THE BEHAVIOUR OF CERTAIN SORGHUM HYBRIDS CULTIVATED FOR FODDER IN THE CENTRAL AREA OF OLTENIA

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ABSTRACT

As it is known, sorghum is the plant specific to warm areas. Therefore, for the ecopedological conditions in our research area, it adapts quite well.

Out of the 6 (six) sorghum hybrids cultivated for fodder on the luvisol from SCDA Șimnic (in 2020), the ES ALIZE hybrid stood out, which achieved a grain production of 7.8 t/ha dry substance, followed by ES FOEHN hybrids 7.4 t/ha grain dry matter, ARKANCIEL 6.8 t/ha grain dry matter, ALBANUS and KALATUR 6.7 t/ha grain dry matter and ARSKY 5.9 t/ha grain dry matter.

INTRODUCTION

Establishing the assortment of fodder crops is one of the current problems. The main concern is the establishment of species, varieties and hybrids with maximum production potential in the given ecological conditions, which as a whole should achieve an energy-protein ratio corresponding to the requirements of rational animal husbandry. (Bîlteanu, Gh. et al. 1972)

In this context, the species whose technologies are completely mechanizable are preferable (Moga, I. 1987; Cotigă, C. 2012).

In order to achieve maximum economic efficiency, protein and energy plants must be grown in well-established ratios. (Bărbulescu, C. et al. 1991; Cotigă, C. 2003).

MATERIAL AND METHOD

The experience was located on the luvisol from SCDA - Șimnic, Craiova, in the spring of 2020.

The method of setting up the experiment was that of the blocks and included a number of 6 (six) hybrids as follows: ES ALIZE, ALBANUS, ARSKY, ARKANCIEL, KALATUR, ES FOEHN, the seed being purchased from EURALIS company.

The agro-fund used was P50 K50 with the specification that both phosphorus and potassium were incorporated under the basic work of the soil, namely in the fall of 2019. Sowing was carried out in the first decade of May, at a distance between rows of 70 cm with the SPC-6 seed drill using a standard of 12 kg/ha usable seed.

RESULTS AND DISCUSSION

From the analysis of the results obtained and presented in table 1, regarding the grain production of some sorghum hybrids cultivated for fodder in the central area of Oltenia, the following conclusions are justified:

Table 1

Grain production in some sorghum hybrids for fodder in the central area of Oltenia (2020) t/ha dry matter

Sorghum hybrids	Absolute production	Relative production%	Difference
ES ALIZE	7,8	100	H/T
ALBANAS	6,7	86	-1,1
ARSKY	5,9	76	-1,9
ARKANCIEL	6,8	87	-1,0
KALATUR	6,7	86	-1,1
ES FOEHN	7,4	95	- 0,4

- the level of grain production fluctuated according to the cultivated hybrid, namely between 5.9 t/ha of grain in the ARSKY hybrid and 7.9 t/ha of grain in the hybrid ES ALIZE;
- a production very close to the maximum was given by the hybrid ES FOEHN, namely 7.4 t/ha of grain, meaning lower by 0.4 t/ha of grain compared to the control considered.
- lower productions were also obtained by the other sorghum hybrids studied: ALBANUS 6.7 t/ha grains dry matter, KALATUR 6.7 t/ha grains dry matter and ARKANCIEL 6.8 t/ha grains dry matter.

Regarding the production of strains and leaves in studied sorghum hybrids (table 2), we mention the following aspects:

Table 2

Production of strains + leaves in some hybrids of sorghum for fodder in the central area of Oltenia (2020) t/ha dry matter

Sorghum hybrids	Absolute production	Relative production%	Difference
ES ALIZE	8,2	100	H/T
ALBANAS	7,4	90	-0,8
ARSKY	6,5	79	-1,7
ARKANCIEL	7,1	87	-1,1
KALATUR	7,2	88	-1,0
ES FOEHN	7,8	95	-0,4

- the crop had values between 6.5 t/ha dry matter for the ARSKY hybrid and 8.2 t/ha for the ES ALIZE hybrid;
- a production very close to the maximum was given by the hybrid ES FOEHN and 7,8 t/ha dry matter;
- similar productions were also obtained for the hybrids ARKANCIEL 7,1 t/ha dry matter, KALATUR 7,2 t/ha dry matter and ALBANUS 7,4 t/ha dry matter

If we refer to the total production (grains + strains + leaves) dry matter of sorghum hybrids cultivated on the luvisol from SCDA Șimnic, Craiova, we find the following (table 3):

Table 3

Total production (grains + strains + leaves) in some sorghum hybrids for fodder in the central area of Oltenia (2020) dry matter t/ha

Sorghum hybrids	Absolute production	Relative production%	Difference
ES ALIZE	16,0	100	H/T
ALBANAS	14,1	88	-1,9
ARSKY	12,4	78	-3,6
ARKANCIEL	13,9	87	-2,1
KALATUR	13,9	87	-2,1
ES FOEHN	15,2	95	-0,8

- the total production had values between 12.4 t/ha and the ARSKY hybrid and 16.0 t/ha and the ES ALIZE hybrid;
- a production level close to the maximum was achieved for the hybrid ES FOEHN namely of 15.2 t/ha;
- the other sorghum hybrids also produced lower yields than the control hybrid taken into consideration: ALBANUS 14.1 t/ha dry matter, ARKANCIEL and KALATUR 13.9 t/ha dry matter each.

CONCLUSIONS

Following the results obtained, we can conclude the following:

- the highest productions of both grains (7.8 t/ha dry matter) and strains + leaves (8.2 t/ha dry matter) were obtained in the case of the sorghum hybrid ES ALIZE, with a total production of 16.0 t/ha dry matter;
- a large production of both grains and strains and leaves, also made the hybrid ES FOEHN (7.4 t/ha dry matter grains + 7.8 t/ha of strains + leaves).
- the other sorghum hybrids studied also gave smaller crops of both grains and strains and leaves, compared to the control hybrid take into account.

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