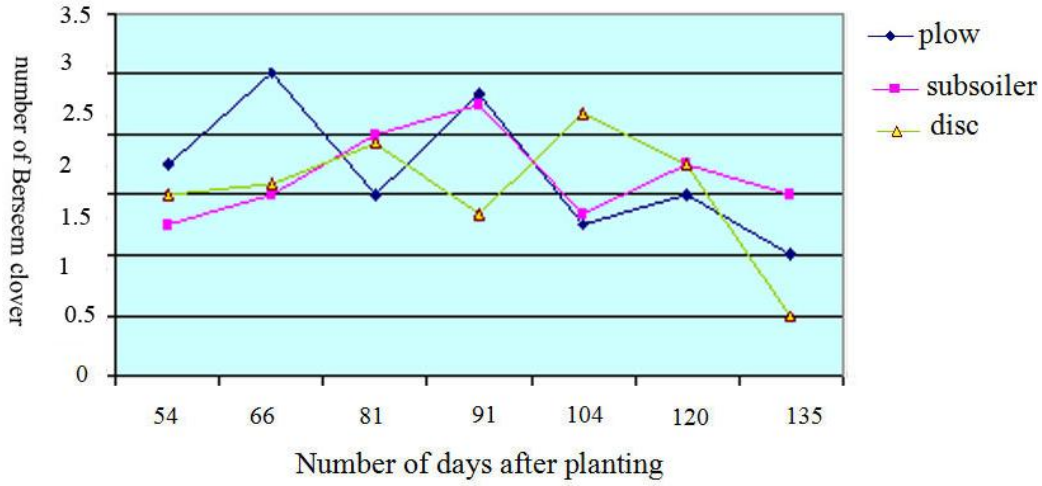

Fig. 2: The effect of tillage methods on Berseem clover (Trifolium alexanderinum)

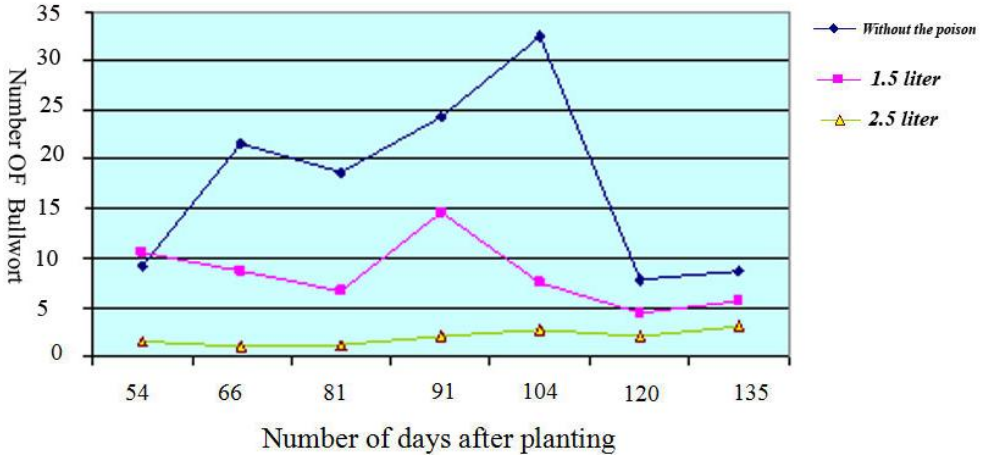

Fig. 3: The effect of the Treflan toxins on number of Bullwort (Ammi majus L.)

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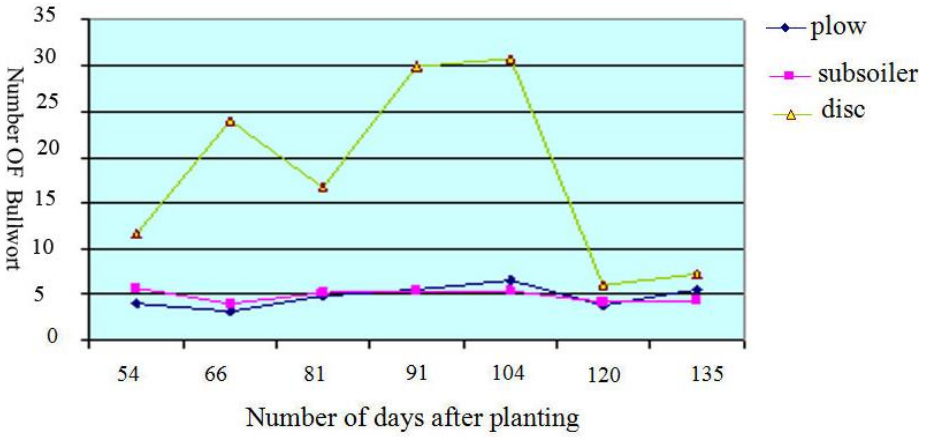

Fig. 4: The effect of tillage methods on Bullwort (Ammi majus L.)

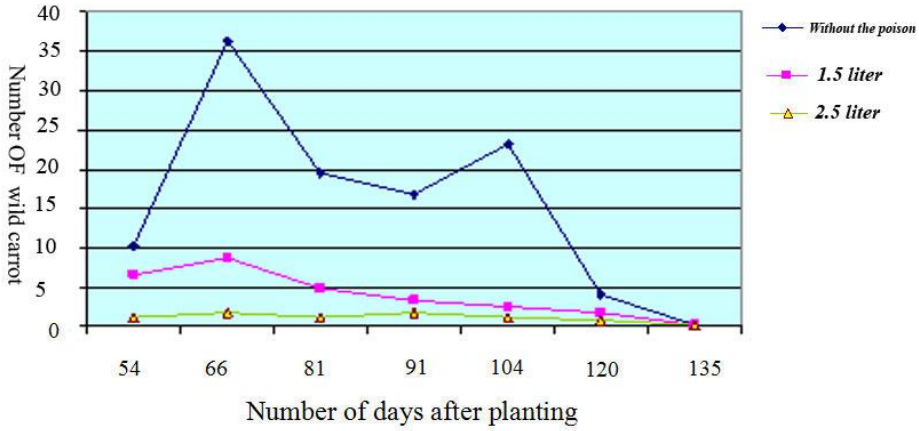

Fig. 5: The effect of the Treflan toxins on wild carrot (Daucus carota L.)

