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Comparative analysis of apricot cultivars based on their ecological and biological indicators

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Summary: The herbaceous plants organic characterize Ellenberg et al. worked out (1991), well-use system, which is updated with herbaceous and woody plant in the Hungarian flora species, so Soó (1964-1985), Zólyomi et al. (1967), Précsényi (1986) and Simon (1988) also addressed by different aspects of this problem circuits. The author is the first extended-Borhidi –Ellenberg's system of wild fruit species (Surányi 2000, 2006) and cultivated of fruit (Surányi 2014) as well. Additional considerations there were aspects of the study of fruit varieties, these biological indicators following open pollination, frost tolerance, resistance of Sharka virus and disease susceptibility for. Firstly, we introduced a system for improving it a plum species and cultivars (Surányi 2015). In this case we used the new system among species and varieties of apricots, because diversity was able to express significantly. Especially the SB, WB, NB, and the relative biological value figures showed the variety. RB (reaction figures) fluctuated only slightly among the 463 varieties, but the dynamic difference between the 11's was an indicator for the characterization of apricots. If the comparison performed plum and apricot variety's level anyway justified the use of 11 kinds of organic and biological indicators.

Keywords: apricot cultivars, relative ecological and biological figures, comparative studies of cultivars

Introduction

Most apricot varieties developed in the *Armeniaca vulgaris* wild forms, natural shapes 1500-2000 m can be found in China and Central Asia, mountains nature (Löschnig – Passecker 1954, Larcher 1980, Nyujtó – Surányi 1981, Faust – Surányi 1988). The Siberian apricot (*A. sibirica*) has high frost resistance (Kosztina 1936, 1964, Nyujtó – Surányi 1981), like the Manchurian apricot (*A. mandschurica*); however, the Japanese (*A. mume*) and Korean apricots (*A. ansu*) are hotter consuming and also water-demanding (Kosztina 1936, Nyujtó – Surányi 1981, Surányi 2011). The black (*A.* x *dasycarpa*) and white apricot (*A. leiocarpa*) species hybrids weakly fertile them and resist diseases (Kosztina 1936, Löschnig – Passecker 1954, Nyujtó – Tomcsányi 1959). Other so-called small species hardly play a role in the creation of the varieties grown today (briançon and Tibetan apricot) (Terpó 1974, Faust et al. 2011).

Where rainfall average temperature and 400 mm per year around 9°C around, there is the most growing districts, *A. vulgaris* can be grown, but are known extreme favored areas (Dzhungaria, Manchuria, Tibet, Hunza Valley) found (Crossa-Raynaud 1977, Nyujtó – Surányi 1981 and Surányi 2011). Indeed, certain types of cultivated live taxon may outlet (salt), desert areas, or wherein the annual average temperature of 12-13°C, and only 50 mm rainfall (Mehlenberger et al. 1992, Faust – Surányi 1998).

The *Armeniaca* genus species of types of light-intensive, Odier (1978), the role of light – according to latitude – is well demonstrated in the row and plant spacing changing what it proved ingenious experiment provider (1981) (see Nyujtó – Surányi, 1981). Apricot moderate water demand, it will benefit watering, especially prior to maturity, but all kinds of species prefer soils in the air.

A wild apricot rootstock (as *Armeniaca vulgaris* convar. *minor*) subject especially harmful to the groundwater level is high. According Kosztina (1936) and Löschnig – Passecker (1954), the best varieties like the sandy, rocky, clay soil subsoil and the deep layers of clay and light loess soils. Neutral or slightly alkaline soils are best suited for the apricot (see Surányi 2011). Too much lime and soda negative content; varieties of Central Asian origin, more tolerant.

One species of wild apricot not indigenous to the Carpathian Basin, although many of the old Hungarian varieties can be escape (forests, cultivated fruit and vine landscape etc.).

The introduction several historical concepts, the wild apricot presumably over the exodus appeared – at today's Ukraine. The "real apricot" (as Turkish *kāysı*) naturalized during the Turkish occupation it was first around town in Tolna (after 1541, Surányi 2011), and began to cultivate it and Kecskemét and Gönc areas. There are Hungary almost exclusively grown varieties in *Armeniaca vulgaris* and grown. However, the study provides information on the types of *Armeniaca* genus known worldwide ecological and biological value of the relative indicators.

The origin of species, their genetic and biological properties of the characters assume the specific ecological needs (Faust – Surányi 1998). In a number of branches of botany ecological evaluation is not new, examples of which can be found in the literature on Hungarian language (Soó 1964-1985, Zólyomi 1964, Kárpáti Z. – Terpó 1971, Kárpáti

I. 1978, Précsényi 1986, Simon 1988 and Borhidi 1993). Over the last decade, based mainly on works of Simon (1988, 1991) and Kovács (1979), individual ecological indicator values have been established (Surányi 2000, 2002, 2006, 2009), and applied for the varieties prepared in the national cultivar catalogue (Pernesz 2016), pomological handbooks (Soltész 1998) and former historic ecological works (cf. Surányi 2002). This study presents an expanded and updated version of that one published in Kanitzia (Surányi 2006), and a summary of Hungarian fruit cultivars in Acta Bot. Hung. (Surányi 2014), towards for plum cultivars (Surányi 2015).

There were suitable for comparing the apricot cultivars and wild forms based on 463 relative ecological figures (cf. Borhidi 1995), towards also a large number of data and its own observations, the relative biological indices. Since studies – in particular increased numbers can be expressed in value relative ecological figures of importance: due to climate change because of the extreme weather, billowy period of rainfall actual vegetation, mostly drought tolerant apricots and role increase. Climate change impacts not only effects because of pathogens (virus, bacteria and other complex disease as apoplexy and phytoplasma).

Although it is very difficult to prove the following relevantly, but experience shows that the largest number of cultivars can change your reaction on the environment (cf. Larcher 1980). So that no less – and therefore for this reason – the physiognomic character of apricots too. Increasingly drier due the weather due to the increasing weight vector organisms (aphids, cicadas) cause problems of the viral disease, or wet vegetation – and of myrobalan rootstock scions – towards fungal problems.

In the preface ecological requirements of *Armeniaca* species which can be found in the literature (Kosztina 1936, Iversenn 1936, Löschnig – Passecker 1954 Mehlenberger et al. 1991, Cociu 1993 and Faust – Surányi 1998). Especially TB and WB showed the most is that the species is used which taxon. This seems quite certain, although about 90% of the *Armeniaca vulagaris* to the varieties of exemplary subject. It was even more conclusive, after the introduction of the relative biological indicators (Surányi 2015), which these data define the use of apricots grown varieties.

The apricot varieties, wild shapes and new hybrid varieties appear to have a narrow genetic diversity and pomological as a taxonomically variety of plum cultivars. Namely accordance with Table 1 shows that the relative indicators affected 2-3 categories. In the case of SB tight until the interval affects 21 cultivars (4,5 % of the total), these Central Asian or desert derived cultivars (Kosztina 1936 and 1964, Tomcsányi 1960 and 1979, Löschnig – Passecker 1954, Nyujtó – Tomcsányi 1959).

Relative ecological indicators of Ellenberg et al. (1991) and Borhidi (1969 and 1995) were valid in species level, although the same show greater volatility than the survey cultivars of *Armeniaca* genus, but the differences are smaller and linked dynamically changed.

