THE INFLUENCE OF ORGANIC AND MINERAL FERTILIZATION UPON THE MAIZE FOLIAR AREA

INFLUENȚA ÎNGRĂȘĂMINTELOR ORGANICE ŞI MINERALE ASUPRA SUPRAFEȚEI FOLIARE LA PORUMB

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Abstract:*. In this paper we studied the effect of the fertilisers on the grown of foliar area at maize.The chemical fertilisers used was complex fertiliser NPK 15-15-15,superphosphat,ammonium nitrate and organic fertilisers were rother,cytish sludge and pig sludge.*

Rezumat: *În această lucrare am studiat efectul îngrăşămintelor asupra creştrii suprafeţei foliare a porumbului. Îngrăşămintele chimice folosite au fost îngrăşământul complex NPK 15-15-15,superfosfatul si azotatul de amoniu, iar ca şi ingrăşăminte organice am folosit gunoiul de grajd, nămolul orăşănesc şi nămolul porcin*

Key words**:** *maize, mineral fertilizers, organic fertilizers, foliar area*
Cuvinte cheie: *porumb, îngrăşăminte minerale, îngrăşăminte organice, suprafață foliară*

INTRODUCTION

Provisioning with mineral elements, especially with nitrogen, leads to an increase of the foliar area, increasing the effective leaf area and on the other side to maintaining these a long period , in activ stage. The maximum action of nitrogen is in stages of maximum grown of leaf.

At maize the increase of the foliar area can be influenced by the human when they apply fertilizer and through plants density. With the increase of the density from 17,000 pl/ha up to 115.000 pl/ha , individual leaf area is reduced because of density with 42 % and the increase of the total leaf area with .300 %. (If = 1,09 $\rightarrow$ 4,20).

MATERIAL AND METHOD

The research was made upon the H.L. 400 , seeded to a density of 50.000 pl/ha ,on a cambic chernozem from Experimental Station USAMVB Timisoara.

Foliar area was made with the leaf parameter method , after calculating the correlation coefficient with scale paper.

RESULTS AND DISCUSSIONS

In agricultural years 2004-2007, the highest values of the leaf area at maize were obtained when applied maximum doses of nitrogen 200 Kg/ha on all backgrounds fertilized with phosphor and potassium. The highest value 5484,7 cm^2, was obtained in variant $N_{200}P_{100}K_{100}$, when was obtained an increase with 21,99 % confronted by mark.

We may observ in tab.2 , when appling pig sludge the leaf area increase with 8,71-15,97 % , the cytis sludge with 3,69-8,24 % . The most signifiant increase was obtained when applie rother, with 16,57-22,71%

Table 1

The influence of chemical fertilizers on the increase of the foliar area from maize leaf,
LOVRIN 400 hybrid , average of the years 2004-2007

VARIANT		Average	%	Difference	Meaning
Mark		4496,1	100	0	0
N50	PK50	4784,5	106,41	288,4	-
N100		4860,1	108,10	364,0	*
N150		5027,3	111,81	531,2	**
N200		4948,2	110,06	452,1	**
N50	PK100	4762,0	105,91	265,9	-
N100		5182,6	115,27	686,5	***
N150		5365,3	119,33	869,2	***
N200		5484,7	121,99	988,6	***
N50	PK150	4750,8	105,66	254,7	-
N100		5035,1	111,99	539,0	**
N150		4984,8	110,87	488,7	**
N200		5295,9	117,79	799,8	***
				DL 5%=302,791	
				DL 1%=411,560	
				DL 0,1%=551,197	

