

# Traditional farming within the Carpathian basin – pomaceous fruits

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**Summary:** In the Carpathian basin there are still maintained the main historical fruit varieties and traces of traditional farming. The Department of Fruit Science considered the utilisation of obsolete varieties in breeding as source of resistance to local adversities, moreover, the practice of traditional farming using those varieties should be also explored. In the present study, the farming methods and variety structure of two substantially different growing sites are described. One is an alluvial plain along a river where an ancient form of farming based on the control of sluices. The second is practised by clearing the forest on the slopes of the central range and of the Carpathian chain. During the course of our research we succeeded to find 8 pear, 29 apple and a few quince as well as medlar varieties. Further endeavour would be the conservation of those varieties, preferably on the spot together with their growing techniques as relicts, also as aesthetic components of that particular landscape. Our committed partners in this work are the National Parks.

**Key words:** apple, pear, historic varieties, growing methods, fruit growing of plains, hills and mountains, use of varieties, alluvial orchards, clearing of forests.

## Introduction

The Carpathian basin is a rich reservoir of historic fruit varieties. The diversity of the landscape allowed the development of variable forms and offered favourable site for immigrants. Exploration of gene sources for the purpose of breeding has been an inherent endeavour of the Department of Fruit Science (G. Tóth et al. 1996, 2004), but we are conscientious that those varieties are valuable not only as parents of new varieties but also as being offered for consumption jointly with their special growing method and within the traditional folk culture of their origin (Szani, 2000). The present study deals with the survey of the literature, moreover, it is a result of a field study of stray orchards of the National Park Aggtelek.

## The importance of species

On the sites, which are suitable to grow apple and pear, the particular environment induced the formation of different types of varieties. The ancient dominance of pear could be still stated: 1. Mediaeval documents mention always first the pear trees and pear varieties. 2. Scriptures of horticultural character prove the large assortment of pear varieties (Bereczki, 1886, Mohácsy, 1926). 3. Up to today, many wild, semi-domesticated and cultivated forms of pear are registered. 4. Traditional folk knowledge of varieties distinguished different groups of pear varieties. 5. Some regions conserved the folk memory of pear as an important food during the winter months.

Terpó (1958) registered in the area of the Hungarian state 19 species, 14 varieties and further 48 wild growing forms of the genus *Pyrus*. Some forms of the species *P. pyraster*, *P. nivalis* and *P. austriaca* are considered as being semi-domesticated. People living along the streams Nyikó- and Gagy distinguish the following groups of pears: körték, félvackorok, vackorok and vadkörték. "Vadkörte" is a pear, which was not touched by breeding, it is wild growing, cannot be consumed as a fresh fruit but processed. "Vackor" is somewhat more cultivated but its fruit is small. "Félvackor" is a transition between "vackor" and "körte". "Körte" refers to larger fruit.

Apple represents an important item of traditional economy: 1. In the Carpathian basin, this species produced the largest number of varieties. 2. Large diversity of use. 3. Some varieties could be preserved for a long time. 4. Early records since mediaeval times. 5. In folk art (Dankó, 2001), apple is the most frequently found motive.

During the last century several artificial systems of apple varieties have been constructed. The traditional folk knowledge uses categories according to time of maturity or consumption, thus summer, autumn and winter varieties. This grouping is generally accepted as practical.

## Growing method

In the Carpathian basin, two peculiar types of archaic fruit growing developed. Both are adapted to the ecological conditions and are distinct from each other. Along the rivers of the central plain, the flood irrigation type combined with

watercourses prevailed, whereas on the slopes of the Carpathian mountains and the hills of the central ranges another type of fruit culture developed, which has been explored by our team.

On the Great Plain, a significant part of the scarce precipitation is wasted during the winter. Spring thawing in the mountains causes tides along the rivers in the plains. Ancient farming practices utilised those water quantities by the use of sluices. The dikes were cut obliquely ("fok") to allow the tide to fill up the dead arms and keep there for the dry summer as a reserve (Andrásfalvy, 1975). The watered alluvial plain harboured the orchards as well as the pastures.

On the hilly slopes of the mountains the annual precipitation is more abundant and sufficient for fruit growing. Forests have been utilised by the whole community until the end of the 18<sup>th</sup> century (Paládi-Kovács, 2001). It refers also to the fruit trees grown in the forest and on the mountain-pastures (Rapaics, 1940). The dispersed fruit trees enjoyed special care being freed from concurrence; moreover, grafts have been made to favour the better varieties. Both, wild and domesticated fruits were consumed regularly (Andrásfalvy, 1989).