Finally, Table 3 also confirms that the 11 different indicators on plums (Surányi 2015) and in this case – is used to express the differences between the varieties of apricot; compared to the average values are generally significantly between the two fruit species. Probably use of organic and biological indicators can be differentiated analysis of other stone fruit species (see Faust 1989).

Materials and methods

There are 463 different cultivated and old apricot cultivars which have different taxonomic and ecological character in Material and Methods. These relative values determined on the basis of the ecological information of apricots for references to main literary sources (Tüxen – Ellenberg 1937, Ellenberg et al. 1991). The definition of Borhidi's ecological figures is following (Borhidi 1995).

TB: The relative *temperature figures* reflecting the heat supply of the habitats where the species occur (mainly based on the distribution according to the latitudinal vegetation zones and altitudinal belts). The temperature figures of Ellenberg's (1952 and 1974) 9-grade scale (T) applied by Borhidi (B) (1995) to the Hungarian flora by Surányi (2014) and plum cultivars by Surányi (2015) to the Hungarian culture's flora. The relative figures indicate the following heat-climate belts or the corresponding microclimate conditions:

5. Montane mesophilous broad-leaved forest belt
6. Submontane broad leaved forest belt
7. Thermophilous forest or woodland belt
8. Submediterranean woodland and grassland belt.

WB: The relative *moisture figures* (occurrence in relation to soil moisture or water table) according to the 12-grade F-scale of Ellenberg (1963). The scale is very similar to the W-scale of Zólyomi (1964), but the water plants have a more detailed categorization, as follows:

3. Xero-tolerants, but eventually occurring on fresh soils
4. Plants of semidry habitats
5. Plants of semi humid habitats, under intermediate conditions.

RB: *Reaction figures*, according to the nine-grade Ellenberg's scale (1952), reflect to the occurrence of the plants in relation of the soil reaction of the habitats (Tüxen – Ellenberg 1937). In the 5-grade Zólyomi's (1987) scale calciphilous and salt tolerant or even halophilous plants are equally treated as basiphilous plants. Here the two groups are differentiated by their positive or negative *salt figure* category. A comparison of the reaction value scales according to Ellenberg's (1952) versus Zólyomi's classification (1987) was carried out by Pichler – Karrer (1991). The correspondent degrees are:

5. Plants of slightly acid soils
6. Mostly on neutral soils but also in acid and basic ones, generally widely tolerant, more or less indifferent plants
7. Basifrequent plants, mostly on basic soils.

NB: *Nitrogen figures* according to Ellenberg's 9-grade scale (1974), based on the occurrence in relation to the

ammonia and nitrate supply of the habitats, which received Borhidi (1995) then Surányi (2014 and 2015) too. These are degrees:

4. Plants of submesotrophic habitats
5. Plants of mesotrophic habitats
6. Plant of moderately nutrient rich habitats.

LB: *Light figures* according to Ellenberg's 9-grade scale (1974), based on the occurrence of plants in relation to relative light intensity during summer time. Degrees are follows:

7. Half light plants, mostly living in full light but also shadow tolerant
8. Light plants; photosynthetic minimum above 40 % relative light intensity, less only in exceptional cases
9. Full light plants of open habitats not receiving less than 50 % of relative light intensity.

KB: *Continentality values* according to Ellenberg's nine-grade scale (1950 and 1952) based on the main distribution of plants according to degree of continentality of the general climate (see Meusel – Schubert 1972) with emphasis on maximum and minimum temperature. Degrees following:

5. Intermediate type with slight suboceanic-sub-continental character
6. Subcontinental, main area in eastern Central Europe
7. Continental-subcontinental species main area in East-Europe
8. Continental species reaching only eastern part of Central Europe.

SB: *Salt figures* for indicating plant occurrence in relation to the salt concentration of the soils in a 9-grade scale, according to Scherfose (1990). Literary sources of ecological indicators are included in the Introduction, because breakdown by type of detail is not possible. The salt figures at least, developed to the SB. The toxic salt content is generally perceived afterwards, when the trees have been damaged:

0. Halophob species not occurring in salty or alkalic soils
1. Salt tolerant plants but living mainly on non-saline soils.

It was developing new added relative value numbers that have been introduced in the fruit-bearing species. We first presented in open pollination, the flower buds and bark frost sensitivity and significance for cultivated and wild apricots main concern viruses Sharka sensitivity and susceptibility to disease pathology (monilia, fusicladium, apoplectic and phytoplasmatic causes) characterization among the apricot cultivars. The first definitions are related to the plum an prune paper (Surányi 2015).

OP=Measuring of *open pollination*

1. over 35 % of open pollination
2. 20-35 % of open pollination
3. 2-20 % of open pollination
4. below 2 % of open pollination.

FR=Degree of *frost resistance*

1. frost tolerant (over 5 % of flower bud and bark damage)
2. moderately frost sensitive (15-40 % of damages)
3. frost sensitive (about 50 % of frost damages).

SS=Relative value of *Sharka virus sensitivity*

1. resistant to Sharka (0=no symptoms and presence)
2. tolerant to Sharka (no symptoms, or only in the leaves)
3. susceptible (largely symptomatic leaves and fruits)
4. very sensitive (symptomatic of the whole tree).

DR=Measuring of *disease resistance*

1. resistant to disease (0= no symptoms on the trees)
2. moderately sensitive (cc. 30% of leaves or fruit symptoms)
3. sensitive (over 50% of leaf symptoms and fruit falling).

In this study we wanted to choose, whether it is possible in an different species, though several taxa botanical species and under species the representatives of the ecological and biological differences between cultivars characterization according to Ellenberg – Borhidi – Surányi's modified based on the relative figures. The results are shown in summing Table 1-3; assuming that the cultivars will be easier of origin and economic-botanical view can be evaluated, increasing the effectiveness of apricot growing.

The relative ecological and biological indicators conducted a wide range of rated apricot cultivars. The types of properties, characteristics of the data collected in these funds, which supplemented their observations by certain varieties and hybrids (Surányi 1991-2015). Because of the large number of types of data links one by one, we have not done, the resources used were as follows: Bordeianu et al. (1967 and 1969), Brook – Olmo (1972), Brózik (1960), Brózik – Nyéki (1975), Cociu (1993), Crane – Lawrence (1956), Entz (1857-1859), Faust et al 2011, Faust – Surányi (1998), Fideghelli – Monstra (1977), Gardner et al. (1952), G. Tóth (1997), Gyuró (1974 and 1990), Hedrick (1938), Iszakova (1988), Jávorka – Soó (1951), Knight (1969), Kobel (1954), Kosztina (1936), Kosztina (1936), Kozma et al. (2003), Krüssmann (1978), Löschnig – Passecker (1954), Mándy (1963), Martinez-Gomez (2000), McGregor (1976), Mehlenberger et al. (1991), Nyéki (1980), Nyéki – Soltész (1996), Nyéki – Soltész – Szabó (2012), Nyujtó – Surányi (1981), Papp (2003 and 2004), Papp –Tamási (1979), Pénzes – Szalay (2004), Pernesz (2016), Porpáczy (1964), Roach 1985, Schwanitz 1973, Soltész (1998 and 2014), Soriano et al. (2008), Surányi (1985 and 2011), Szalay – Surányi – †Nyujtó (2011), Szmükov (1974), Tomcsányi (1960 and 1979) V. Németh (1986) and Zhebentyeyeva et al. (2008).