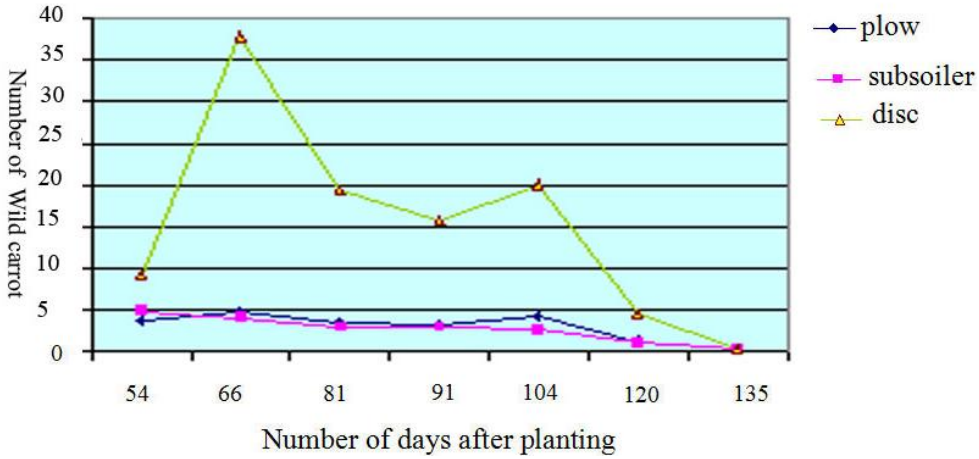

Fig. 6: The effect of tillage methods on Bullwort wild carrot (Daucus carota L.)

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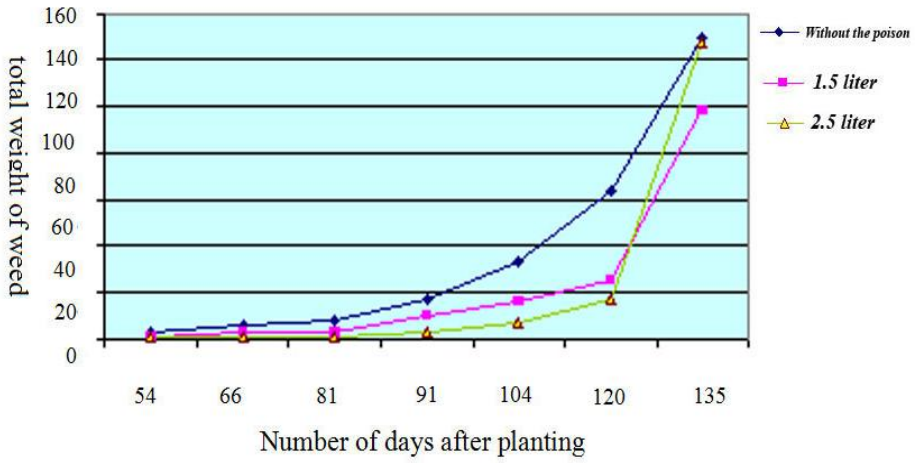

Fig. 7: Effect of Treflan toxins application on the total weight of weeds

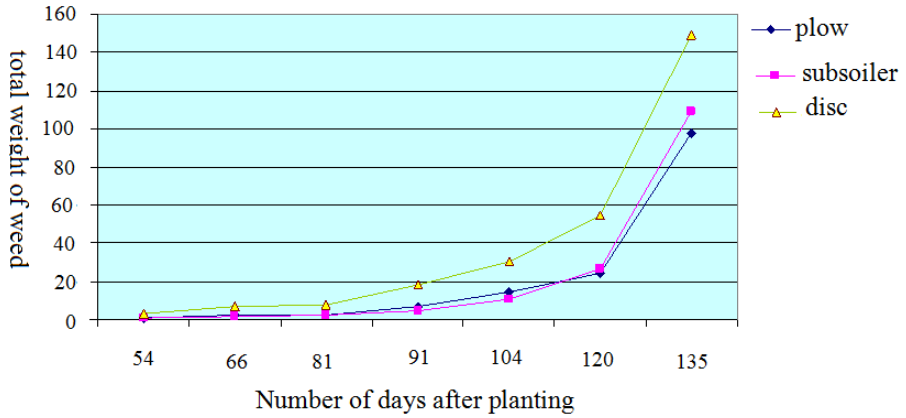

Fig. 8: The effect of tillage on total weight of weed

Discussion:

Comparison of the mean amount of Treflan toxins and tillage on weed numbers indicate not significant canola height, overall numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains, grain yield has been only Meaningful the number of sheath per plant without using toxins and 2.5 liters per hectare Treflan toxins. Tillage methods were not significant canola height, overall numbers of canola branches, harvest index, length of sheath, sheath seed number, weight of thousand grains and the only way to plow and disk yield was significant. The Interaction effects all treatment means was not significant and only grain yield treatment was in some cases Meaningful and in some cases not significant.

Conclusion:

This article has done about Effect of different tillage methods on the amounts of treflan upon parts production and production application seedling canola cultivar Hayola 401 in the climatic conditions of DEZFUL. the result indicate it has not been shown significant difference between treatment groups and control group.

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