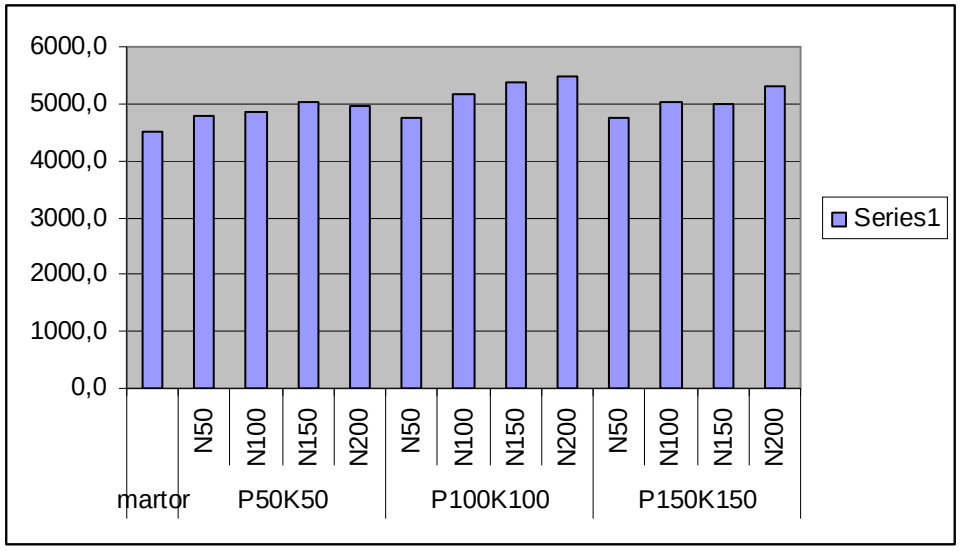

Figure 1
The influence of chemical fertilizers on the increase of the foliar area from maize leaf,
LOVRIN 400 hybrid , average of the years 2004-2007

Table 2

The influence of organic fertilizers on the increase of the foliar area from maize leaf
LOVRIN 400 hybrid , average of the years 2004-2007

VARIANT	AVERAGE	%	Difference	Meaning
Mark	4706,7	100	0	0
NP40	5116,5	108,71	409,8	*
NP60	5458,3	115,97	751,6	***
NP80	5258,1	111,72	551,4	**
GT40	5775,4	122,71	1068,7	***
GT60	5768,6	122,56	1061,9	***
GT80	5486,7	116,57	780,0	***
NO40	5094,4	108,24	387,7	**
NO60	4970,8	105,61	264,1	-
NO80	4880,6	103,69	173,9	-
			DL 5%=373,42	
			DL 1%=512,12	
			DL 0,1%=697,05	

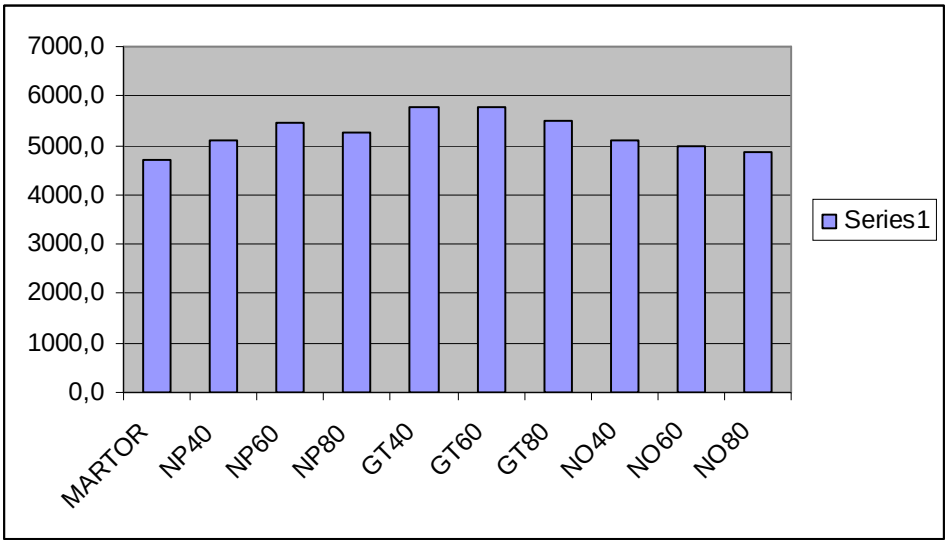

Figure 2
The influence of organic fertilizers on the increase of the foliar area from maize leaf
LOVRIN 400 hybrid , average of the years 2004-2007

CONCLUSSIONS

In all experimental variants when appling mineral fertilisers the foliar area increase with the increasing of the nitrogen doses , that being the principal element of the leaf growth.

Regarding the organic fertilisers, in agricoles years 2004-2007, when applie rother the leaf area have the maximum value.

LITERATURE

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