Results and discussion

There were suitable for comparing the apricot cultivars and wild forms based on 463 relative ecological figures (cf. Borhidi 1995), towards also a large number of data and its own observations, the relative biological indices. Since studies – in particular increased numbers can be expressed in value relative ecological figures of importance: due to climate change because of the extreme weather, billowy period of rainfall actual vegetation, mostly drought tolerant

apricots and role increase. Climate change impacts not only effects because of pathogens (virus, bacteria and other complex disease as apoplexy and phytoplasma).

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Summing up the results in Table 1, it was found that most of the varieties were different salt resistance (CV = 135,3 %), but according to the relative average variability of biological indicators varieties are not much higher than 30 % (cf. Table 2). According to the RB and LB of apricots least it appears to be specific, so it important consideration when selecting optimal phytotechnical methods for apricot varieties. If the growers had no experience in accordance with the indicator is presented in Table 1, assume that two reasons: the data related to available own root (seedling and vegetative propagated plant), or wild apricot rootstock seedlings. An exception was the cherry plum x apricot hybrids – myrobalan subjects (as myrobalan apricot C. 308, Black apricot etc.) (Table 2).

Earlier studies have been faced with these difficulties (Surányi 2000, 2006, 2014 and 2015). Still, there are several ways we tried to evaluate the fruit species, that is not only used in Ellenberg and Borhidi's figures, but Soó (1964-1985), Zólyomi et al. (1967), Simon (1988 and 1991) and Kovács (1979) also tried to evaluate the concept of fruit growing (that is in our fruit flora) cultivars. Although the literature cited authors examined all the natural species, varieties produced also tried to extend it. Finally, the Borhidi's relative ecological indicators found to be satisfactory analysis of the varieties (Surányi 2006, 2014 and 2015) (Table 1 and 2), which extended its biological figures.

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Table 1: Relative ecological and biological indicator values of apricot cultivars

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
86/36/7/8	6-7	3-4	6	4-5	7	5-6	0	2-3	2	1-2	1-2
5212/5/8	6-7	3-4	6	4-5	7	6	0	1-2	1-2	2	1
597/19	6-7	3-4	6	4-5	7-8	6-6	0	2	2	1-2	2
64/123/7	6	3	6	4-5	7	6	0	2-3	2	2	2
644/1	6-7	3-4	6	4-5	7-8	6	0	1-2	2	1-2	1-2
1553/54	6-7	3-4	6	4-5	7	6	0	2	2	1	1
Abelardo	7	3	6	5	8	7	0	2	3	2	2
Abutalibi	7	3	6-7	5	8	6-7	0	1-2	1	1-2	1
Agdzsanabad	7	3	6-7	5	7-8	6	0-1	2	2	2	2
Ahrori	6-7	3-4	6-7	5	7-8	6	0	2	1	1-2	1-2
Ahverdi	7	3-4	6	5	7-8	7-8	0	2	2	2	1
Aldin-psar	7	3	6-7	5	8-9	7	0	2	2	2	1-2
Alekszander Nikitszkij	6-7	3-4	6	4-5	7-8	7	0	2	2	2	1-2
Alex	6-7	3-4	6	4-5	7	7	0	2-3	2-3	2	2
Alexandriai fekete	7	3	7	5	8	7-8	0-1	2	2	1-2	1-2
Alfred	6	3-4	6	5-6	7	6-7	0	2	2	2	2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Alma-Atinszkij	6-7	3	6	5	7-8	7-8	0	2	1-2	1-2	1-2
Alte Ananas	6-7	3-4	6-7	4-5	7	7	0	2	2	2	2
Alves	6-7	4	6-7	4-5	8	7	0	1-2	2	1-2	1-2
Alyanak	7-8	3	5-6	5	7-8	8	0	2	2	2	2
Ambrózia	6-7	3-4	6-7	4	7-8	5-6	0	2	2	2	3
Ananász	6-7	3	6-7	4-5	7	7	0	3	2	2	3
Anda	6-7	4	6	5-6	7	7	0	2	1	1	1
Andornaktályai Magyar kajszi	6-7	3-4	6-7	4-5	7-8	7	0	2	1-2	2	2-3
Angoumois	6-7	3-4	6	5-6	7-8	6-7	0	2-3	1-2	2	2
Anhan	7	3-4	6-7	5	8-9	7-8	0	1-2	2-3	1-2	2
Arab kajszi	7-8	3	7	4-5	8	8	0-1	2	3	2	1
Arzami	6-7	3-4	6	5	7-8	5-6	0	1-2	1-2	1	2
Aurora	6-7	3-4	7	4-5	7-8	7	0	1-2	2	2	2
Auvergner	6-7	3-4	6	5-6	7	6-7	0	2-3	2	2	2
Azana	6-7	3-4	6	5	7	5-6	0	2-3	2-3	2	2
Babai	6-7	3	6-7	5	7-8	7	0	2	2-3	1-2	2
Badem-Erik	7	4	6	5-6	7	7	0	2	2	2	1-2
Badoni	6-7	3	6-7	4-5	7-8	7	0-1	1-2	2-3	2	2
Bajrak	7	3	7	5	8	7-8	0	2	1-2	2	2
Bal-jarümi	7	3	7	5	8-9	7-8	0-1	1-2	2	2	1
Baneasa 4/71	6-7	3-4	6-7	4-5	7-8	7-8	0	1-2	2	2	2
Baracca	7-8	3	6-7	5	8	8	0	2	2-3	2	2
Bayoto	6	3-4	6-7	4-5	7	7	0	2	2	2	2
Beangés	6-7	4	6	5-6	7	6-7	0	2-3	2-3	2	1-2
Beauge	6	4	6-7	5-6	7	6-7	0	2	2	1-2	1-2
Bebeko	7-8	3	7	5	7-8	7-8	0	1-2	2-3	2	2
Bedri	7	3-4	6-7	5	8	7	0	2	2-3	2	2
Benmore	6-7	4	6-7	5-6	7	7	0	2	2	2	2
Bergarouge	6-7	4	6	5-6	7-8	7	0	1-2	1-2	2	1-2
Bergeron	6	3-4	6	4-5	8	6-7	0	1-2	1	2	3
Bhart	6-7	3	6	5	7-8	7	0	2	2	1	1
Blanc rosé	6-7	4	6	4-5	7-8	6-7	0	2	2	2	1
Blanchet	6-7	3-4	6	4-5	7-8	7	0	2	2	2	2
Blenheim	6	4	6	5	7	6-7	0	2	2-3	2	1
Blenril	6	4	6-7	5-6	7	6-7	0	1-2	1-2	2	2
Boccucida	6-7	3-4	6	4-5	7-8	5	0	2	2	2	1
Boden Erik	7	3	7	4-5	7	7	0	2	2-3	1-2	1-2
Bolsoj pozdnij	6	3-4	6-7	4	7	6-7	0	2	1-2	2	1-2
Bolsoj rannij	6	3-4	6-7	4	7	6-7	0	2-3	2-3	2	1-2
Border Quenn	6-7	4	6	4-5	7-8	6-7	0	2	2-3	2	2
Borsi-féle kései rózsa	6	3-4	6-7	4	8	6-7	0	2-3	1	2	2
Bökényi rózsa	6	3-4	6-7	4	7	7	0	3	2	2	2
Braunauer	6	4	6	4-5	7	6-7	0	2	2	2	2
Breda	6-7	4	6	5-6	7	6	0	1-2	2	2	1-2
Brooks	6	4	6	5-6	7	6-7	0	2	1-2	1-2	2
Budapest	6	3-4	6	4	8	6-7	0	2	1-2	2	3