In our study around Aggtelek (G. Tóth & Geiszler, 2001) we stated that fruit growing methods hardly changed since long, i.e. preserved its archaic form. Essentially a variant of forest clearing practice exists. The vegetation around and underneath the fruit trees is maintained and serves as pasture or hayfield as an important source of forage called "gaz" (weed). The woody sprouts of the cut forest trees are also used for lime-burning. Most of the unfenced orchards experienced neither pruning, spraying nor tillage. The fruit is shaken or knocked down, broken branches are used for heating or burnt on the spot. Dead leaves and undergrowth are burnt too causing frequently outbreaks of fire. Damage of wild animals was often a burden.

Wedge or cleft-grafts and budding are performed at different height on wild growing or spontaneous seedlings. Scion wood was taken from favoured trees and distributed freely in the community.

## Use of varieties

In both economical systems, large, branching and old trees are considered as worth to grow. In the National Park of Aggtelek the "selection by hatchet" existed continuously (G. Tóth & Geiszler, 2001). The desirable trees were maintained, the bad ones cut, since long. The folk memory preserves often the names of those, who grafted or planted a good tree. At the same time, also wild grown trees may be maintained provided their fruit was consumed because of sufficient quality.

Grafting and cutting over centuries formed the variety structure of the mountain orchards as a mixture of cultivated varieties and wild grown or semi-domesticated trees. The variety profile was an expression of the taste and tolerance of the community. Utility and survival were the sloe criteria of

valuation. The best variants were grafted more frequently. Old specimen, mainly grafts, of those varieties are the last messengers of this culture up to now. On the area of the National Park, among the ruins of a village, Derenk, grafted, 60 year-old apple trees on wild rootstock were spotted. The assortment mirrors the variety structure of the 19th century: a mixture of historical world wide known, endemic local varieties as well as locally bred varieties.

## Historical, world-wide known varieties

Common, widely known apple varieties spread during the last century also in the Carpathian basin, e.g. 'Parker pippin', 'London pippin', 'Golden Winter Pearmain', 'Jonathan', 'Rote Winterrenette', 'Astrachan rouge', 'Belle de Boskoop', 'Cox' orange pippin', 'Reinette du Canada' and 'Roter Stettiner'.

Pear varieties: 'Doyenné blanche' or 'Weisse Herbstbutterbirne', 'Amiré' or 'Wiener Kirschbirn', 'Bon Cretien d'été' or 'Sommer-Apothekerbirne', 'Poire de Curé' or 'Pastorenbirne', 'Kieffer' and 'Diel beurré'.

## Local varieties

Selected clones of some local varieties have been grown all over the Carpathian basin. Since variety evaluation exists, i.e. the end of the 19th century, several variants of the same varieties are grown in rich profusion at the site of their origin. There are still popular varieties as 'Batul', 'Bóralma', 'Húsvéti rozmaring', 'Entz rozmaring', 'Nyári fontos', 'Sikulai', 'Pónyik', 'Simonffy piros', 'Sóvári' and 'Téli piros pogácsa'. The exact site of origin is often unknown. 'Batul' came allegedly from Transsylvania. Numerous variants are still registered as Fehér-, Mosolygó-, Piros-, Sárga-, Selyem-, Szögletes-, Zöld Batul. Similarly, 'Pónyik' is possibly Transylvanian. 'Sóvári' like 'Batul' has numerous variants of unknown origin. It is supposed that along the upper section of the Tisza river could be its original site. Its variants are: Beregi-, Daru-, Hamvas-, Kemény-, Kerek-, Késői-, Korai-, Nemes-, Síkos- and Zöld Sóvári (Balikó, 2000, Szani et al., 2003). Between the rivers Duna and Tisza, could be the site of 'Húsvéti rozmaring', 'Téli piros pogácsa', 'Simonffy piros' varieties. Local varieties were frequently met according contemporary documents but became scarce, recently, e.g. 'Füz alma', 'Csíkos Gyógyi', 'Piros Gyógyi', 'Fejedelmi Páris', 'Marosszéki piros Páris', 'Jászvadóka', 'Fekete tányéralma', 'Lánycsöcsű', 'Magyar kormos renet' (Brózik & Regius, 1957, G. Tóth & Geiszler, 2001).

