

Effect of Low herbicides use on weed control in sustainable agriculture**Einallah Hesammi**

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Abstract: The To consider and study four types of dual herbicides with minimum and maximum values in controlling wheat herbicides in different tillage systems enrolling in stability and protecting environment to avoider from soil erosion, a test was done. This test was run in three certs. Randomly. The test timers included min common tillage systems and herbicides content Mesosulfuron with 350 and 400 gram associated to Sorefketant Sitogate, Sulfosulfuron 26.6 and 31 gr per hectare. With Sorefketant Sitogate, Assert 25%, 2 and 3 liters/hectare and Metribosine 70%, 200 and 300gr/hectare. Results showed that the common Tillage system has a role in decreasing herbicides globosity better than minimum Soil seeking; and application of Sulfosulfuron herbicide with 31gr/hectare value in common tillage and Mesosulfuron with 400gr value in minimum tillage are harmful in control of herbicides. On the Other hand Mesosulfuron Methyl 30%-Iodosulfuron Methyl 30%, 350 and 400gr trade, Sulfosulfuron 26.6 and 31gr effective matter, Assert 2 and 3 liter effective matter were more appropriate in controlling type of herbicides for each two tillage system.

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1. INTRODUCTION

Decrease of herbicides has an important impact. Weeds are competing with plants receiving water, light, space and nutrients and finally cause economical yield to decrease. Among all of decreasing factors, herbicides are in the first level of importance and this is because lack of controlling weeds, damage due to them is more than damage due to insects and illnesses notably [4] Recommendation about control of wheat weeds are more important than herbicides including 2,4-D, Granstar and Topic in Iran. However less research on low used herbicides is done like: Sulfosulfuron, and Metribosin, Human need to increasing product of agricultural crops caused chemical substances to be replaced by mechanical control. Application of chemical compounds in wheat agro and others caused environment pollution. Despite this, herbicides are the commonest method for controlling weeds [8]. In minimum tillage systems, herbicides existence is a fraction of tillage ones. While they are implement of tillage yield effects [1]. Application of herbicide decreases

Numbers of tillage yields. Also using minimum tillage systems and without soil seeks causes humidity straying and decreasing tuishes of tillage [10]. comparing common tillage and minimum tillage and without it associated to herbicide resulted in globality of weed with wheat in minimum tillage less than other timers and on the other hand, in system without tillage of weeds were controlled better [9]. Sulfosulfuron herbicide with 67 and 34 gram

concentration control herbicides of 41, 30 and 70% during 2 weeks. With regard to stable agriculture in environment protection field, decrease of tillage tuishes and optimum usage of herbicides poisons, this research was done in order to consider growth and yield of wheat using types of dual herbicides and tillage systems and tillage systems; Selecting the best value of herbicide with regard to type of tillage system, selecting the best system for increase of wheat yield and control of herbicides by tillage system and herbicide without fault effect on yield and morphological parts of wheat are necessary.

2. Materials and methods

This research was done in agricultural field of educational-researching college of Islamic Azad university, Shoushtar Branch. In order to appoint and recognize characteristics of field soil in depts: 0 to 30 and 30 to 60cm were samplings and them after soil analyzing in laboratory, results showed that soil tissue was from sandy-Lummi. The test was repeated 3 times randomly as fractured cert. The main factor of tillage system in two levels (common and minimum soil seeking) and factors in ten levels including Mesosulfuron herbicides with 350 and 400 grams per hectare, Sulfosulfuron 75% with 26.6 and 31 gr/he ; Metribuzin 70% with 200 and 300 gr/he and Assert 25% with 2 and 3 lit/he values were considered without controlling herbicides. Mesosulfuron with formulation of granola was used distributable in water through the first part of test associated with one litter unionist oil Sitogate.

Counting and appointing kinds of species and situation of thin leaf and wide leaf and also measuring dry weight of herbicide were done after scattering poisons. Counting and sampling of weeds middle of the cert through area of 1m² was done. To analyze variance, comparing mean and considering statistical data, we used MSTATC software. Using the Excel drawing one to demonstrate the results.