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Buhara	7	3	7	5	8	8	0-1	1-2	1	1-2	2
Bukurija	7	3	7	5	8-9	7-8	0	3-4	3	2	1-2
Bulida	6-7	3-4	6	4-5	8	7	0	1-2	3	1-2	1-2
Bungo (mume)	7	4	5-6	4	7	6	0	2	1	1-2	1-2
Bussières Triumph	6	4	6	4-5	7	6	0	2	2-3	2	2
C. 326	6	4	6	4	7-8	6-7	0	2	2	2	1-2
C. 333	6	4	6	4	7-8	6-7	0	2-3	2	2	2
Cafona	6-7	3-4	6	4-5	8	5	0	1-2	2	1-2	1-2
Caldesi 2	7	3	7	4-5	7-8	7	0	2-3	2-3	2	1-2
Callatis	6-7	3	6-7	4-5	7-8	6-7	0	2	3	2	2
Canino	6-7	3-4	6	4-5	8	5	0	2	2	1	1-2
Castelbrite	6-7	4	6-7	5	9	7	0	2	2	2	2
Çataloglu	7-8	3	7	5	8	7	0	1-2	2-3	1-2	1-2
Ceglédi arany	6-7	3-4	6-7	4-5	8	6-7	0	1-2	1	1-2	1-2
Ceglédi bíborkajszi C. 244	7	3-4	6-7	4-5	7-8	7	0	2-3	3	1	1
Ceglédi bíborkajszi C. 307	7	4	6-7	5	7-8	7	0	2	2-3	1	2
Ceglédi gömbölyű	6-7	3-4	7	4-5	8	7	0	2	2	3	1-2
Ceglédi hajnalpír	6-7	3-4	7	4-5	7-8	7	0	2	2	3	2
Ceglédi kedves	7	3-4	7	4-5	8	6-7	0	2	2	2	2
Ceglédi napsugár	7	3-4	6-7	4-5	8	6-7	0	2-3	2	1-2	1-2
Ceglédi óriás	6-7	3-4	6-7	4-5	7-8	7	0	3	2	2	2
Ceglédi Piroska	7	3-4	7	4-5	8	6-7	0	2-3	2-3	2	3
Ceglédi szilárd	7	3-4	7	4-5	8	6-7	0	1-2	1-3	1-2	1-2
Çigli	7	3	6-7	5	8	7-8	0	2	2-3	2	2
Comander	6-7	3-4	6-7	4-5	7-8	6-7	0	2-3	2	1-2	2
Corred	6-7	3	6	5-6	7	7	0	2	2	3	2
Cotoy	6-7	3-4	6	5	7-8	6	0	3	2	2	2
Cöluglu	7-8	3	7	5	9	7	0	1-2	2-3	2	1-2
Currot	6-7	3-4	6-7	5-6	7	6-7	0	2	2	2	2
Csipogó barack (Korai piros)	6	3-4	6-7	4	7	6	0	3	2-3	1-2	1-2
Csongrádi Magyar kajszi	6-7	4	6-7	4-5	7-8	6-7	0	2	2	2-3	2
Delgosha Tabrize	7	3	7	4-5	7-8	6-7	0	2	2	1-2	1-2
Delta	7	4	6-7	6	8	6-7	0	2	2	2	1
Derbi-Royal	6-7	4	6	6	7	6	0	2	2	2-3	2
Docteur Muscle	6-7	3-4	6	4	7-8	5-6	0	1-2	2	2	1-2
Drjanovszka	6-7	4	6	4	8	6	0	2-3	2	2-3	1
Dunstan	6-7	3	6-7	4-5	7-8	6	0	2-3	2	2	1-2
Dzsauravinszkij	6	3	6-7	5	7-8	6	0	1-2	2	2	2
Early Gold	6	4	6-7	5-6	7	6-7	0	2	2	1-2	2
Early Orange	6	3-4	6	5-6	7	6-7	0	1-2	2	1-2	1-2
Early Red	6	3-4	6	5-6	7	6-7	0	1-2	2-3	2	2
Early Royal	6	3-4	6-7	5-6	7	6-7	0	2	2	2	2
Eatliril	6-7	3-4	6-7	5-6	7	6-7	0	2	3	2	2
Ekovickogo	6	4	6	4	7	6	0	2	1-2	2	1-2
Ethembey	7-8	3	7	5	8-9	7	0	1-2	2-3	2	2
Fantasme	6-7	3-4	6	5	7	7	0	2	2	2	2
Faralia	7	3	7	5	7-8	7	0	2	2	1-2	1-2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Fekete kajszi	7	3	7	4	9	7	0	2-3	1-2	2	2
Felfely	7-8	3	6-7	5	7-8	7	0	3	2	2	1
Fortuna	7	3-4	6-7	4-5	7-8	6-7	0	2	2	1-2	2
Fracasso	7-8	3	7	4-5	8-9	7	0	2-3	2-3	2	1-2
Francesco	7	3	6-7	4-5	8	7	0	2	2-3	2	2
Francia barack	6-7	3-4	6	5-6	7-8	6-7	0	1-2	2	2	1-2
Frühe Monplaisir	6	4	6	5-6	7-8	6	0	2	1-2	2	2
Gabriel	6-7	4	6-7	4-5	7	6	0	2	2	1-2	1-2
Gallatis	6-7	3-4	6-7	4-5	7-8	6-7	0	1-2	2	2	2
Galta Rocha	7	3-4	6	4-5	7-8	6-7	0	2	2-3	1	2
Ganacseni	6-7	3	6	5	7-8	6-7	0	2-3	2	2	2
Gegdzsanabad	6-7	3	6	5	8	7	0	2	1-2	2	1-2
Gemszkirk	6	4	5-6	4	7	6	0	3	1	2	2
Geneva	6-7	3-4	6-7	5-6	7	6	0	2	3	2	2
Ghorban	7	3	6-7	5	7-8	7	0	2	2	1-2	1-2
Gimesta	6-7	3-4	7	5-6	7	6-7	0	2	2	2	2
Gitano	7	3	7	5	7-8	7	0	1-2	3	2	1-2
Glattschalige Frühmarille	6	3-4	6-7	5-6	7	6	0	1-2	1	1	1-2
Goldcot	6	4	6	5-6	7	6-7	0	1-2	1-2	2	2
Golden Nuggat	6	4	6	5-6	7	6-7	0	2	2	2	1
Goldrich	6	4	6	5-6	7	6-7	0	3	2	1-2	1
Gönci barack 83	7	3-4	6-7	4-5	7	6-7	0	2	2	1-2	2
Gönci Magyar kajszi	7	3-4	6-7	4-5	7-8	7	0	1-2	1-2	2	2
Gönci sárga	6-7	3-4	6-7	4-5	7-8	6-7	0	2	1-2	2	2
Grosse gelbe	6	3-4	6	4-5	7	6	0	2	1	2	2
Grose weisse Marille	6	3-4	6	4-5	7	6	0	1-2	1-2	2	2
Grüne Spätmarille	6	4	6	4-5	7	6	0	2	1	2	1
Guljungi-Kurszadük	7	3	6-7	5	8	7	0-1	1-2	1-2	1-2	2
Gvadejszkij rannij	5-6	3-4	5-6	4-5	7	6	0	2	2	2	2
Habrin	5-6	4	5-6	4-5	7	6	0	2	1	1-2	1
Haci haliloglu	7-8	3	7	5	9	7-8	0	1-2	2	2	1
Hacikiz	7-8	3	7	5	8-9	7-8	0	1-2	2-3	2	2
Hamidi	7	3	6-7	5	8	7	0	2	2	1	2
Hankovszky-féle kései rózsa	6	4	6	5	7	7	0	2	1-2	2-3	2
Harbinszkij Gluhova	6	3-4	5-6	4-5	7	6	0	2	1	2	1
Harcot	7	3-4	6-7	4-5	7-8	7	0	3	2-3	1-2	2
Harglow	6-7	4	6	5-6	7	6-7	0	2-3	2	2	1-2
Hargrand	6-7	4	6	5-6	7	6-7	0	3-4	2	2	1-2
Harlayne	6-7	4	6	5-6	7	6-7	0	2	2	1	1
Harmat	6	3-4	6	4-5	8	7-8	0	3	3	2	1-2
Harogem	6-7	4	6	5-6	7	6-7	0	2-3	2	2	3
Hasambey	7-8	3	7-8	5	8-9	7-8	0	2	2-3	1-2	2
Haszak	7	3	7	5-6	8	7-8	0	2-3	2-3	2	2
Hatîf Colomer	6-7	3-4	6	4	7	5-6	0	2	2	2	1
Heimskircher	6	3-4	6	5-6	7	6	0	2	2	2	2
Helena de Roussilion	6-7	4	6	5-6	7	6-7	0	1-2	2	2	2-3

