

S. europaea.

: P. lanceolata → A. santonica → H. pedunculata →

europaea.

: P. lanceolata → A. santonica → H. pedunculata → S.

.Ye. Pyurko

THE BIOLOGICAL AND SEMINAL PRODUCTIVITY OF HALOPHYTES  
IN UKRAINIAN PRIAZOV'YA

*Bogdan Chmelnytsky Melitopol state pedagogical university*

The forming mechanism of the biological and seed productivity of halophytes of different ecological groups in Ukrainian Priazov'ya was considered. Salinity in all the periods of vegetation was considerably influenced on the growth processes as well as biological and seed productivity of the plants. The negative action of salt stress was extremely high in the middle of the vegetation, when other external factors have maximum effect, the plants were characterized by biggest sizes of surface and the important processes of pollination, impregnation, and forming of seed are determined. The mesophytes were seemed to be the most sensible to the salinity, but the halophytes were also depended upon this factor. The pattern of plants distribution along the salt gradient was performed: P. lanceolata → A. santonica → H. pedunculata → S. europaea.

*Keywords: salinity, halophytes, biological and seed productivity.*

(Tarczynski, Jensen, Bohnert, 1993; , 2001).

( , 1999; Thornley, Johnson, 1990).

(Neumann, 1997).

(Melan, Dong, Endara, Davis, Ausubel, Peterman, 1993; Wu, Ding, Zhu, 1996).

1) *Scrophulariales*, *Plantaginaceae*, *Plantago L.*, *P. lanceolata L.*

(1999)

2) *Asterales*, *Asteraceae*, *Artemisia L.*, *A. santonica L.*

5-8

3) *Caryophyllales*, *Chenopodiaceae*, *Halimione Aell.*, *H. pedunculata (L.) Aell.*

4) *Caryophyllales*, *Chenopodiaceae*, *Salicornia L.*, *S. europ ea L.*

2

(1963; 1999).

2009-2011

$10^{-2}$  (1  $10^{-1}$ )  $3 - 65\%$ .

10 (1986) (2000).

(NaCl) (2000)

( ) - ( ) ;

1 - (1978);

2 - (2,5% NaCl) ( ) ;

3 - ( ) ;

4 - ( ) .

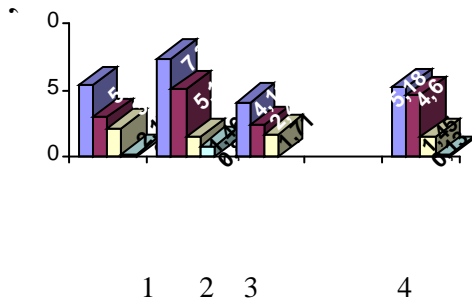
(1985; 1996).

: ( ) -  
 : , ;  
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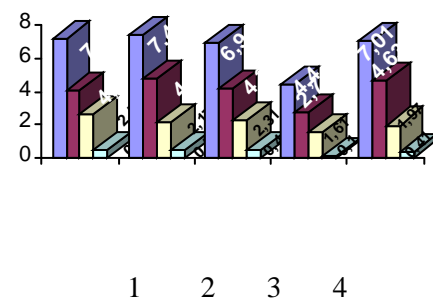
$$= \frac{\Sigma(\cdot \cdot \cdot) \cdot 1 \cdot 2 \dots}{100.000} / ,$$
 - , / ;  
 2 - , ;  
 - , 1 2;  
 , 2; - ; 100.000 -  
 2;  
 ( ) - :  
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 3 - ( ) - / , ;  
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. 1.

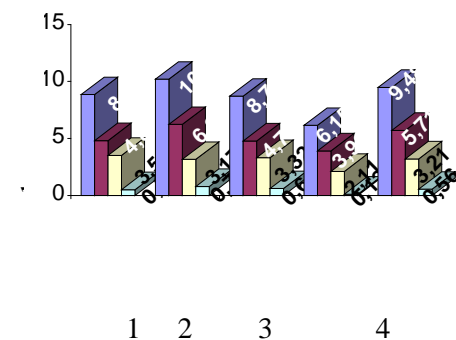
**Plantago lanceolata**



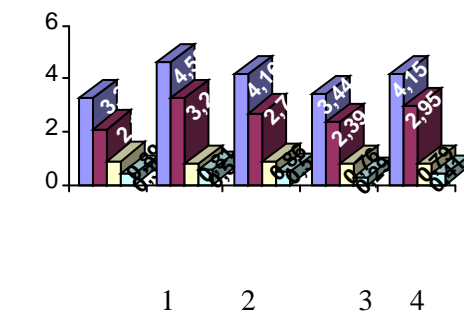
**Halimione pedunculata**



**Artemisia santonica**



**Salicornia europaea**



. 1.  
 - ; 1 - ;  
 ( ) - ; 4 -  
 ; 2 - ;  
 ( ) - ; 3 - ;  
 4 ( ) - .

25,1% S. europaea P. lanceolata.

