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PROSPECTS OF THE DEVELOPMENT OF RURAL TOURISM IN THE CONDITIONS OF SILVICULTURAL PRODUCTION BY THE WAY OF CREATION LOWBUSH BLUEBERRY (*VACCINIUM ANGUSTIFOLIUM* AIT.) PLANTATIONS

Prospects of development of rural tourism in the conditions of silvicultural production by creation plantations of lowbush blueberry are caused by: existence of a significant amount of the lands (50,000 ha of the areas of the developed riding peat bogs) corresponding for cultivation of the berry; low financial expenses on creation and maintenance of plantations; simplicity of receiving landing material; relatively rapid entry into the stage of industrial fruiting of species (for the third year after landing); high berry productivity of plantations (7.9 t of berries from a hectare for the fourth year of fructification); valuable biochemical structure of fruits.

Key words: rural tourism, silvicultural production, developed riding peat bogs, lowbush blueberry.

Introduction. One of the main services provided in agro-tourism is related to human needs in natural food. For modern society with a high level of technology development this problem is of great importance. The evidence is a wide application of extra ingredients in foods such as artificial additives, e.g. flavor enhancers, coloring agents, flavoring agents, preservatives, antioxidants, etc. Fresh vegetables and fruits become nitrate and harmful due to the high doses of mineral fertilizers and pesticides.

One way to increase public confidence in the quality of food is to set up special farms oriented to self procurement of agricultural products. The growing popularity of agro-tourism is proved by its fast development in Germany, England, Israel, Finland and the USA [1].

To increase the profitability of economic activities it is important to develop agro-tourism in forestry enterprises of the Ministry of forestry of the Republic of Belarus. Activities in forestry berry plantations will not correlate with the development plans of minor forest production but also will conform to the world trend of agro-tourism development. It is the cultivation of berries (raspberry, blackberry, blueberry) that are in great demand nowadays.

Main part. The aim of this work is to assess the prospects of agro-tourism development in the conditions of silvicultural production by creating of industrial plantations of lowbush blueberry on the cut-over raised peat lands.

Experimental-production lowbush blueberry plot was chosen as the research object. It was founded in spring 2009 on one of "Dolbenishki" check upland peat deposits in SFI "Postavy forestry".

To assess the prospects of agro-tourism development by creating lowbush blueberry plantations, it is necessary to determine the peculiarities of organization and functioning of this branch of national economy that will contribute to the development of berry production, also it is necessary to identify the benefits and merits of *V. angustifolium* comparing with other representatives of *Ericaceae*.

High potential for agro-tourism development in the institutions of the Ministry of forestry is explained by the availability in the structure more than 50,000 ha of developed upland peat deposits [2] that are ideal for the cultivation of acidophilic lowbush blueberry. Refocusing of the purpose of use of a significant number of areas of forest growing on the berry-growing should not be resulted in a significant decline in economic activity. As anthropogenically disturbed lands are characterized by low efficiency in forestry, low-productivity pine-birch stands are formed on these ares. In addition, it should be added that option to protect the remaining peat layer from fires, water and wind erosion as a result of forming a continuous ground cover of lowbush blueberry determines priority of berry growing over silvicultural activities from an environmental point of view [3].

Another prerequisite for the development of agro-tourism by creating of berry plantations in forestry is the fact that the employees not only have necessary physical and labour resources for the creation and maintenance of plantations, which is especially important in rural areas but also have practical experience in the production of planting material and cultivation of plants.

With an overall favorable prognosis for the cultivation of lowbush blueberry in the forest institutions there is a need to consider a number of issues related to the organization of the tours: transfer of tourists to the forestry and plantations,

accommodation, storage of picked berries and other additional services. In these circumstances, it is worthwhile to involve specialists in the field of tourism and environmental trained at "Belarusian state technological university".

Lowbush blueberry as an object of agro-tourism is particularly important. In the industrial stage of fruiting plant species entry relatively early: first harvest can be obtained during the third year after planting. This feature distinguishes *V. angustifolium* from cranberries and blueberries, industrial use of plantations can start in 5–6-years.

The main advantage of *V. angustifolium* is its high productivity. During the first year of fruiting, you can call collect 191.5 g of berries from one bush while planting 1.5×1.0 m 1,283 kg/ha. During the fourth year it is increased by 6.2 times and amounts 1,183.8 g from one bush (Figure) or 7,931 kg per hectare. It has to be mentioned that lowbush blueberries has a great potential for increasing productivity of plantings by both increasing the area of projective cover, which did not exceed 50% in 2014, and selected improving of species by selecting the forms of the highest productivity characterized by 68.4% higher yield according to estimate of 2014 as well.