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Herson	6	4	6	5	7	6-7	0	2	2	2	2
Herszonszkij 26	6	4	5-6	4-5	7	6	0	2	2-3	1	1
Hetényi (Pukkadt) rózsa C. 777	6-7	3-4	6-7	5	7	6	0	2	1-2	3	2
H-I. 10/16	6-7	3-4	6-7	4-5	7-8	6-7	0	2	2	2	1-2
H-I. 4/25	6-7	3-4	6-7	4-5	8	6-7	0	2	2	2	2
H-II. 16/1	6-7	3-4	7	4-5	7-8	6-7	0	1-2	1-2	2	2
H-II. 16/1	6-7	3-4	6-7	4-5	7-8	6-7	0	2	2	1-2	1
H-II. 25/37	6-7	3-4	6-7	4-5	7-8	6-7	0	2	2	2	1-2
H-II. 25/62	6-7	3-4	6-7	4-5	8	6-7	0	1-2	1-2	1-2	2
H-II. 45/26	6-7	3-4	6-7	4-5	7-8	6-7	0	1-2	1	2	2
H-II. 45/26	6-7	3-4	6-7	4-5	8	6-7	0	1	2	2	1-2
H-II. 45/45	6-7	3-4	6-7	4-5	7-8	6-7	0	2-3	2	2	2
Hollandi muskotály	6	4	6	4-5	7	6	0	2	2	2	1
Holub cukorkajszi	6	3-4	6	5-6	7	6	0	2	2	2	3
Honigmarille	6-7	3-4	6-7	5-6	7	6	0	2-3	2	2	2
Hoszrovsai	7	3	6-7	5	7	6	0	1-2	1-2	2	2
Hulan	6-7	3	6	4-5	7	6-7	0	2	1	1-2	1-2
Hunter	6	4	6	6	7	6	0	2-3	2	2	2
Hurmai	6	3	6	5	7-8	7	0-1	2	1	1-2	1-2
Hurmai citroszovüj	6	3-4	6	5-6	7-8	7	0	2	1	1-2	1-2
Imperial	6-7	4	6	5-6	7	6	0	2-3	1-2	2	1-2
Imrahor	6-7	3	6-7	5	8	6-7	0	2	1	1-2	1-2
Iri-Bitirgen	7	3	7	5	8	7	0-1	1-2	2	2	2
Iszfarak	6	4	6-7	5	8-9	8	0	2	1	1-2	1-2
Jerevani	6-7	5	7	5-6	8-9	7-8	0	3-4	1	1-2	1-2
Ji-pu	6-7	4	7	5	8	7-8	0	2	2	2	2
Jitka	6	4	6-7	4-5	7	6-7	0	2	2	1	1
Június szépe	6	3-4	5-6	4	7	6-7	0	2-3	2-3	2	2
Junszkij	5-6	4	5-6	4-5	7	6	0	1-2	2	1-2	2
K-1/2	6-7	3-4	6-7	4	7-8	6-7	0	2	2	1-2	2
K-3/101	6-7	3-4	6-7	4	7-8	6-7	0	2	2	2	1-2
K III. 5/12	6-7	3-4	6	4	7-8	6-7	0	1-2	1-2	2	2
Kabaaşi	7-8	3	7	5-6	8-9	7-9	0-1	2-3	2	2	2
Kadu-hurmaj	7	3	7	5	8	7	0	1-2	1	1	1-2
Kaischa (igazi Kajszi!)	6-7	3-4	6	5	7	7	0	2	1-2	1-2	1-2
Kancler	6-7	3-4	7	5-6	7	7	0	2	1-2	1-2	2
Kandak	7-8	3	7	5	8-9	7	0	1-2	1	2	2
Karacabey	7-8	3	7-8	5	9	7-8	0	2	2-3	1-2	1-2
Kara-Olúhrod	7	3	7	4-5	7-8	7-8	0	2	1	1	1
Kécskei korai C. 242	6	3-4	6-7	4	7	6-7	0	2	2	2	2
Kécskei rózsa C. 671	6	3-4	6-7	4	7	6-7	0	2	2	3	1-2
Kecskeméti korai	6	4	6	4	7	6-7	0	2-3	2	1-2	2
Kecskeméti rózsa C. 778	6	3-4	6-7	4	7	6-7	0	2	1-2	2	2
Kecs-psar	7	3	7-8	5	9	8	0	1	1	1	2
Kioto	7	3	6-7	5	7-8	7-8	0	1	2	1-2	1-2
Kizil-Olúhrod	7	3	7	5	8	7-8	0-1	2	1	1	1

