INFLUENCE OF SOWING TIME ON PRODUCTION CAPACITY A FEW LINES OF SAFFLOWER (CARTHAMUS TINCTORIUS L.) UNDER TIMISOARA

D. POPA, Simona NIȚĂ, Ioana Maria MATEAȘ
**** Banat's University of Agricultural Sciences and ''King Michael I of Romania '' Veterinary Medicine – Faculty of Agriculture***

Email: mateasioanamaria@yahoo.com

Abstract

Safflower was grown for its flowers, used for coloring and flavoring. Safflower name derives from the fact that it was cultivated as a cheaper alternative to saffron. This content carthamin because flowers, like saffron. Safflower flowers have a calming qualities of cough. Pigments from safflower flowers are particularly important because they leave no toxic residues colored products. Pigments which are synthesized in roots during vegetation migrate through tissues leading the petals. Carthamina is one of the most valuable non-toxic compounds used in the food or in the textile industry. The seeds are used to treat tumors, especially those located in the liver. Flowers are considered laxative properties, sedative, and is used to treat scarlet fever. Indicated that safflower oil is widely used in pharmaceutical industry and antirheumatism detention purgative effect, not oil in the diet increases the amount of cholesterol in the blood.The oil is used as a remedy for rheumatic pains. Chinese medicine recommends seeds to treat dysmenorrhea in women, they having an astringent effect on the uterus. Outside the fatty acid content of 32-40% and a percentage seeds contain 11-17% protein and 4-7% water.To emphasise the yielding capacity of some new lines of safflower (Carthamus tinctorius L.) under study, we organised, in 2013, a bi-factorial experiment in which experimental factors were as follows:

Factor A – sowing time
- 1st time ***MARCH***
- 2nd time ***MAY***
Factor B – safflower lines
- *T 9,*
- *T 10,*
- *T 33,*
- *T 40 short line.*

The experiment was set after the randomised block method. The experimental variants were set with three replications with randomisation of the Factor B (safflower lines). Research has shown the influence of planting dates on productivity elements obtained from testing of new lines of safflower. To achieve the objectives of the research were used 4 lines of safflower obtained by individual selection from a population of Timisoara.

Key words: *safflower, lines, yield, sowing date.*

INTRODUCTION

Safflower (Carthamus tinctorius L.) is important as oil plant in Asia, North and Central America and in dry areas with poor soils. Due to its rich fruit oil: 30-35% was introduced in our country in human nutrition, dietetics and food but reducing the amount of

cholesterol in the blood. The fruits and flowers are also used in medicine since they have hydrogogue purging and anticough properties. Due to the content of pigments in the petals (20% yellow pigments and 0.5% red pigments), they can be used to produce natural colouring agents for the food, textile, pharmaceutical, and cosmetics industry.

MATERIALS AND METHODS

Experimental field was located on a wet soil type mold bill (Gleize weak), weak decarbonat on lösoide deposits, clay argilo-prăfos/luto-argilos.

Experience has been placed in the field after bifactorială method in which experimental factors were:

Factor A – sowing time

- 1st time ***MARCH***
- 2nd time ***MAY***

Factor B – safflower lines

- T 9, T 10, T 33, T 40 short.

Settlement field experience was the method blocks with plots randomized. Experimental variants were placed in three repetitions with randomisation factor B (safflower lines). Production results were calculated and interpreted by analysis of variance method and the biometric features were calculated and interpreted by the method of variation of the string. Except when sowing which was established in factor experienced safflower technology applied to culture was the high culture specific. Plant prior to culture was safflower winter wheat. Fertilization culture was made using complex fertilizers such N15P15K15 the amount of 450 kg / ha complex which meant 70 kg / ha to of each N, P and K. Basic plowing to 20-22 cm depth was performed.

RESULTS AND DISCUSSION

Yields were obtained by harvesting the two epochs. Highest production was recorded at 1st time. Obtained at each post-harvest production was cleaned of impurities and eighed. Calculation and the result was interpretation variance analysis method (N.N. SAULESCU 1967).

Table 1. presents the yield obtained from safflower under the influence planting dates in 2013, the climatic conditions in Timisoara.

Table 1

Yield results from the influence of time of sowing safflower in 2013

Sowing time	Safflower lines				crops kg/ha	%	Diference +/- kg/ha	Significance
	T.9	T.10	T.33	T.40 short				
a1 march	1501	1927	1909	1853	1798	100	-	

a2 may	387	588	970	565	628	35	- 1170	000

DL 5% = 106 kg/ha; DL 1% = 216 kg/ha; DL0,1% = 320 kg/ha

Average production of factor B

	Lines			
	T.9	T.10	T.33	T.40 short
Crops	944	1258	1440	1209
%	100	133	153	128
Diference	-	315	496	265
Significance		xxx	xxx	xx

DL 5% = 119kg/ha; DL 1% = 215/ha; DL 0,1% = 298/ha

Production results obtained in 2013 from the interaction in the study of experimentalfactors are shown in table 1, and in terms of 2013 it appears that the delay sowing reduce production by 35 % at sowing in may.

If we look at the average yields achieved at the new lines of safflower studied the influence of two planting dates we find that the level of these productions is affected by sowing time delay sowing in that very significant decrease in production -1170kg/ha difference in sowing in may, is statistically very significant negative as compared to the control .

Of the four lines studied safflower , three output lines of the seeds safflower line is greater than the T9 , safflower oil production increases in experimental recorded in 2013 as compared to the production blank to be statistically very significant and distinct material (line T40 short , with an increase of production of 265 kg / ha) .

CONCLUSIONS

On safflower yields are strongly influenced both by the conditions of experimental time of sowing and less than safflower line.

Analyzing the experimental results since 2013 for the two times of sowing (March, May) finds some crucial elements of cultivation technology for production of safflower seeds.

Timisoara conditions are favorable for growing safflower. Sowing time without significant differences in safflower production. Seeds production in safflower is strongly influenced by climatic conditions. Because of this the average yields safflower different from one epoch to another.

This explains the different productions of the two planting dates, the experimental year 2013.

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