

COMPARATIVE STUDY OF A CERTAIN SORGHUM HYBRIDS CULTIVATED FOR FEED IN OLTENIA CENTRAL AREA

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Abstract

Setting the feed crops assortment is one of the actual problems. The main concern represents the setting of the species and varieties with maximum production potential in the existent ecopedological conditions (Cotigă, C.2012).

In this regard, are preferred the species of which technology are fully mechanized, among which is also the feed sorghum culture.

If we refer to sorghum culture to provide feed base, among hybrids that we consider for research is remarked ES ALIZE and ES FOEHN, which can provide a production of 7-8 t/ha s.u. beans and straws + leaves of 8-9 t/ha s.u.

Key words: *sorghum, feed, meaning*

INTRODUCTION

Sorghum is the cereal of arid areas of the globe (under 400 mm) of areas characterized with relatively low fertile soils, of areas where the frequency of dry years is high. (Bîltcaru, Gh., Bîrnause, V., 1989).

The annual feed plants by which is also sorghum are rich in caloric energy and produce significant amounts of protein at surface unit, but the protein load on kg of s.u. is low. (Moga, I., 1987).

For our thesis, the sorghum culture is necessary because it solves some problems with which is confronted our agricultural economy, in the way that it highlights larger productions, safer and more economical for alkaline, salinized and sandy lands, of those from dry areas in comparison with corn (Antohe I and collab. 1982; Bărbulescu, C., and collab. 1991).

The fodder used in animal feed is of vegetable, animal and mineral nature, the main source being those of vegetable origin.

In order for the development of animal breeding to be done in appropriate conditions, among other things, it is necessary that the fodder of vegetable origin, apart from the quantitative aspect,

also have a high nutritional value, be well prepared and rationally administered.

If the two important quantitative and qualitative aspects are taken into account in the production of fodder, in these conditions we can also talk about the economic side by reducing the specific consumption of fodder per head of animal or per unit of product, reducing the price, cost.

MATTER AND METHOD

The experiments have been places on luvisols from S.C.D.A. Simnic – Craiova according to method of blocks in 4 repetitions:

The factor within the study has been an assortment of beans sorghum hybrids, productions from Euralis company, totally free of tannin.

Among sorghum hybrids took in research, we mention:

ES ALIZE , ALBANUS , ARSKY , ARKANCIEL , KALATUR , ES FOEHN.

The adopted mineral fertilization system has been of P₇₀ N₁₀₀ , with application of Phosphorous under basic work of the study of the soil and Nitrogen has been administered at the preparation of germinative bed.

The harvesting has been performed manually, the plants from each variant being cut and then separated, being

weighed the beans, respectively the strains and leaves.

RESULTS AND DISCUSSIONS

If is analysed the results obtained and presented in Table 1 referring to beans productions of some sorghum hybrids cultivated on luvisols from S.C.D.A. Simnic – Craiova, on average on those 3 research years, we found the following:

Table 1. Beans productions of some sorghum hybrids cultivated on luvisols from S.C.D.A. Șimnic – Craiova , average 2020 – 2022 t/ha s.u.

Sorghum hybrids	Absolute production s.u. t/ha			Average 2020-2022	Relative prod. %	Diff.	Sign.
	2020	2021	2022				
ES ALIZE	7,8	7,9	7,6	7,8	100	Mt	-
ALBANUS	6,7	6,8	6,9	6,8	87	-1,0	0
ARSKY	5,9	6,2	6,1	6,1	78	-1,7	00
ARKANCIEL	6,8	6,7	6,0	6,5	83	-1,3	0
KALATUR	6,7	6,4	6,8	6,6	87	-1,2	0
ES FOEHN	7,4	7,2	7,3	7,3	94	-0,5	-

DI 5% 0,7 t/ha s.u.
 DI 1% 1,4 t/ha s.u.
 DL 0,1% 2,0 t/ha s.u.

- the average beans production has oscillated between 6,1 t/ha beans at ARSKY hybrid and respectively 7,8 t/ha beans in the case of ES ALIZE hybrid;
 - increased beans productions offered also ES FOEHN sorghum hybrids de 7,3 t/ha

beans s.u. respectively ALBANUS 6,8 t/ha beans s.u.
 - the other sorghum hybrids, ARKANCIEL and KALATUR supplied productions of 6,5 respectively 6,6 t/ha s.u. (Fig. 1)