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Kjar-Gjari	7-8	3	7	5	8	7	0-1	2	1-2	1	1
Klabi	7	3	7	5	8	7	0	1-2	2-3	2	2
Kleine weisse Marille	6-7	4	6	4-5	7-8	6	0	2-3	2	1-2	1-2
Klosterneuburger	6	4	6	4-5	7-8	6	0	2	1	1-2	2
Konobas	7	3	6-7	5	7	6-7	0	2	1-2	2	2
Korai piros (Csipogó barack)	6	3-4	6-7	4	8-9	6-7	0	3	2	1-2	2
Korai zamatos	6-7	4	6-7	4-5	8	7-8	0	3	2	2	3
Korolevszkij	6	4	5-6	4-5	7	6	0	2-3	2	2	2
Koshu Saisho	7	4	6-7	6	8	7	0	2	2	1-2	1-2
Königsmarille	6-6	3-4	6	5-6	7	6	0	2	2	2	1
Krasznoscsokij (Pirospofás)	6-7	4	6-7	4-5	7	6-7	0	2-3	2-3	1	1
Krasznoscsokij Nikitszkij	6-7	4	6-7	4-5	7	6-7	0	2	2-3	1	2
Krasznoscsokij pozdnij	6-7	4	6-7	4-5	7	7	0	2-3	2	1-2	2
Krasznüj partizan	6	3-4	6-7	4-5	7	6	0	2	1-2	2	1-2
Kremser	6	4	6	5-6	7	6	0	2-3	1-2	2	2
Krimszkij amur	7	4-5	7	5	7-8	7	0	2	2	1-2	1-2
Krupna ranka	6-7	4	6-7	4-5	7-8	6-7	0	1-2	1-2	1-2	1-2
Krupnüj pozdnij	6-7	4	6-7	4-5	7-8	6-7	0	2	2	2	2
Krupnüj zsoltij	6-7	4	6-7	4-5	7-8	6-7	0	2	3	2	2
Kur Sadik	7-8	3-4	7	5-6	8-9	7-8	0-1	1-2	1-2	2	2
Kuresia	6	4	7	4	7	6-7	0	2	1-2	1-2	1
Kurszadük	7	4	6-7	5	8-9	7-8	0	2	1-2	2	1
Kuru Kabuk	7	3-4	7	4-5	8	7-8	0	1-2	2-3	2	2
Lambertin No. 1	6-7	4	7	5-6	7	6-7	0	2	2	2	2
Larclyd	6	4	5-6	5-6	7	6-7	0	2	2	2	2
Leala	6-7	4	6	4-5	7	6-7	0	2	1-2	2	2
Lenova	6-7	4	6	4-5	7	6-7	0	2	2	1-2	1-2
Lerosa	6-7	4	6	4-5	7	6-7	0	2	2	2	2
Leskova	6-7	4	6	4-5	7	6-7	0	2-3	2	1-2	2
Ligeti óriás	7	3-4	6-7	4	7-8	7	0	2-3	1-2	2	1-2
Li-guang	6-7	4	7	6	8	7	0	2	2	1	1
Litoral	6-7	3-4	6-7	4-5	7-8	7	0	2	2	2	2
Little Sun	6	4	6	5-6	7	6	0	2	1-2	2	1-2
Löschnig Marille	6	4	6	5	7	5	0	2	1-2	2	2
Lucssij Micsurinszkij	6	4	5-6	4-5	7	6	0	2	1	1	2
Luizet	6-7	3-4	6-7	4-5	7-8	5-6	0	2	1	2	2
Luna	6-7	3-4	6	6	7-8	6	0	2-3	2	2	2
Magiccot	7	4	6	6	7-8	6	0	1-2	1-2	2	2
Magyar kajszi C, 602	6-7	3-4	6-7	4-5	7-8	7	0	1	2	2	2
Magyar kajszi C. 1685	6-7	3-4	6-7	4-5	7-8	7	0	1-2	1-2	2	2
Magyar kajszi C. 235	6-7	3-4	6-7	4-5	8	7	0	1-2	2	2	1-2
Magyar kajszi C. 256	6-7	3-4	6-7	4-5	7-8	7	0	1-2	2	2	1-2
Magyar kajszi C. 302	6-7	3-4	6-7	4-5	8	7	0	2	2	1-2	2
Magyar kajszi C. 501	6-7	3-4	6-7	4-5	7-8	7	0	2	1-2	2	2
Magyar kajszi C. 617	6-7	3-4	6-7	4-5	7-8	7	0	1-2	2	1-2	1-2
Magyar kajszi C. 660	6-7	3-4	6-7	4-5	7-8	7	0	2	2	2	1-2
Magyar legjobb	6	4	6-7	4-5	7	6-7	0	1-2	1-2	2	1-2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Mahmudn Erigli	7-8	4	7	5	8	7	0	2	2	2	1-2
Mahtobi-dzsaupazak-kandü	7	4	7	5	8-9	7	0	2-3	2	1	2
Mai-huang-hszing	6-7	4	6-7	5	7-8	7	0	2	2	2	2
Majombarack	6	4	6	4	7	7-8	0	1	1-2	1-2	1-2
Malatya	7-8	4-5	7	5	9	6-7	0	1-2	2	2	2
Malayerri	7	4	7	5-6	7-8	6-7	0	1-2	1	1-2	2
Malice	7	3-4	6-7	5-6	8	6-7	0	2-3	2-3	2-3	2
Mamaia	6-7	3-4	6-7	4-5	7-8	6-7	0	2	2	2	2
Manchu	7-8	3	6-7	4-5	8	6	0	1-2	1	1	1
Mandulakajszi (Erős-féle kései)	6	3-4	6-7	4-5	7-8	6-7	0	3	2	2	2
Mandulakajszi C. 712	6	3-4	6	4-5	8	5-6	0	2-3	2	2	1-2
Mandzsu (sibirica)	5-6	3-4	5	4	7	5-6	0	1	1-2	2	1
Mauricio	7-8	3-4	6-7	5	8	7	0	2	3	2	2-3
Mech-mech	7-8	4-5	7-8	5	9	7-8	0-1	1-2	3	2	2
Micsurinszkij lucssij	5-6	5	5-5	4-5	7	6	0	2	1	1-2	1
Mirmai	6-7	5	6	4-5	7-8	7	0	2	1	1-2	1-2
Mirszandzsali	6	4	6-7	5	8	6-7	0	1	1-2	1-2	1
Mk 132-5	6-7	3-4	6-7	4-5	7-8	7	0	2	2	1-2	2
Mk. 150	6-7	3-4	6-7	4-5	7-8	7	0	1-2	2	2	2
Monaco Bello	7	4	6-7	5-6	8	7	0	2	3	2	2
Mongol	5-6	3	5-6	4-5	8	5-6	0	2-3	1	2	1-2
Moniqui	6-7	4	6-7	5	8-9	5	0	1-2	2-3	2	2
Moongold	6	3-4	6	5	8	6	0	2	1	2	2
Montgamet	6	3-4	5-6	5-6	8-9	6	0	2	2	1-2	1-2
Moorpark	6-7	3-4	6	4	7	5-6	0	3	2-3	2	2-3
Morden	6	4	6	4-5	7	6	0	1-2	1	1-2	2
Mund	6	4	6	5-6	7-8	6	0	2	2	2	2
Musa	7	4-5	6	5	7-8	6-7	0	2-3	2-3	2	2
Musa-Amar	7	4	7	5	8-9	7-8	0	1-2	1-2	1	1
Muskotály barack	6-7	4	6	4-5	8	7	0	2	2	2-3	2-3
