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BIOECOLOGICAL FEATURES OF EUROPEAN PEAR VARIETIES IN THE CONDITIONS OF THE REPUBLIC OF KARAKALPAKSTAN

Abstract: *The transition of agriculture to a market economy, to new production relations led to a restructuring of the existing land use with a tendency to expand arable land by reducing the area occupied by gardens. In such conditions, the problem of using unproductive lands, traditionally excluded from intensive circulation, which includes pebbles, becomes important.*

Key words: *biology, ecology, pear variety, Karakalpakstan, land use, trend.*

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Introduction

One of the radical ways to solve the problem of providing the population with fresh fruits, and the processing industry with raw materials, along with an increase in production, is the development and implementation of measures to increase safety, prevent losses and waste-free processing technologies.

Among the fruit crops grown in Karakalpakstan, the pear takes the second place after the apple tree. The best pear varieties, due to the high requirements for climatic conditions, are concentrated in the southern regions, designed to provide the population of industrial centers with fresh fruits [1. p 85].

Pear fruits are valuable dietary products. They contain organic and mineral compounds. They are used fresh and processed. The fruit consumption system contributes to the prevention and treatment of cardiovascular, gastrointestinal and other diseases.

The transition of agriculture to a market economy, to new production relations, has led to a significant restructuring of the existing land use with

a tendency to expand arable land by reducing the area occupied by gardens [2. p 122]. In such conditions, the problem of using unproductive and traditionally excluded from intensive circulation lands, which include pebble lands, becomes of great importance.

The pear assortment as a whole is subordinated to the task of producing fruits for fresh consumption, storage and processing. At the same time, gardens with a specific purpose are practically not laid, in which the fruits are grown in compliance with the technology aimed at the formation of high commercial qualities, keeping quality and suitability for various types of processing [3. p 224]. Many cultivated varieties do not meet international standards and are not suitable for long-term storage. This leads to seasonal supply of the population with fresh fruits. Product losses are 30-40%, most of which occurs at the last stage, i.e. during storage. Losses of products are associated not only with the level of the material base of storage, insufficient organization at this stage, but in many respects, due to the low quality of the harvested products. To exclude them, it is necessary

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to observe the agrotechnics of cultivation, the timing of harvesting and storage, as well as strictly observe storage regimes. The cost of fruit production is increasing every year,

The climatic conditions of the Republic of Karakalpakstan are characterized by a variety of factors that create a kind of microzone that is of interest for the rational distribution of varieties [4. p 19]. In general, the climate is characterized by a temperate continental regime without sharp seasonal fluctuations.

Phenological features of the annual cycle of development. The studied pear varieties begin their vegetation on average in late March - early April, and finish their vegetation in the third decade of November. The timing of the passage of phenophases is determined mainly by the thermal regime of the winter-spring period and the biological characteristics of the varieties [5. p 74].

Pear blossoming begins at the end of April - beginning of May, with an average daily air temperature of 9.0-16 °C. The dates of the beginning of flowering vary more by years than by variety. The early flowering period was noted from April 10-15, the late date from April 10 -May 13. Early flowering is not always a decisive sign of the onset of fruit ripening. Thus, the winter variety Cure blooms earlier than many summer varieties. The leading role in the fruit ripening period belongs to the biological characteristics of the variety and climatic conditions. Delayed flowering and cool summers lengthened the period ripening for several days. Conversely, early flowering and hot summers contributed to the acceleration of ripening.

The greatest danger to fruit formations is temperature fluctuations, accompanied by prolonged thaws in the second half of winter [6. p 239]. An assessment of the general condition of trees after unfavorable winters showed the degree of adaptation of varieties to the natural conditions of the area.

Drought resistance - refers to the most important indicators and is of the same importance as the wintering period. The response of varieties to dry conditions was studied (moisture deficiency and high

air temperature in July-August (HTC-0.38, 0.53; 0.60; 0.69) adversely affected the condition of the trees. The effect of air drought was manifested in such indicators, such as wilting of leaves, yellowing and falling off. In the varieties of Bore Bosk, Kure, Krasny Kavkaz and others, darkening of the leaves is noted, which emphasizes their specific reaction to air drought. Pear varieties with a strong "burn" of the leaves are not recommended for growing on pebbles, as well as in intensive plantings.

Resistance to diseases and pests. The resistance of pear varieties to scab was relatively high, with the exception of the Cure variety, the leaves and fruits of which were affected by (1.5 and 2.0 points) [7. p 158]. The remaining varieties were not affected by scab or very weakly.

A more severe damage to pear varieties was tinnitus and codling moth. The fruits affected by the sucker lost their marketable appearance due to sooty plaque. Many varieties of pear were affected by tinnitus from 0.5 to 1.5 points. No lesions were noted in varieties: Yubileynaya Samarkand, Talgar beauty. Miracle of Ribe, Mellin, Golden Moldavia, Kabardinka, Smuglyanka.

Fertility and productivity. Precocity and yield of varieties are important. In a comparative assessment of early fruiting, two indicators were taken into account: the period of obtaining the first harvest of fruits and the rate of growth of the crop at a young age.

The decisive indicator of the value of a variety is its yield, which depends on the biological characteristics of the variety, environmental conditions of cultivation, the level of agricultural technology, and protective measures. The experience of growing pear on pebbles showed that it is quite productive. In the group of summer varieties, the Yubileynaya Samarkandskaya variety turned out to be the most productive, regularly yielding a high yield, exceeding the control variety by 58%. Yielding were also Nalchik Kostyka and Krasny Kavkaz, which had an excess over the control variety by 32 and 26%, respectively. Other varieties were also productive. Less productive in the first years of fruiting were trees of the William variety.

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