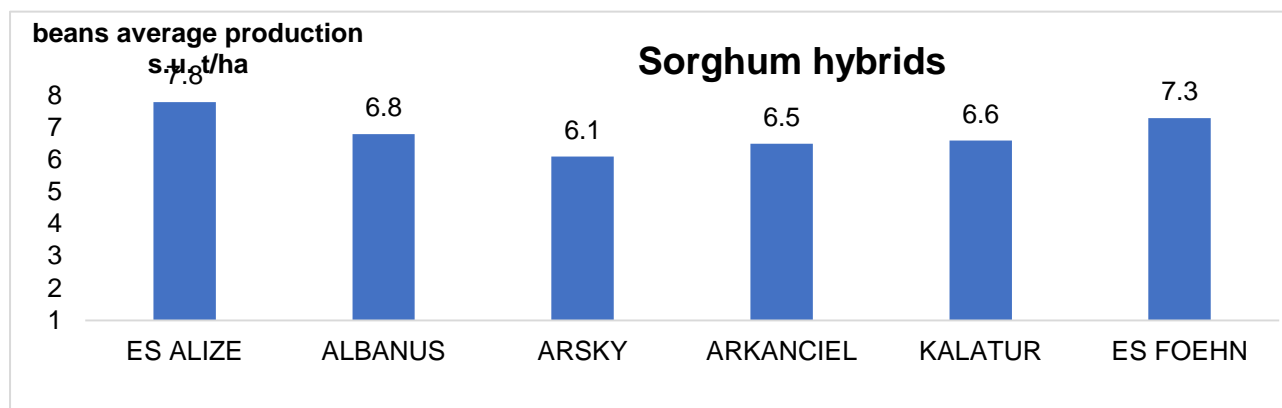


Fig. 1. Beans average production of sorghum hybrids cultivated in the Oltenia central area (average 2020 - 2022)

Production of strains + leaves at sorghum hybrids taken in the research on luvisols from S.C.D.A. Simnic – Craiova (table 2)

has values between 6,7 t/ha s.u. at ARSKY hybrid respectively 8,4 t/ha s.u. at ES ALIZE hybrid

Table 2. Production of strains + leaves at sorghum hybrids taken in the research on luvisols from S.C.D.A. Simnic – Craiova, average 2020 – 2022 (t/ha s.u.)

Sorghum hybrids	Absolute production s.u. t/ha			Average 2020-2022	Relative prod. %	Diff.	Sign.
	2020	2021	2022				
ES ALIZE	8,2	8,8	8,2	8,4	100	Mt	-
ALBANUS	7,4	7,6	7,5	7,5	89	-0,9	0
ARSKY	6,5	6,9	6,6	6,7	80	-1,7	00
ARKANCIEL	7,1	7,8	6,9	7,3	87	-1,1	0
KALATUR	7,2	7,7	7,3	7,4	88	-1,0	0
ES FOEHN	7,8	7,9	7,6	7,8	93	-0,6	-

DI 5%
DI 1%
DL 0,1%

0,9 t/ha s.u.
1,7 t/ha s.u.
2,5 t/ha s.u.

A production level, so close to maximum, performed by sorghum hybrid ES FOEHN, namely 7,8 t/ha s.u.

ALBANUS (7,5 t/ha s.u.), ARKANCIEL (7,3 t/ha s.u.) and KALATUR (7,4 t/ha s.u.) sorghum hybrids have been very close as production level (Fig. 2)

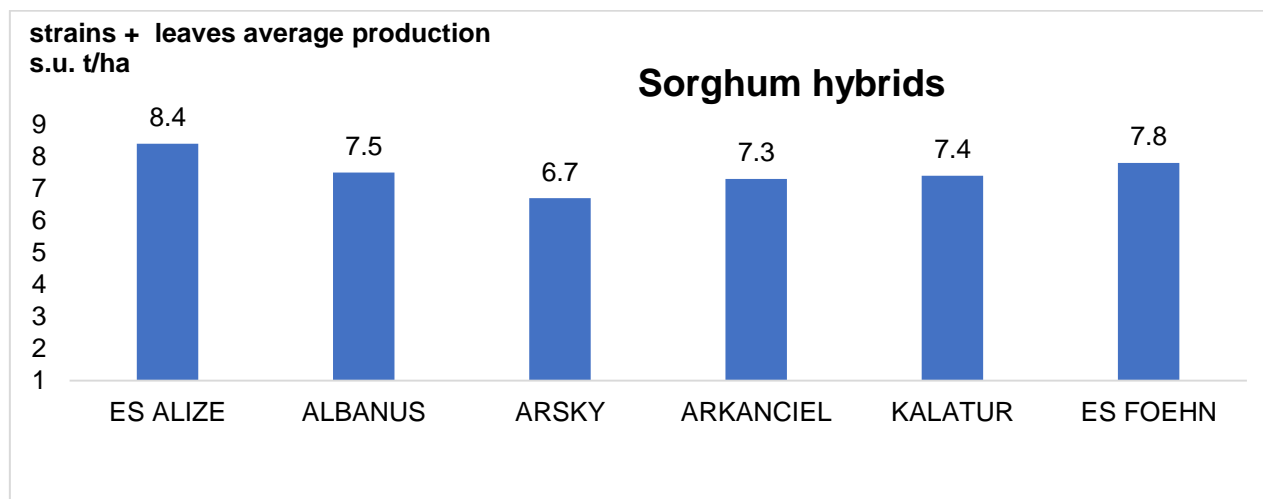


Fig. 2. Strains + leaves average production of sorghum hybrids cultivated in the Oltenia central area (average 2020 – 2022)

Regarding the total production (beans + strains +leaves) of sorghum hybrids taken into research on luvisols from S.C.D.A.