2,

(53,1%) P. lanceolata 44,4%

17,1%

16,7% – S. europaea, : 7,4% – ;  
pedunculata A. santonica, ; 9,4% – 6,2% H.

22,8%; – 12,5 23,4%; – 6,5 14,6%; – 6,5 15,4 5,4%

( )

( 3),

P. lanceolata

H. pedunculata – 80,8%; – 43,8%; – 25,8%;  
– 40,1%. A. santonica S. europaea 84,2 46,3%; 37,2 26,2%;  
33,4 14,6%, , 40,7 25,1%.

( )

( 4)

( 2 )

. 1.

1.

			,	,	
P. lanceolata		0,20±0,01	308±10	114±8	0,27
	1	0,82±0,06	410±12	312±11	0,76
	2				
	3				
	4	0,137±0,01	409±10	131±9	0,32

H. pedunculata		0,042±0,04	294±15	200±9	0,68
	1	0,052±0,02	365±34	277±13	0,73
	2	0,044±0,01	295±17	218±17	0,74
	3	0,013±0,01	159±11	59±5	0,27
	4	0,041±0,02	360±21	299±11	0,63
A. santonica		0,052±0,01	285±24	248±17	0,64
	1	0,079±0,06	487±27	390±23	0,80
	2	0,061±0,05	406±32	297±18	0,73
	3	0,012±0,01	176±9	56±4	0,32
	4	0,056±0,02	373±27	280±27	0,75
S. europaea		0,038±0,02	173±11	89±5	0,52
	1	0,054±0,02	188±14	135±10	0,72
	2	0,050±0,03	179±9	124±9	0,69
	3	0,016±0,01	151±6	52±0,9	0,38
	4	0,041±0,04	179±7	125±10	0,70

( 0,2-0,35 )

( 150-400 ),

4-20 .

P. lanceolata,

2,4 ( 4 ) 2,7 ( )

6,3 4,1 .

( ) .

( 1 ) 24%

0,27 ( ) 0,32 ( 4 ).  
70-75%

: S. europaea → H. pedunculata → A. santonica.

( 3 ),

75 79%;

– 84,8 87,4%;

– 70,4

71,5%.

: H. pedunculata 15,4 21,3%; A. santonica – 22,8 23,8%; S. europaea – 7,4 8,1%

21,3 17,3%; - 19,1 28,2%; - 24,1 7,4%

2 4

1.

2.

3.

: *P. lanceolata* → *A. santonica* → *H. pedunculata* → *S. europaea*.

... / ...  
... 1963. - 300 ...  
... / ... 1985.-351 ...  
... / ... -1999. - 31, 2. - 83-92.  
/ ... / ... - 1978. - 228. - 5 - 10.  
... *Plantago lanceolata* (Plantaginaceae) / ... - 1999. - 12. - 80 - 86.  
... / ... -  
... 2000. - 272 ...  
/ ... - 2005. - 807 ...  
1999. - 46, 3. - 432 - 437.  
/ ... / ...  
... 1999. - 548 ...  
/ ... / ...  
... 2001. - 1. - 204 - 208.  
... *Artemisia* L. sect. *Camperstres* Korobkov, / ... - 1999. - 56, 3. - 282 - 286.  
/ ... - - - :  
... 1996. - 350 ...  
/ ... / ...  
... - 1996. - 43, 6. - 821 - 825.  
/ ... / ...  
... : 03.00.12. - , 2001. - 42 ...  
/ ... / ...  
... - 1986. - 18, 4. - 315 - 325.

**Melan M.A.,** Dong X., Endara M.E., Davis K.R., Ausubel F.M., Peterman T.K. An *Arabidopsis thaliana* lipoxygenase gene can be induced by pathogens, abscisic acid and methyl jasmonate / M.A. Melan, X. Dong, M.E. Endara, K.R. Davis, F.M. Ausubel, T.K. Peterman / *Plant. Physiol.* - 1993. - Vol. 101. - P. 441 - 450.

**Neumann P.** Salinity resistance and plant growth revisited / P. Neumann / *Plant. Cell. Environ.* - 1997. - Vol. 20. - P. 1193 - 1198.

**Tarczynski M.C.,** Jensen R.G., Bohnert H.J. Stress protection of transgenic tobacco by production of the osmolyte mannitol / M.C. Tarczynski, R.G. Jensen, H.J. Bohnert / *Science.* - 1993. - Vol. 259. - P. 508 - 510.

**Thornley J.H.M.,** Johnson I.R. Whole-plant respiration and growth energetics / J.H.M. Thornley, I.R. Johnson / *Plant and Crop Modeling*, N.Y.: Oxford Univ. Press. - 1990. - P. 264 - 271.

**Wu S.-J.,** Ding L., Zhu J.-K. SOS 1, a genetic locus essential for salt tolerance and potassium acquisition / S.-J. Wu, L. Ding, J.-K. Zhu / *Plant. Cell.* - 1996. - Vol. 8. - P. 616 - 627.