



АСОЦІАЦІЯ «УКРСАДПРОМ»

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Agricultural audit report of Smartlands walnut garden (FE Parus and FE Ruslan), Mykolaiv oblast, Pervomaisk district

The walnut orchard (*Juglans regia* L.) with area of 56 hectares is located in Mykolayiv region, Pervomaisky district, the Sinyukhinobrodsky village council.

The audit of the garden was carried out by Leonid Prodanyuk, senior researcher of the Laboratory of Virology of Fruit Crops of the Scientific and Practical Institute of Horticulture, Viticulture and Food Technologies, Doctor of Biological Sciences.

The examination was carried out at the request of Ukrsadprom Association for audit of the phytosanitary condition and biological potential of the aforementioned garden.

According to the provided design documentation the relief of the garden consists of slight gentle slopes of southern and south-western aspects. The soil cover consists of chernozems with medium humus content, partly calcaerous. The carbonate content does not exceed 12.5%. The climate is moderate - arid, average annual temperature is 8.3 - 8.53⁰C. According to the materials of soil examinations provided by the Mykolaiv Center "Oblderzhrodiuchist" (regional state agency for soil fertility), these soils are well-suited for laying walnut plantations. The sum of active temperatures is 2900-3000⁰C. The average annual rainfall varies between 410-500mm, including 240-300mm during the vegetation period. The duration of the growing season is 200-220 days. The predominant wind rose is north-east and north-west.

According to the design, the varietal composition of the orchard is as follows: Bukovinsky, Bukovina Bomb, Klishkovsky, Yarovsky, Chernivetsky cultivars grafted on Eastern black walnut (*Juglans nigra*, L). The direction of the rows from north to south and from the north-east to north-west. The garden is divided into quarters with interquarter roads

Audit results

The orchard was planted in years 2010 – 2011 (walnut grafts).

Planting system 10m x10m.

Trees sparseness approx. 15% (substituted with young trees).

Soil was in a perfect condition at the time of the examination. Picture 1.



Picture 1.

The height of the bole is 1.5-1.7 m, the crown habit varies from 3.5 to 4.0 m, the number of crown branches varies from 5 to 7. The crown is sprawling, spherical or rounded. The number of annual shoots varies on average from 30 to 50 items. The thickness of the stem at the level of 20 cm is 18-25cm.



Picture 2.

The bark on the trees is in good condition, there are healed over cracks on very few trees (frost cracks).

The garden is skewed towards one side by about 15-18°. Picture 3



Picture 3.

The garden is partially located in a natural valley. In the lower part of the valley there are very few frost damaged trees. Picture 4.

There were no visible symptoms of any disease. The only pest identified - walnut leaf gall mite (*Aceria erinea* Nat.,)



Picture 4.

To keep the garden in the good shape it is recommended to proceed with pruning, the proper use of inorganic fertilizers, timely treatments against diseases and pests, the proper agrotechnics of the soil in the near-trunk zone and in the inter-row spacing.

In addition to current measures it is recommended to plant windbreak on the side of prevailing winds that will be beneficial for the orchard growth and productivity.

Deputy Chairman of Ukrsadprom Association

Oleg Korovkin

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