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GROWTH AND DEVELOPMENT OF VEGETATIVE SPHERE OF BERRY PLANTS ON CUTOVER PEATLANDS OF BELARUS

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An important problem in the ecology of Belarus is the recultivation of the soils that were contaminated by industry. Cutover peatlands, that were completely or partially produced, apply to deposits, which were anthropologically disturbed during the process of the extraction of mineral oil. Areas of the produced cutover peatlands and plots are 209.5 thousand hectares in Belarus. And 101.0 thousand hectares is in a stage of development (Lishtvan, Loginov, 2000). These turbaries are poor by nutrients. They differ by this, that they sharply express sour reaction. The natural efficiency of them is the lowest now. Therefore more than 19% of such areas are in a waste condition (Bambalov and etc., 1997), which promotes to the further change for the worse of an ecological situation and to the infringement biosphere processes.

The problem of expansion of assortment of the new plants, which are used at the introduction, their complex studying remains still actually.

The heterogeneous planting material of wild-growing and introduction plants of family *Vacciniaceae* was used for a making of field experiences. The wild-growing species were stocked on the plots of the natural thickets that are characterized by constant and plentiful fruiting.

Growth function represents integral process of vital ability of a vegetative organism that closely connects with other physiological functions, with its numerous reactions to influence of factors of an environment and with hereditary properties. Therefore the studying of development of vegetative sphere of berry plants in new conditions of growth represents special scientific and practical interest.

Phenological phases were registered at the selected species, the rhythm of seasonal development was studied, all-round physiological researches were carried out.

At the end of a vegetative season we studied features of growth and biometric parameters at the cultivation on the cutover peatland for 15 plants of each species, which characterize general set of sample. Results of these researches are given in Tables 1 and 2.

It was established, that a large cranberry, a highbush blueberry and a lowbush blueberry exceeded in 1.5-2.5 times similar parameters at a small cranberry and a bog blueberry on the majority of parameters of development of vegetative sphere. At the same time the given values of biometric parameters of researched plants considerably concede to those for kinds that are grown on plantations in conditions of the central and southern parts of Belarus (Rupasova *et al.*, 2005). In our opinion, it testifies to dependence of growth and development of berry plants from edaphic and climatic factors.

The considerable excess (30-60 %) of the quantity of vegetative and generative shoots in relation to the cultural kinsmen is observed at a bog blueberry. But habitus of a bush of a lowbush blueberry and a highbush blueberry is higher, than of a wild-growing kind. This property of researched plants may be used for fastening against erosive processes of a soil substratum of the cutover peatlands by their more powerful root system and over ground phytomass.

Table 1. Biometric parameters of the plants of genus *Vaccinium* at the end of the third seasons of development in a field experiment on cutover peatland

Species	Height bush, cm		Capacity bush, dm ³		Phytomass, g/plant			
					shoots and leaves		roots	
	$\bar{x} \pm S_{\bar{x}}$	V, %	$\bar{x} \pm S_{\bar{x}}$	V, %	$\bar{x} \pm S_{\bar{x}}$	V, %	$\bar{x} \pm S_{\bar{x}}$	V, %
<i>V. uliginosum</i> L.	34,8±3,1	6,5	33,9±5,8	22,6	147,3±13,8	15,1	41,2±3,9	15,5
<i>V. corymbosum</i> (cv. 'Bluecrop')	46,3±9,9	12,3	37,1±9,5	32,9	167,5±22,4	28,3	93,4±15,2	33,7
<i>V. angustifolium</i> (Ait.)	27,1±3,3	4,3	35,8±7,6	18,8	98,1±10,1	30,1	58,7±6,5	9,4

Table 2. The comparative description of growth parameters of berry plants *Vaccinaceae* by cultivate on the cutover peatland

Species	Years of supervision	Quantity, pieces/pl.	Length, cm	Thickness, mm	Quantity of leaves
<i>Oxycoccus palustris</i> L.	2005	3,3±0,5	12,9±1,7	0,9±0,1	13
	2006	4,6±1,5	15,0±2,5	1,1±0,2	17
<i>Oxycoccus macrocarpus</i> (Ait.) Pers. (cv. 'Franklin')	2005	<u>5,1±0,7*</u> 10,0±1,5**	<u>16,2±2,6</u> 4,9±0,9	<u>1,9±0,1</u> 0,8±0,1	<u>17</u> 21
	2006	<u>11,3±2,2</u> 23,5±4,5	<u>37,2±5,3</u> 6,5±1,8	<u>2,5±0,2</u> 1,2±0,1	<u>17</u> 28
<i>Vaccinium uliginosum</i> L.	2005	<u>8,5±0,7</u> 23,9±2,1	<u>9,4±0,6</u> 2,5±0,1	<u>2,7±0,3</u> 1,1±0,2	<u>14</u> 9
	2006	<u>18,5±1,0</u> 43,5±2,5	15,5±1,3 3,6±0,4	<u>2,9±0,8</u> 1,5±0,9	<u>15</u> 11
<i>Vaccinium corymbosum</i> (cv. 'Bluecrop')	2005	<u>2,5±0,5</u> 15,3±1,1	<u>35,7±4,9</u> 3,5±0,6	<u>3,1±0,2</u> 1,7±0,1	<u>10</u> 5
	2006	<u>4,0±2,1</u> 29,6±5,1	<u>39,0±6,5</u> 5,2±0,3	<u>4,3±0,2</u> 2,4±0,2	<u>26</u> 11
<i>Vaccinium angustifolium</i> (Ait.)	2005	<u>4,9±1,2</u> 11,6±2,3	<u>18,8±2,1</u> 2,3±0,5	<u>3,5±0,8</u> 1,8±0,5	<u>15</u> 9
	2006	<u>6,3±2,6</u> 28,7±3,5	<u>25,7±3,1</u> 3,3±1,4	<u>3,9±1,0</u> 1,9±0,6	<u>21</u> 17

* vegetative shoots; ** generative shoots

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