Simnic – Craiova, on average on those three years of research (table 3) are stated the following:

Table 3. Total production (beans + strains +leaves) of sorghum hybrids cultivated on luvisols from S.C.D.A. Șimnic – Craiova , average 2020 – 2022 (t/ha s.u.)

Sorghum hybrids	Absolute production s.u. t/ha			Average 2020-2022	Relative prod. %	Diff.	Sign.
	2020	2021	2022				
ES ALIZE	16,0	16,7	15,8	16,2	100	Mt	-
ALBANUS	14,1	14,4	14,4	14,3	88	-1,9	0
ARSKY	12,4	13,1	12,7	12,7	79	-3,5	000
ARKANCIEL	13,9	14,5	12,9	13,8	85	-2,4	00
KALATUR	13,9	14,1	14,1	14,0	87	-2,2	0
ES FOEHN	15,2	15,1	14,9	15,1	93	-1,1	-

DI5% 1,2 t/ha s.u.
 DI1% 2,3 t/ha s.u.
 DL0,1% 3,5 t/ha s.u.

- total production had values contained between 12,7 t/ha s.u. at ARSKY sorghum hybrid and respectively 16,2 t/ha s.u. in the case of ES ALIZE hybrid;
 -a level of total production, close to maximum has been offered by ES FOEHN hybrid, namely 15,1 t/ha s.u.;

- ALBANUS (14,3 t/ha s.u.), ARKANCIEL (13,8 t/ha s.u.) and KALATUR (14,0 t/ha s.u.) sorghum hybrids performed close productions (Fig.3).

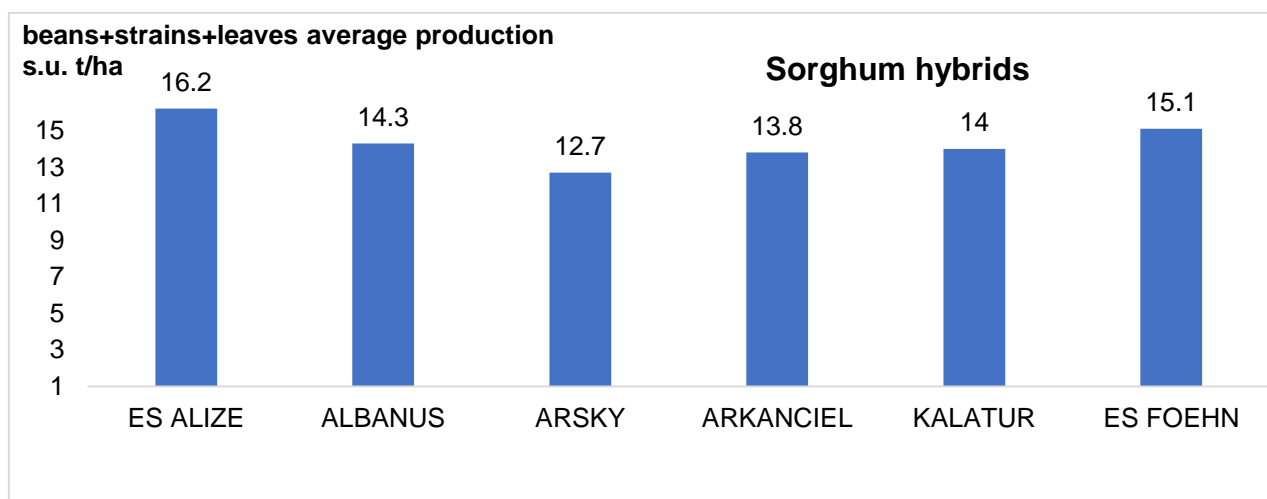


Fig. 3. Total production (beans + strains +leaves) of sorghum hybrids cultivated in Olteniei central area (average 2020 – 2022)

CONCLUSIONS

1. In the areas where corn hasn't the best vegetation conditions and where the raise of animals is hindered by lack of water, is imposed the sorghum culture, being a plant with a high resistance to draught.

2. Extension in culture of sorghum hybrids, free of tannin, collecting with harvester and mechanized execution of soil works will allow increase of beans and sorghum productions.

3. ES ALIZE and ES FOEHN sorghum hybrids can provide a total production

(beans + straws +leaves) of 15-16 t/ha s.u. in accentuated draught conditions.



Fig. 4. Sorghum



Fig. 5. Sorghum

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