

THE PRODUCTION OF BEANS' FEATURE WHICH IS INFLUENCED BY THE ENVIRONMENT

Xhezair Idrizi¹, Merije Elezi¹, Namik Durmishi¹, Fejzullah Fejzullai¹, Ismail Ferati¹

State University of Tetova- Macedonia

Abstract

The production is a complex feature of the result of many functions of plant growth, and its quantitative feature, which is heavily influenced by the environment. Environmental effects may be different. Thus, the output can change for the same population from one environment to another. The supremacy of one population compared to other populations, the potential is estimated in the framework of manufacturing and of other indicators of desirable agronomics. Production capacity, as all other quantitative features can be measured and presented with a continuous variability around an average value, where the variability between all values is continued. For this reason, the production capacity can be called a continuing feature. Recently many researches have been made regarding the legacy of elements of the production; the results obtained should not be considered as final, partly due to phenotypic plasticity of these traits. It should be emphasized that the production is base target for each genetic improvement program of beans, because they pose the interests of its cultivation. For the studied populations turns out a considerable genetic variation for producing. And the production values for plant from one population to another vary, ranking from 113 to 540 gr / plant. Even this feature variance is the largest 20034.23 significant indicator of genetic diversity that exists among the populations studied. Based on these values, we can say that it will serve as source of populations where genetically are used various programs for improving the genetics of the production

Key words: production, beans, environment, improvement, variation.

1. Materials and methods

As a vegetative material of this research are used 22 autochthon populations of bean with an early, secondary and dilatory cycle, collected in the Pollog area, generally in the villages and suburbs of Tetova, Skopje and Gostivar (fig.1). As we can see in the figure below, most of the population (63.6%) is collected in the areas of Tetova.

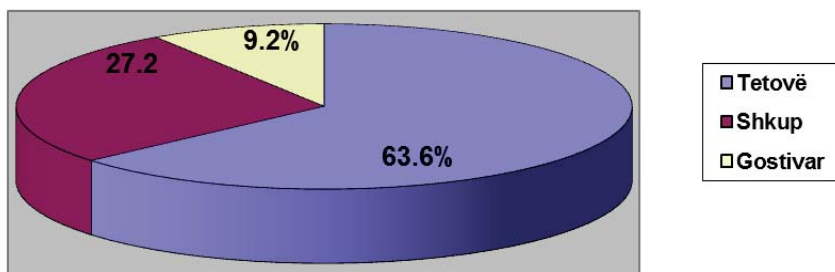


Figure 1. The populations collected in Pollog area

The research for the realization of this study is concentrated in the evaluation of the autochthon population of beans in field circumstances. The zone where the study is performed is approximately 450-500m above sea level. The air average temperature in the Pollog's zone is 11.3°C. The highest temperatures are in August (average temp. of air is 22.2°C), and the lowest temp. is in January (with average temp. of air 0.3°C). The average quantity of rainfall in Pollog area is 700-1000 mm per annum, but the most of the rainfalls are in autumn and winter seasons and less in summer time. The soil is of deep subsoil, full of nutrients, as well as necessary microelements for normal breeding and developing of the bean.

2. Results and discussion

It should be emphasized that production is the base target for each genetic program on the improvement of beans, because this feature presents the interests of its cultivation.

For the studied populations it results a considerable genetic variation for the production.

Thus, the production values for each plant from one population to another are different, ranking from 113 to 540 gr / plant.

Even the variance of this feature is great 20034.23 as a significant indicator of genetic diversity that exists between populations studied.

Based on these values, it can be said that populations serve as a huge genetic source, to be used in various programs for genetic improvement of production.

Table 1. Features of the bean plant production

Populations	The number of bean pods per plant	The number of grains per bean pod	The number of grains per plant	The weight of 1000 grains	The production per plant/gr
1	107	5.6	559.2	563	337.3
2	79	5.6	442.4	520	230
3	84	6.3	529.2	728	385.6
4	101	6	606	570	345.4
5	114	5.9	672.6	182	122.4
9	110	7.6	836	496	414.6
10	101	6.3	636.3	883	561.8
11	82	5	410	439	179.9
12	55	4.3	238	544	129
13	40	5.6	236.5	699	165.3
16	77	4.6	354.2	719	254.6
18	66	6.6	435.6	450	196
20	36	6	216	608	131.3
21	98	6.6	646.8	559	361.5

