
THE HISTORY AND TRADITION OF THE BLUE AND RED DRUPES FRUIT GROWN IN THE AREA OF THE VILLAGE VANOVICE, CZECH REPUBLIC

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ABSTRACT

Stone-fruit are grown in the Czech Republic for a long time and that is why the goal of this thesis is to summarise history of growing red and blue stone fruit in Vanovice district. The thesis is dealing with the history of cultivation, which began in the year 1860. Cherries and plums have grown in Vanovice since 1991 and the natural conditions suit them. It is important to chose appropriate habitat conditions for growth of trees in intensive planting areas. Every fruit species have different requirements for soil, climate, humidity, light and nutrients. We can attain quality results only with great selected habitat.

Key words: orchard, sour cherry tree, plum tree, ecological conditions

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INTRODUCTION

Plumb-trees belong between the most resistance fruit species, which like average temperatures around 8°C, average annual rainfall around 500-600 mm, loamy soil in 400 meters above sea. These conditions and enough soil moisture provide to plumb-trees quality growth conditions in the spring (Blažek a kol., 2005). Muck, brown soil, mild podzol, rendzina and aluvial soil are convenient for plumb-trees (Nečas a kol., 2006). Plum pox virus spread to all areas in Czech republic, which are about 800 meters above sea too. PPV attacks in CR breeds of plumb, cherry plum, shrub of blackthorn, breeds of apricot-trees and peach-trees. Virus wasn't detected in orchards of cherry –trees and on plane growing trees yet (Polák a kol., 2010).

Cherry-trees can't grow in frost basin with cold north winds according to Nečas (2006). Appropriate soil is rich on Calcium and stony soil is insufficient (Dlouhá a kol., 1995). The best ecological conditions should be chosen for establishment of orchards for planting cherries. We have four zones of fruit territories according to grade of conditions for planting cherries. First zone is in areas with optimal natural conditions, the second should be optimal with using agrotechnic and mechanization and the third zone is for planting in gardens, the fourth is inconvenient (Bakša, 1987).

It is important to chose appropriate habitat conditions for growth of trees in intensive planting areas. Every fruit species have different requirements for soil, climate, humidity, light and nutrients. We can attain quality results only with great selected habitat. Health, service life, needed care, and quality and quantity of harvest depends on the habitat (Blažek a kol., 2001).

Possible perspective to the future could be development of integrated production of fruit, which aims economical production of high quality fruit with using ecological acceptable methods of planting and which could minimalize the underside effects of using agrochemicals. Overall emphasis is on human health protection and environmental protection. The greatest experience was reach on peach-trees, it is important culture in Europe. Nevertheless is the knowledge in some areas limited (Cravedi a kol., 1996).

The area of fruit orchard was 20 769 ha (dates from 31. 5. 2012) The largest areas are situated in the South Moravian region (5 482 ha). The second most widespread species after apple trees are plums, they are grown on the area of 2 545ha (Czech Statistical Office, 2013)

The plum harvest in the Czech republic was 29,521 tons in 2011 and the cherry harvest was 9,210 tons (Buchtová, 2012). 121,7 thousands tons of fruit were harvested from productive orchards in 2012, which is about 20% more than in 2011, but by comparison with five-year average is the harvest lower about 26%. The greatest losses of fruit are observed in plums, cherries and peaches (Buchtová, 2012).

The first fruit gardens were established in Vanovice in the 11 century. Stone-fruit were grown here since 18 century either in intensive orchard areas or in gardens. Intensive stone fruit orchard areas experienced a significant decrease in the onset of PPV. The situation begins to improve by an implementation of robust, tolerant and resistant species (T. Jan, 2011).

Stone fruit are very important in the Czech Republic and the areas, on which they are grown, are still extended, therefore the goal of this thesis is to explore the specific conditions of cultivation of red and blue stone fruit in Vanovice.

MATERIAL AND METHODS

The informations were obtained from witnesses, from Mr. Vlk's family, from Fruit newspaper from the year 1935 and from quality control authorities Testing laboratory EKO-LAB Žamberk

spol. s.r.o. Monitored area Vanovice is in Southmoravia region, district Blansko. Total area of cherry orchards in 2013 is 47,77 ha and area of plumb orchards is 10,29 ha.

Methods describe basic characteristic of Agrospol a.d. Knfnice u Boskovic, history of planting fruit trees, geological, soil and climatic conditions of Vanovice, which enabled the beginning of horticulture already in year 1860. Agrochemical analysis of soil was made by method Mehlich III (Krajčček, 2000).