A high nutritional value of *V. angustifolium* plays an important role in the process of attracting tourists. The berries are a source of carboxylic acids, soluble sugars, anthocyanin pigments, pectin and tannins, phosphorus compounds [4]. The lack of sucrose in the berries determines the possibility of their use in the diet of people with diabetes.

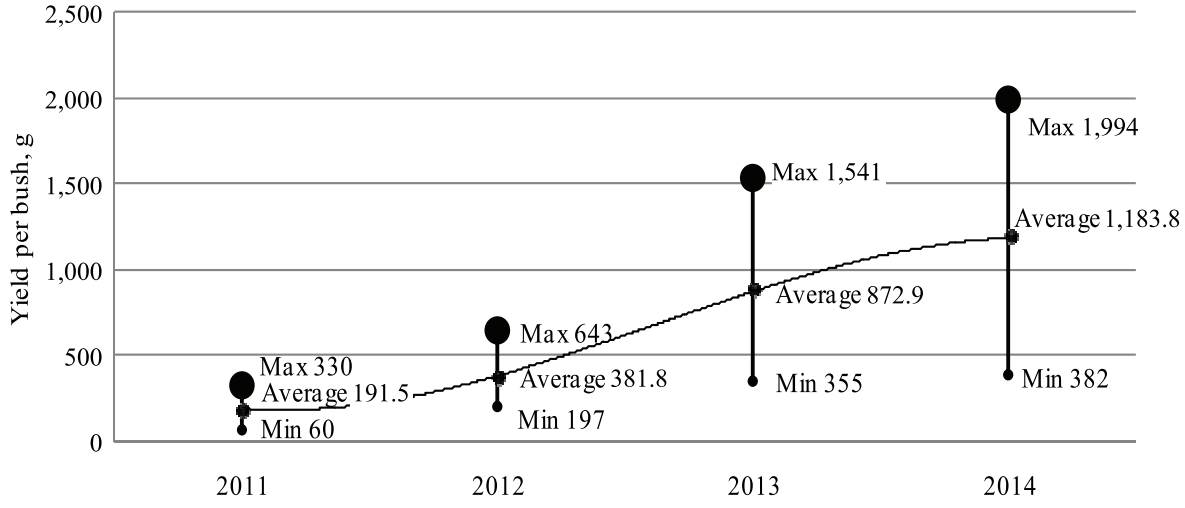
Their small size (length is 8.2 mm, width is 9.5 mm) and weight (0.5 g) reduces the attractiveness of lowbush blueberry to a certain extent. The solution to this problem can be the use of the crop special hand scoops while harvesting, that will greatly accelerate the work and enhance the excitement of the tourists-harvesters.

With constant competition for investment, and the consequent difficulties in attracting capital lowbush blueberries favorably decrease financial costs of creation and maintenance of plantations, enabling forest enterprises to develop agro-tourism at their own expense.

For example, lowbush blueberry is characterized by high ability to reproduce, which determines the simplicity of planting and its low cost. The germination of seeds of *V. angustifolium* reaches 60–80%, the rooting of hardwood cuttings is 58% and green-cuttings is 95% [5]. In addition, there is a possibility of plant propagation by dividing the bush, the partial bushes and the partial shoots that will give up to 100% of the yield of planting material.

The creation of lowbush blueberry plantations can be started immediately after industrial peat extraction without additional means for construction sites: fencing, creation of drainage and irrigation systems, construction of roads and dams and the irrigation system. It should be noted the high productivity of *V. angustifolium* during the follow-up period (2009–2014), characterised by extremely arid conditions in 2010, 2011 and 2014. In this regard, we note that effective cultivation of cranberry and blueberry require the watering system.

V. angustifolium plantations are characterized by low maintenance cost. Fertilizer should be applied once a year (first year of cultivation is 33.5 kg/ha and the fifth is 93.8 kg/ha) and it is necessary to loosen the top layer of the peat substrate after harvest [5]. If necessary, rejuvenating pruning bushes can be carried out.



Changes in minimum, average and maximum yields of 26 types of lowbush blueberry in 2011–2014

Conclusion. The results of the analysis on the prospects of agro-tourism development in the forestry institutions of the Ministry of forestry of Belarus by the creation of lowbush blueberry plantations show that all the necessary conditions for development of new type of activity in the service sector were formed, and lowbush blueberries is a suitable object for implementation of plans for agro-tourism on the cut-over raised peat lands.

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