

INFLUENCE THE BEHAVIOR OF THE TYPE OF GROWING ON SANDY SOILS PEANUT GENOTYPES

MILICA DIMA, MIHAELA CROITORU
SCCCPN Dăbuleni

Key ords: peanut, sandy soils, production

ABSTRACT

International Board for Plant Genetic Resources peanut varieties classified as habitus plant in three main groups: erect, decumbent and procumbent. Characteristic of this group is the correlation between the type of growth and length of growing season, increasing from erect to decumbent and procumbent.

The research conducted at CCDCPN Dăbuleni showed that type peanut genotypes decumbent growth and procumbent manifested in terms of our country a higher yield potential than those with erect type of growth.

INTRODUCTION

Culture know peanuts spread the world, found on all continents due to economic and agronomic importance. Depending on the environmental conditions and the different production agro achieved, for example, in Africa were 770 kg / ha, in Asia 1100 kg / ha, in SUA 2760 kg / ha. (Mangla B., 1992).

Mozingo et al. (1987) showed both the variety and the role of technology inachieving production of groundnut cultivation.

For turning soil and climate conditions in the sandy soils of southern Oltenia with peanuts culture is necessary to use early varieties with high production capacity and growing application of appropriate technologies.

International Board for Plant Genetic Resources peanut varieties classified as habitus plant in three main groups: erect, decumbent and procumbent. Characteristic of this group is the correlation between the type of growth and length of growing season, increasing from erect to decumbent and procumbent.

MATERIAL AND METHOD

Experience has been placed in the field after randomized blocks method. Technology has been applied cultivation technology peanuts on sandy soils. Genotypes were investigated in three groups the morphological and productive. The experimental results were processed by analysis of variance.

RESULTS OBTAINED

International Board for Plant Genetic Resources peanut varieties classified as habitus plant in three main groups: erect, decumbent and procumbent.

The first varieties were tested under the conditions of our country were erect varieties port, starting from the consideration that they having achieved lower growing season to reach maturity yields better because of a large number of pods. The results were not satisfactory and were taken in testing and varieties of groups decumbent and procumbent. Three genotypes were studied in each group.

Table 1

Characteristics of the studied genotypes

Group (type of growth)	Genotypes	Characteristics
Witness	Dăbuleni	Stems erect port
Erect	Viorica	Straight stems, pods grouped around the package, early
	Tâmburești	
	Sadovo	
Decumbent	Proveniență China 1	Strains semicreeping, the productive, semilate
	Proveniență China 2	
	H 183	
Procumbent	Proveniență turcească	Creeping stems, the productive, late
	D22	
	D45	

To assess the behavior of genotypes of the three types of growth in terms of production potential, productivity elements and of economic efficiency, the results are presented as average of each group

By analyzing the main elements of productivity, it is found that the number of mature pods per plant decreases the types and procumbent to decumbent erect type, production growth recorded in genotypes of these groups based on the size of the pods.

Table 2

Influence the type of growth of the number of mature pods per plant, MMP's, the number of grains pod genotypes studied

Group (type of growth)	The number of mature pods per plant	MMP(g) (mass of 1000 pods)	Number of grains per pod
Witness	23,1	1456	2,1
Erect	29,2**	1685	2,5
Decumbent	26,8	1842	2,3
Procumbent	24,8	1756	1,8

DL 5%= 4,4

DL 1%= 6,8

DL 0,1%= 10,9

Weight of 1000 pods the values between 1456 g and 1842 to erect type decumbent type, increasing from the witness. Elevated MMP's and decumbent to procumbent genotypes in groups based on the size of the pods.

Analyzing the number of grains per pod is observed that the genotypes studied form bean pods and carrots 1-3. The genotypes with procumbent growth type, number of grains per pod was lower compared to the control but larger grains. The highest number of grains per pod were presented genotypes with erect port but smaller grains.

Weight of 1000 grain is decisive role in determining the quantity of grain production has fluctuated higher limits, ie the genotypes of 485 g and 758 g per port erect genotypes procumbent group. Compared to the control (540 g) higher values of MMB's and genotypes were decumbent group, which is due to increase in grain size.

Regarding grain yield of pods weight is observed that the genotypes of group erect and procumbent peeling yield was lower compared to the control group to erect due to the smaller grains in the procumbent group due to the formation of more than beans and carrots.

Table 3

Influence the type of MMB's growth, yield peeled genotypes studied

Grupa	MMB(g)	Yield peeled (%)
Witness	540	72
Erect	485	65
Decumbent	632	67
Procumbent	758	63

The pods productions compared with the variety Dăbuleni slurry used as witnessed three genotypes in each group, points out that in terms of our country and procumbent decumbent genotypes of groups show a higher yield potential than those with erect type of growth

Table 4

Influence on output growth type peanut genotypes studied

Group (type of growth)	Genotypes	The production of pods (average/group) (kg/ha)	Difference (kg/ha)	Semnification
Witness	Dăbuleni	1841	Mt.	Mt.
Erect	Viorica	2264	+389	**
	Tâmburești			
	Sadovo			
Decumbent	Proveniență China 1	2974	+1099	***
	Proveniență China 2			
	H 183			
Procumbent	Proveniență turcească	3132	+1257	***
	D22			
	D45			

DL 5%=

250

DL 1%=

370

DL 0,1%=

600

Economic efficiency calculation shows that genotypes with decumbent and procumbent growth type are superior to erect type of growth from this point of view. Profit increase from genotypes with erect port to port those decumbent growth and procumbent.

Table 5

Calculation of economic efficiency genotypes studied

Group	The production (kg/ha)	Production value (LEI/ha)	Total expenditure (LEI/ha)	Profit (LEI/ha)
Erect	2264	33960	15000	18960
Decumbent	2974	44610	15000	29610
Procumbent	3132	46980	15000	31980

CONCLUSIONS

Type peanut genotypes with decumbent growth and procumbent show a higher yield potential than those with erect type of growth.

MMP productivity of the items (weight of 1000 pods) and MMB (1000 grain weight) that determines obtain higher production genotypes with type decumbent growth and procumbent.

Research has revealed that decumbent growth type varieties and procumbent achieved very significant production increases from Dăbuleni control variety

BIBLIOGRAPHY

1. **Bâlțeanu, Gh., Bârnaure, V.**, 1989- *Arahidele*, în Fitotehnie. Ed. Ceres, București.
2. **Cocs, F.R.**, 1979- *Effect of temperature treatment on peanut vegetative and fruit growth*. Peanut Science nr.6.
3. **International Board for Plant Genetic Resources**, 1992- *Descriptors for Groundnut*, IBPGR/ICRISAT, Roma.
4. **Mitrea, I.**, 1993- *Utilizarea resurselor ecologice și stabilirea principalelor verigi tehnologice pentru creșterea producției de arahide pe nisipurile din sudul Olteniei*, Teză de doctorat, ASAS București.
5. **Pop, L. și colab.**, 1986- *Cultura alunelor de pământ*, Ed. Ceres, București.
6. **Săulescu, N.A., Săulescu, N.N.**, 1967- *Câmpul de experiență*. Ed. Agrosilvică, București.