Mus-Mus	7-8	4	7	5	9	7-8	0-1	2	2-3	1-2	2
Myrobalán kajszi C. 308	7	4	6	5-6	7	7	0	3	1	2	2
Nagyenyedi kajszi	6-7	3-4	6	4	7	7	0	1-2	2	2	2
Nagykőrösi óriás	6-7	3-4	6-7	4-5	7-8	6-7	0	3	2	2	1-2
Nagyszombati kajszi	6	3-4	6	4	6-7	7	0	2	2	2	2-3
Nahicsevanszkij krasznüj	6	4	7	5-6	8	7	0	2	2	2	2
Nahudka	6-7	3-4	6	5	8	7	0	2-3	2	1-2	1-2
Nancy (Luxemburgi)	6-7	3-4	6	4-5	8	5-6	0	1-2	2	2	3
Naramata	7	4	6-7	5	7-8	7	0	2	2	2	1
Nashi	7	4	6-7	5	7-8	7	0	1-2	2-3	1	1-2
Nektar	6-7	3	6	5-6	7	7	0	2	2	2-3	2
New Jersey A. 1	6	3-4	6	5-6	7-8	6	0	2	1-2	2	2
Newcastle	6	3	6	5-6	7	6-7	0	1-2	2	1-2	1-2
Nikitszkij	6-7	3-4	6-7	4-5	8	6-7	0	2	2	1-2	2
Nimfa	7	4	6	5-6	7-8	6-7	0	1-2	2	2-3	1
Novraszt belüj	5-6	4	6	4-5	7	6	0	2	2	2	2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Novraszt krasznüj	5-6	3-4	6	4-5	7	6	0	2	1-2	1-2	2
Nugget	6	3-4	6	5-6	7	6	0	1-2	2	2	1
Nyujtó Ferenc emléke	6-7	3-4	6-7	4-5	7-8	6-7	0	1-2	1-2	1-2	1-2
Old Moorpark	6	3-4	6	5-6	7	6	0	2	2	2	2
Olimp	6-7	3-4	6-7	5	7-8	7	0	2-3	2	2	1-2
Onossay-féle kajszi	6-7	3-4	6-7	4-5	7-8	6-7	0	2	2	2	1
Orange Marille	6	3-4	6	5-6	7-8	6-7	0	2	1	2	2
Orange Red	6	3-4	6	5-6	7-8	6-7	0	3	2	2	3
Oranzsevoj krasznüj	6	3	6	4-5	7	6	0	2	2	1	1-2
Oranzsevoj pozdnij	6	3	6	4-5	7	6	0	2	2	1	1
Oranzsevoj sztojkij	6	3-4	6	4-5	7	6	0	1-2	2	1	1
Ordubadi	7-8	4	6-7	5	8	7	0	2	3	2	1-2
Overnszkij szkoroszpelüj	6	4	5-6	4-5	7	6	0	1-2	1-2	1-2	1-2
Paksi Magyar kajszi	6-7	3-4	6-7	4-5	7-8	7	0	2	1-2	2	2
Palau	6-7	3-4	6	5	7	5-6	0	2	1-2	2	1-2
Pannónia	6	3-4	6	4-5	8	6-7	0	1-2	2	2-3	2
Pannwach	6-7	3-4	5-6	5-6	7	6-7	0	2	2	2	2
Paviot	6-7	4	6	4-5	8	6-7	0	2	1-2	2	1-2
Pécsi óriás	6-7	3-4	6	4-5	7-8	7	0	2-3	2	2	2
Peeka	7	3-4	6-7	5-6	7-8	6-7	0	2-3	2-3	1-2	2
Pellecchiella	7	4	7	5	8	7	0	2	3	2	2
Pepito de Rubio	7-8	4	7	5	8-9	7	0	2	2-3	2	1-2
Perfection	6-7	3-4	6	4-5	7-8	6	0	3	1-2	2	1-2
Perla	7	3-4	7-8	5	8	7	0	2	2-3	1-2	1-2
Piros kajszi	6	3-4	7	4-5	7-8	7	0	2-3	2	2	2
Pirospofás	6-7	3-4	7	4-5	7-8	7	0	2	2	1	2
Podarok	6	3-4	6	4-5	7-8	7	0	1-2	2	2	2
Polonais	6	3-4	6	4-5	8	6	0	2-3	2-3	2	1-2
Polummella	7-8	4	7	4-5	8	7	0	2-3	3	2	1-2
Portici	7-8	4	5-7	5	8	8	0	2-3	2-3	3	2-3
Portugal	7	4	7-8	5	8-9	8-9	0	2	3	2	2
Précoce de de Boulbon	6-7	3-4	6-7	5-6	7-8	6-7	0	1-2	2-3	2	2
Précoce de Monplaisir	6	4	6-7	4	7-8	5-6	0	2	2	2	2
Priboto (Zebra)	6-7	3-4	6-7	4-5	7-8	7	0	2	2	1	2
Priszudebnij rannij	6-7	3-4	6-7	4	7	7	0-1	2	1-2	1	1
Progressz	6	3	6-7	4-5	7	7	0	2-3	1	1-2	1-2
Provance-i	7	4-5	7-6	5	8	7	0	2	3	2	2-3
Purpurovüj	7-8	4-5	7	5	7	7-8	0	2	1-2	2	2
Rakovszky kajszi	6-7	3-4	6	4	8-9	6-7	0	1-2	2	3	3
Reale d'Imola	6-7	4	7	4-5	8-9	5-6	0	2	1-2	2	1-2
Red Reinbow	6-7	3-4	6	6	7-8	6	0	2	1-2	2	2
Redsweet	6-7	3-4	6-7	6	7-8	5-6	0	2	1-2	2	2
Reece	6-7	3	6	5-6	7	5-6	0	2-3	2-3	2	1-2
Reeves	6	3-4	6	5-6	7	5-6	0	2	2	1-2	2
Reliable	6	3-4	6	5-6	7	6	0	1-2	2	2	2
Riland	6	3-4	6	4-5	7	6	0	2-3	2	2	2
Robada	6-7	4	6	5	7-8	6	0	2	2-3	2	1-2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Római barack	7	3	7-8	5	8	8	0	2-3	2	2	2
Rose Fournes	7	3-4	6-7	5-6	7-8	6-7	0	2	1-2	1-2	2
Rouge de Rivesaltes	6	3-4	6	4-5	7	6-7	0	2-3	2	2	1
Rouge de Roussillon	6	3-4	6-7	4-5	7	6-7	0	1-2	2	2	1-2
Rouge de Sernhac	6	3-4	6-7	4	7	6-7	0	2	2-3	3	3
Roxana	6-7	3-4	6-7	4-5	7-8	7-8	0	2-3	3	2	3
Roxburgh Red	6	3	6-7	6	7	6-7	0	2	2	2	2
Royal (Blenheim)	6-7	3-4	6-7	4-5	7-8	7-8	0	1-2	2	2	3
Rózsabarack C.1478	6	3-4	6-7	4	7-8	7-8	0	2	2-3	2	1-2
Rózsakajszi C.1406	6-7	3-4	6-7	4	7-8	7-8	0	2	1-2	2	2
Ruhi Dzsuvani	6	4-5	7	5	8	8	0	2-3	1	1	1-2
Rumjanij	6-7	3-4	6	4-5	7-8	7	0	2	3	2	1-2
Sakit 2	7-8	3-4	6	4	7-8	7	0	2	2	2	2
Salah	6-7	4-5	7	5-6	8-9	7-8	0	3-4	1	1-2	1-2
Salgirszkij	7	4	6	4	7	7	0	2	1-2	2	2