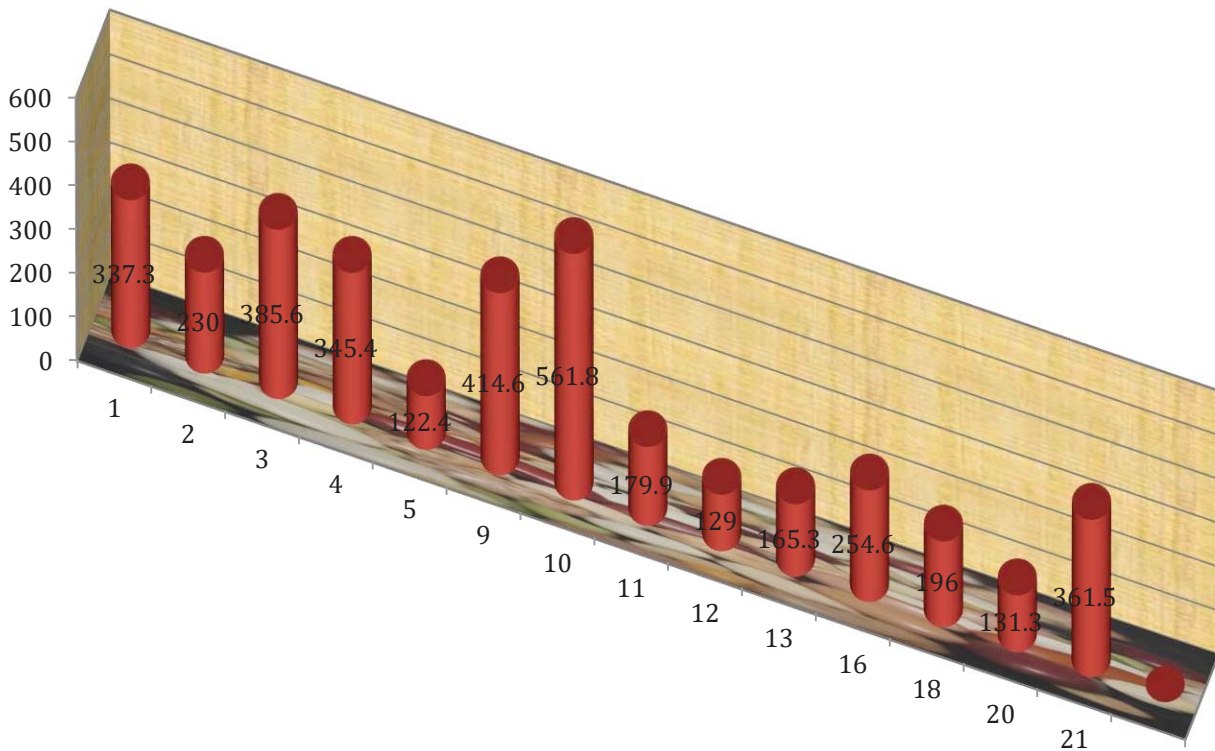


Figure 2. The production per plant/gr

3. Conclusion

The involved populations in the study, result into a considerable genetic variation for the production. Production values per plant, from one population to another, are different, ranking from 113 to 540 gr / plant. The variance of this feature is also great 20034.23, as significant indicator of genetic diversity that exists between the studied populations. Based on these values, it can be said that populations serve as huge genetic source for usage in various programs of genetic improvement of production. A greater genetic variation exists mainly for quantitative features, and mainly for the production and its components.

References

- [1]. Gomez O. Evulation of Nicaraguan Comm on bean(*Phaseolus vulgaris L.*) landraces. Doctoral thesis. Swedish University of Agricultural Sciences 2004.
- [2]. IBPGR, (International Board for plant Genetic Resources) *Phaseolus vulgaris*, IBPGR, Secretariat Rome, Italy 1982
- [3]. Idrizi Xh. Studimi i variacionit gjenetik të popullatave të fasules të koleksionuara dhe vlerësuar nëpërmjet markerëve morfologjik”
- [4]. Hoxha S. Idrizi Xh, Hoxha A. (2010): Resurset gjenetike të bimëve, Tetovë
- [5]. Salillari A. Hyso M. Fasllia N. Rusinovci I. (2007): Resurset gjenetike