

RESEARCH ON THE BEHAVIOR OF A RANGE OF RAPESEED HYBRIDS IN THE PEDOCLIMATIC CONDITIONS IN BANAT

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Abstract: *The purpose of the researches was to demonstrate the production capacity of a new assortment of rape hybrids, approved for cultivation in our country and which in recent years occupies an important segment on the market. The research was to be taught at the Experimental Didactic Station of the University of Agricultural Sciences and Veterinary Medicine „ King Mihai I of Romania "in Timișoara, on a chernozem cambic soil, slightly gleaned, slightly decarbonated, and aimed to test hybrids and the optimization of technological links in order to obtain high-quality economic crops. The experiments were of comparative culture, after the method in strips, in three rehearsals. The production results pointed out that under normal conditions and applying a technology adapted to the pedoclimatic conditions of the studied area and to the requirements of the hybrids, constant yields above the level of 4500 kg / ha can be obtained.*

Key words: *raps, technology, pedoclimatic conditions*

INTRODUCTION

Regardless of the crop, the goal pursued by any farmer is to obtain high, constant yields from year to year and ultimately a high profit. Obtaining such results can only be achieved by the application of efficient technologies and adapted to the pedro-climatic conditions specific to each region, which can highlight the genetic potential of the propagating material. At present, such a crop is rapeseed, which, thanks to the efforts of the breeders, transposed into the value of hybrid homologated, capable and under less favorable conditions, to ensure yields at the level of economic profitability.

MATERIALS AND METHODS

The researches were carried out on a slightly gleaned, slightly decarbonized cernoziom cambic soil (Figures 1 and 2) of the Experimental Didactic Station of the University of Agricultural Sciences and Veterinary Medicine, King Mihai I of Romania, in Timisoara. The experiments were of the comparative culture type, in the strips method, in three rehearsals, determining for each hybrid seed production, oil content and oil production. Biological material was represented by hybrids DYNASTIE, DIFFUSION, EXOCET and HORNET, characterized by high production potential, adaptability to extreme temperatures, disease-resistant, high oil content, indehiscent silicones, leading to minimal harvest losses. The precursor plant was autumn wheat. The basic soil work was carried out with heavy disc

harrows, which made a good loosening of the soil without turning the furrow. The sowing took place in the last decade of August with 80 seeds germinable / m². The row spacing was 12.5 cm and the drilling depth was 2 cm.

P80 phosphorus fertilization was performed prior to field preparation, and N100 nitrogen fertilization was performed in two rounds, the first on field frozen in February at N66, and the dose difference in the second half March. The harvest was carried out in the last decade of June directly from the chain with combines on the parcels variants.

Humidity was determined at harvest and STAS production at 11% humidity was calculated and assayed for analysis.