Semi-domesticated pear specimens are rather frequently found up to now. One possible reason of it could be their remarkable longevity. In mediaeval times that kind of old trees were used as border marks. Although fruits of the old varieties are far of being marketable, but their yield is abundant and rather regular in spite of very little care they received. Typical varieties of the Transdanubian region are: 'Szó körté', 'Vérbélű körté' and 'Tüskés körté' (thorny).

The 'Sózó körte' is taxonomically a *Pyrus austriaca*. Its name is derived etymologically from the word vinegar indicating its utilisation. 'Vérbélű körte' is *P. nivalis*, which is known in other parts of the Carpathian region (Terpó, 1958). The name refers to the anthocyanin content of the fruit skin and flesh. 'Tüskés körte' had permanent and erect sepals on the fruit. In the Great Plain, many forms of the 'Arabitka' variety group occur, whereas in Transylvania a rich diversity of the 'Méz körte' group is found up to the present. Within the Carpathian basin, outstanding abundance of similar forms is met at the region of Felső-Udvarhelyszék. Along the steams, Nyikó- and Gagy, the settlements keep in mind more than a dozen of pear varieties: Aszaló-, Bakbűz-, Balázs-, Bőr-, Búzaérő-, Fűz-, Hamuszín-, Hulló-, Kásás-, Méz-, Moldovai-, Nagyjózsi-, Pirosbelű-, Sárga-, Szürke- and Venige vackor. The names used may vary sometimes according to the settlements, e.g. 'Bakbűz vackor' is also called 'Nyári Füge' or 'Palacféreg' (Szani et al, 2004).

The culture of medlar developed in the region of Szentes as a centre. Typical local variety is 'Szentesi rózsa'. Its origin is unknown, but it has been spread out country-wide in the second half of 20<sup>th</sup> century. The quince 'Bereczki bőtermő' gained popularity also outside the Carpathian basin (G. Tóth, 1997.).

### The utilisation of fruit

Fruit has been an important item of food and revenue of the families. Varieties of long storability (keeping time) enjoyed high esteem as a part of the winter diet. Today, fruits of long keeping but modest taste are not sellable any more (G. Tóth & Geiszler, 2001).

Rough fruit is processed for different purposes. Apple served for must, dried fruit, wine and brandy. In the National Park Aggtelek unripe apple was harvested for soap manufacture. The apple vinegar is still a demanded item, which is used also in folk medicine. Stored apple found its way to the daily diet as baked or cooked garnishment as well as stuffing of meat or pastry.

Pear used to be desiccated or fermented for brandy. For those purposes less developed, respectively wild type fruit are suitable. There are varieties directly, for those purposes. Some winter-type of varieties, like apples, are cooked.

After profuse yields, the surplus is sold or changed within the community. In some of those regions, the traditional conveyor trade is still living (Szani, 2001).

An important way of utilisation of fruit is, over the Carst of Aggtelek, the manufacture of distilled brandy. According to the local idiom a plum tree is "pálinkafa" (brandy tree). The second way of utilisation is the marmalade. In days of yore, marmalade was more important as food because sugar and chocolate was inaccessible for countrymen. The next way of processing was the desiccation. Dry fruit could be cooked for a sweet compote, called also "susinka", which was also applied to the dry fruit itself (G. Tóth & Geiszler, 2001).

### Survey and conclusions

Up to the end of the 17<sup>th</sup> century, fruit growing of both traditional fruit growing regions declined. The majority of the Great Plain was occupied by the Osmanly empire since the mid of the 16<sup>th</sup> century and the population was killed and chased from the area. The technical outfit ("fok") of the alluvial plains declined, the fields became swampy, and many of the new settlers of the 18<sup>th</sup> century had no idea of this typical flatland fruit growing.

The law of 1791 dealing with the administration of forests abolished the commonage of mountains, therefore the population of the villages lost the right of husbanding there.

During the 20<sup>th</sup> century, radical changes happened in land ownership as well as in fruit growing practices. New varieties have been acclimated and planted in the new orchards. Old varieties could survive around the homesteads or as stray heralds in vineyards. Their disappearance would be loss from different points of view. The traces of archaic economy indicate the areas to be protected. The genetic reserve of the Carpathian basin is threatened because it is not renewable. The knowledge related to the traditional varieties is also in danger with the last old men who are going to die. The material as well as spiritual heritage of the Carpathian basin will be forgotten. Therefore, it would be important in the future to continue to explore and to safeguard the values of stray fruit trees.

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