3. Result and discussion

Results of this test showed that type of tillage system on control of weed and also thin leaf and wide ones hare more meaning full effect. The results in table 1 include being better and more applicably of common tillage than minimum one of weeds in controlling and the above two systems hare a big difference. Observation showed that applications of Sulfosulfuron herbicide with 31gr/hect Mesosulfuron 400gr/hect in minimum one are more successful than the others. Using Assert herbicide has the lowest level of importance in controlling weeds. The Assert acts weakly in control of wide weeds [7].

Have expressed that number of wide leaf weeds is very much [3]. Adapting to results in table1. Results showed that Mesosulfuron herbicide affect on controlling wide leaf weeds of wheat very much [6]. So common tillage are harm less in control of thin leaf weeds [2].

Dry weight of wide leaf weeds in protective soil seeking system decreases more than the common method which is a reason of low growth of right bone in this type of wide leaf weed [11].

The results of this research adapt with the results of [5], tillage has not any effect on biological yield. The effect of herbicide timers on biological yield of wheat was different and meaningful (table1).

Sulfosulfuron with 31 gr/he. Had the most biological yield rather than other timours. Because of weeds controlling and lack of fault effect existence of this herbicide on wheat. Assert with 2 and 3 and Metribuzin with 200and300 gr/he. have low biological yield because of undesirable effect on wheat growth, it is showed in Figure1.that there is a meaningful difference between tillage systems as is showed in Figures(1)and(2).

The results of the research and concluding from the other papers referencing show that using common tillage system associated to low used herbicide is effective in controlling weeds and also application of dual herbicides like Sulfosulfuron could control weeds in tillage system. Among the herbicides, Sulfosulfuron is

more affective two tillage systems with 31gr/hect. In controlling thin 2 wide leaves weeds and has not any damage on wheat creep.

By this, we can avoid using herbicides with high values damaging environment Wheat yield in two tillage systems were equal and acceptable because of bone type and with regard to soil protection and stable agriculture, using is recommendable for wheat cropping.

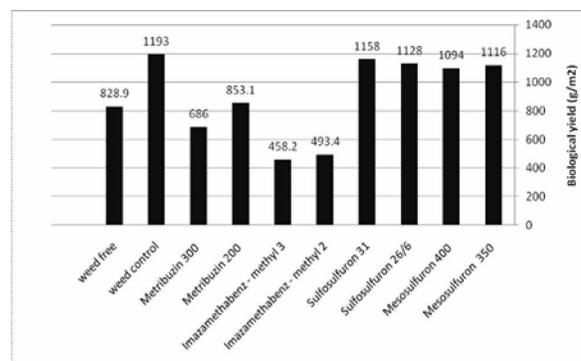


Figure1.Effect if timer of type herbicide on biological yield

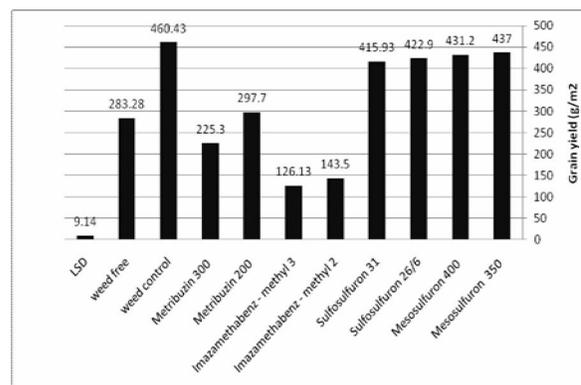


Figure2.Effect of type herbicide o seed yield

Table-1. Mean squares for measured characteristics in the experiment.

Source of Variation	Degree of Freedom	Weed density before application (m ⁻²)	Weed density after application (m ⁻²)	Density of broadleaf weeds (m ⁻²)	Density of grassy weed (m ⁻²)	Dry weight of weed (g m ⁻²)	Harvest index of Wheat	Performa increas (%)
Replication	2	0.04**	0.087**	0.09**	0.015**	0.03**	0.83**	4**
Tillage systems	1	8.7**	1.7**	2.2**	0.1**	98.6**	4.86**	1**
Herbicides	9	111.15**	41.002**	35.9**	3.9**	2914.1**	101.7**	4740.9
Interaction	9	0.2**	0.4**	0.50**	0.1**	39.2**	9.5**	48.7**
Coefficient of change		0.03	0.04	0.04	0.02	0.9	1.04	1/2

Ns *, **, non-significant, significant and highly significant, respectively.

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