In this work was valorise the history and traditions of cultivation of blue stone fruit in the area around Vanovice, and to compile species and breed composition of planting, development of planting area and it's current status, yield, quality of harvested fruit, used planting procedures, used rootstocks, maintenance plantings, used fertilizers and spraying for protection the trees during whole vegetation. Attention was dedicated to health and agrotechnics.

RESULT AND DISCUSSION

History and tradition of planting fruit trees in the area of Malá Haná in Vanovice show convenient location and ecological conditions. Horticulture developed in villages Borotín, Jaroměřice by Jevičko, Vanovice and Zadní Arnoštov. Fruit nurseries prosper here over 150 years. František Vlk (1839 – 1916) founded first fruit nurseries in 1860. He was born in Svárov, he moved to Vanovice and started expansion of planting fruit trees. His son Stanislav (1870 – 1944) and grandsons Ing. Radomír Vlk (1903 – 1960) and Slavomír Vlk continued in family tradition. They aim especially with breeding and planting of stone-fruit. In this area was planted range of breeds, apple-trees and

cherry-trees and there is still demand till today. The breed of cherry-tree ‚Vlkova bělka‘ and apple-tree ‚Vlkovo‘ is still favourite (Tajovská, 2010).

Yellow-fruit cherry plum was used like rootstock for plumb-trees, it was introduced by Mr. Vlk in thirty years of last century. Vanovický cherry plum is not used yet, but we try to come back to this, because it is resistance to common Plum pox virus. The original trees occur like really old trunks. Their health is valuable considering the virus. Symptoms of virus of plums almost don't occur. In the surroundings of Malá Haná is most of plumb-trees on these rootstocks (Tajovská, 2010).

Fruit nursery is generating rootstocks for own use for apple-trees J – TE – H a MM 106 and for small berries golden currant unfortunately (Kohoutek, 2013).

The orchards are placed 360-400 meters above sea. Average annual temperatures in monitored years are 6,31°C in 2011 and 6,18°C in 2012. Annual rainfall was 568,5 mm in 2011 and 638,7mm in 2012. Neighbourhood of Vanovice lies on clay sediments, where soil breeds loam and clay-loam were created. We shift them between mild heavy and heavy soil. In the area is most represented kambizem.

Plumb-trees are planted in Vanovice since 2000 on current area 10,53 ha. Planted breed is „Home plumb“, which is prone to virus PPV, but this illness doesn't occur in Vanovice. Like rootstock the cherry plum MY-BO-1 is used, which is more resistance to PPV than other vegetative or generative multiplied rootstocks. The plumb-orchard „Pastvisko“ on the area 6,22 ha was established in 2000, there was 2400 trees of the breed ‚Home plumb‘ on the rootstock cherry plum seedling on the trunk form quarter-trunk in distances 6 × 4 m. Then in 1 569 more quarter-trunks was planted on the area 4,07 ha in 2001 (Kohoutek, 2013).

Cherries are planted since 1991 on the area 47,7 ha in breeds ‚Oblačinská‘, ‚Fanal‘ and ‚Morela late‘ on rootstock P – TU – 1 in trunk form quarter-trunk. Climatic conditions in Vanovice are convenient. Cherry-trees, in good conditions can live even 60 years, there is the orchard called „Slén“ only 22 years old in Vanovice, but there is high surface of groundwater and it isn't convenient for rootstock. That's why one half of this orchard will be reconstructed. In the orchard

called "Bernard" conditions are for the growth better and trees shows suitable growth. The orchard called „Slén“ was established like the first cherry-orchard in Vanovice in 1991 on the area 35,7 ha. 21 456 cherry-trees there were planted in trunk form quarter-trunk on rootstock P – TU – 1, in distances 5 × 3 meters. Breed is ‚Fanal‘ 900 trees (7,7 ha) and ‚Morella late‘ 20 556 trees (28 ha). The orchard „Bernard“ was established in 1999 on the area 12,07 ha, there was planted 6000 trees in trunk form half-trunk in distances 6 × 3 m. The breeds are ‚Oblačinská‘ 2 716 peaces, ‚Fanal‘ 2 679 peaces a ‚Morela late‘ 699 peaces. Planting were established in the spring (Kohoutek, 2013).

Tab. 1 The Cherry Orchard ‚Morela pozdní‘ in May.



CONCLUSIONS

The area of so called Malá Haná, where Vanovice is situated, is suitable for growing these trees and that is why there is a long tradition and history of growing fruit trees. The soil composition, average temperature and average precipitation which were recorded here meet the sour cherry trees 'and plum trees' demands. As a result of the careful choice of the position, sort and base of the fruit trees, the trees are in good condition and the quality and amount of the harvested fruit is great.

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