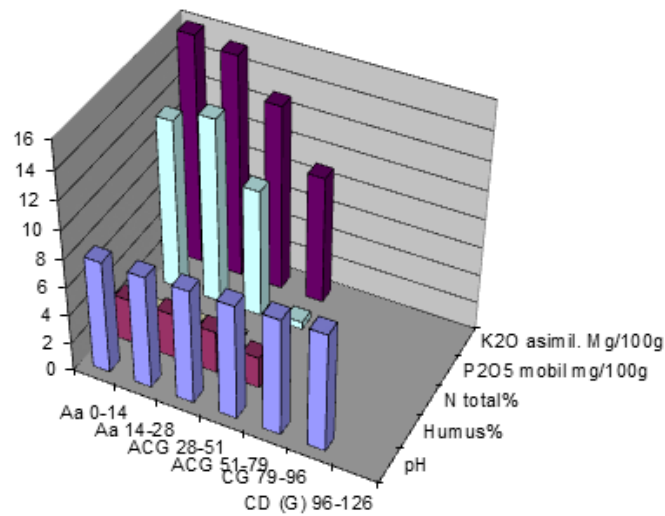


Figure 1. Results of soil chemical analysis in experimental field

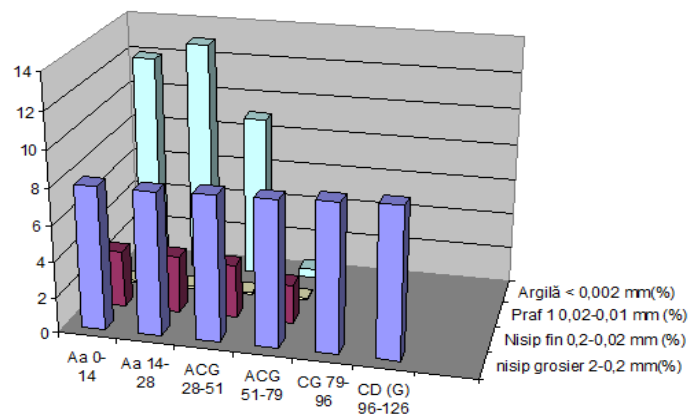


Figure 2. Results of soil physical analysis in experimental field

RESULTS AND DISCUSSIONS

The harvest results of 2016 obtained in the comparative culture with 4 rape hybrids are presented in Table 1.

As a whole, the harvests obtained in 2016 can be considered as high, the hybrids taken in the study prove to be adapted to the area in which the research was carried out. The recollection level for all four experienced hybrids was above the 4300 kg / ha, and the experimental field average over the 4500 kg / ha.

Table 1

Crop results obtained in comparative culture, in 2016

Hybrid	Crop Kg/ha	%	Difference Kg/ha	Significance
Media câmpului	4520	100		
DYNASTIE	4682	104	162	xx
DIFFUSION	4354	93	-328	000
EXOCET	4578	101	58	-
HORNET	4467	98	-111	0

DL5 % = 89 kg/ha;
 DL 1% = 159 kg/ha;
 DL 0,1% = 219 kg/ha.

Oil content ranged between 44.2% (Dynasty) and 47.1% (Diffusion). The other two hybrids have registered an oil content of around 46.5%.

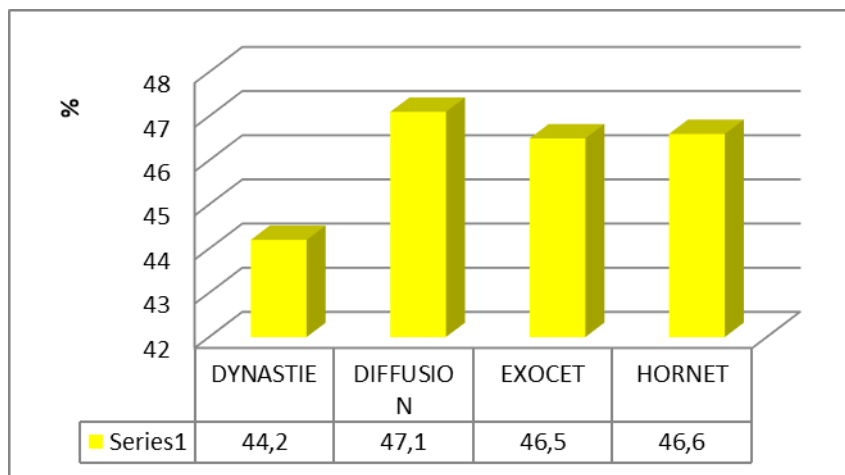


Figure 3. Oil content depending of cultivar in experimental field, in 2016

Based on the oil content and the seed production, oil production per hectare was calculated as shown in Table 2. The lowest oil production was recorded in the DIFFUSION

(2051 kg / ha) hybrid, with the lowest production of seeds, but overall it is appreciated that in all experienced hybrids the production of oil was over 2000 kg / ha.

Table2

Oil crop results obtained in comparative culture, in 2016

Hybrid	Crop Kg/ha	%	Difference Kg/ha	Significance
DYNASTIE	2069	100		
DIFFUSION	2051	99	-19	-
EXOCET	2129	103	59	x
HORNET	2082	101	12	-

DL5 % = 57 kg/ha;
DL 1% = 98 kg/ha;
DL 0,1% = 132 kg/ha.

CONCLUSIONS

The results demonstrated the very good production capacity of experienced hybrids, very good adaptability to pedoclimatic conditions, disease and pest resistance, and also to shaking. The crop yields were around 4500 kg / ha, and oil production around 2100 kg / ha, combined with the recovery price, provides economic efficiency for the reference area.

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