San Castrese	7-8	4-5	7-8	5-6	7-8	7-8	0	1-2	2-3	2	1-2
Sansin	7	4	7	5	7	7	0	2-3	2	2	2
Sartilega	6-7	4	7	5	7	7	0	2	2-3	2	2
Satani	7	4-5	7	5	7-8	6-7	0-1	2	2	1-2	2
Saturn	7	4	6-7	5-6	7-8	7	0	2	2-3	2	1-2
Screará	6-7	4	6-7	4-5	7	6-7	0	1-2	2	2	2
Schöne von Randon	6	3-4	6-7	4-5	7	6-7	0	2	1-2	1-2	2
Şekerpare	7-8	4-5	7-8	5	8-9	8-9	0	1-2	2-3	1-2	2
Selena	6-7	4	6-7	5	7-8	8-9	0	2-3	2	2-3	3
Selyembarack	6-7	4-5	6-7	4-5	7	7-8	0	2-3	2	2	3
Shakar para	7-8	4	7	5	8-9	9	0	1-2	2	2	1-2
Shastomi	7	4	6-7	5	7-8	8-9	0	2	2	2	1
Sindahlan	6-7	4	7	5-6	8	7-8	0	2	2-3	1-2	1-2
Sindalan	7	4	6-7	5-6	7-8	7	0-1	1-2	2	2	2
Sing (sibirica)	5-6	3-4	5-6	4	7	6	0	2	1	1-2	2
Sirazszkij belüj	7	4	7	5	8-9	7	0	2	2	1-2	1-2
Sirazszkij pozudni	7	4	7	5	8-9	7	0	2	1-2	2	2
Sirena	6-7	3-4	6-7	4-5	7-8	6-7	0	3	2	2	2
Soganci	7	4	6	5	8	7	0	1-2	2	2	2
Sortilege	6	4	6-7	4-5	7	6	0	2	2	1-2	2
Southwick	6	4	6	5-6	7-8	6-7	0	2-3	2	2	2
Spitak	7	4	6-7	5	8	7	0	2	1-2	2	1
Stark Early Orange	6	4	6	5-6	7-8	6-7	0	2	2	1	1
Stella	6-7	4	6	5	5	6	0	1-2	2	1	1-2
Story	6	4	6	4-5	7	6-7	0	2-3	2	2	2-3
Sun Glo	6	4	6-7	5-6	7	6-7	0	1-2	1-2	1-2	2
Sulmona	7-8	4	7	5	8-9	8-9	0	1-2	2-3	3	3
Sundrop	6	3-4	6	4-5	7	6-7	0	1-2	2	2	2
Supergold	6	3-4	6	4-5	7	6-7	0	2	2	1-2	2
Szacer	7	4	6	5	7	7	0	3	1	2	1-2
Szaharnüj Goluba	6-7	4-5	6	5	8	6-7	0	2	1-2	1-2	1-2
Szalgirszkij	6	4	6	5	8	6-7	0	2	1-2	2	2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Szamarkandszkij rannij	6	4	7	5-6	7-8	8	0	2	2	1-2	3
Szegedi maumut	6-7	3-4	6-7	4	7-8	7	0	2-3	2	2	2
Szentrjabszkij urjuk	5-6	4-5	7	5	7	7	0	2	1	1-2	1
Szilisztrai	6-7	4	6-7	5	7-8	7	0	2	2	2	1-2
Szilisztrenszka kompotna	6-7	4	6-7	5-6	7-8	7	0	1-2	2	2	2
Sziriai kajszi	7-8	4-5	7	5	9	8	0	2	3	2	2
Szkopszka krupna	6-7	3-4	6-7	5	7-8	7	0	2	2	2	3
Szmena	6	3-4	6-7	4-5	7-8	6-7	0	2-3	2	2	2
Szorocsinszkij	6	3-4	6	4-5	7	6-7	0	2	2	2	1-2
Szőregi cukorrózsa	6	3-4	6-7	4	7	7	0	2	2	2	2
Szpitak	6	4	7	5	8	5-7	0-1	2	1-2	1-2	1-2
Szuper rózsa H-II. 36/26	6	3-4	6-7	4-5	7	7	0	1-2	1-2	3	2
Szuphoni	7	4-5	7	4	7-8	6-7	0	1-2	1	1-2	1-2
Tabarsa	7	4	6-7	5	7	7	0	2	1-2	1-2	2
Tadeo	7	4	5-6	5	8	7	0	2-3	2-3	2	2
Tápiószelei korai	6	3-4	6-7	4	7	6-7	0	2	1-2	2	2
Tardicot	6-7	4	6-7	5-6	7-8	6-7	0	1-2	2	2	2
Tardif de Tain	6-7	4	6-7	5-6	7-8	6-7	0	2	2	2	2
Tegnamus	6-7	4	6	5	7	7	0	2-3	2-3	2	2
Tengeribarack C. 809	6	3-4	6-7	4	7	6	0	1	2	1-2	1-2
Tengeribarack C. 1300	6	3-4	6-7	4-5	7	6	0	1-2	2	2	2
Tengeribarack C. 1650	6	3-4	6-7	4	7	6	0	1	2	1-2	2
Tengeribarack C. 1652	6	3-4	6-7	5	7	6	0	1	2	1-2	1-2
Tengeribarack C. 2546	6	3-4	6-7	4	7-8	6-7	0	2	2-3	2	2-3
Tilton	6-7	3-4	6-7	5	7-8	7	0	2-3	2-3	2	2
Tirynthos	7-8	4-5	7	5	7	8	0	2	2-3	1	1-2
Tirziu de Bucuresti	6-7	4	6-7	5-6	7-8	7	0	2	1-2	2	2
Tlor-Ciran	7	4-5	7	5	8-9	7	0	1	2	1	1-2
Tokaloglu-Erzincan	7-8	4-5	7-8	5	8	7-8	0	2	2-3	2	1
Tokaloglu-Konya Eregli	7-8	4-5	7-8	5	8	7-8	0	2	2	2	2
Tokaloglu-Yalova	7-8	4-5	7-8	5	8	7-8	0	2	2	1-2	2
Tola (sibiririca)	5-6	3-4	6	4	7	5-6	0	2	1	1	2
Touursi Alberge	6-7	3-4	6-7	5-6	7	6	0	1	1-2	2	2
Toyaco	6-7	3-4	6-7	4-5	7-8	7	0	1	2	2	1-2
Toyesi	6-7	3-4	6-7	4-5	7-8	7	0	2-3	2	2	2
Toyuda	6-7	3-4	6-7	4-5	7-8	7	0	1	2	2	2
Traian	6-7	3-4	6-7	4-5	7-8	7	0	2	2	2	2
Trewatt	6-7	4	6	5-6	7-8	6	0	2	3	2	2
Triumph von Trier	6	3-4	6	4-5	7	5-6	0	1	2	2	2
Tsunami	6-7	4	6-7	5-6	8	6-7	0	2-3	2	1	1
Tufanda Izmir	7-8	4-5	7	5	8	7-8	0	2	3	2	1-2
Tuhum-sansz	7	4	7	5	7-8	7	0-1	2	2	2	2
Turdi-kuli	7-8	4-5	6-7	4-5	8-9	7	0	2-3	1	1	2
Ungarische Beste	6-7	3-4	6-7	4-5	7-8	6-7	0	1-2	2	2	1
Urjuko-alücsa zsoltaja	5-6	4	7	5	8	6-7	0	1-2	1	1	2
Uspeh	5-6	3-4	7	4-5	7-8	6-7	0	2	2	2	1-2
Utah	6	3-4	6	5	7	6	0	2	2	2	2

Cultivar	TB	WB	RB	NB	LB	KB	SB	OP	FR	SS	DR
Üllőii csúcsos	6-7	4	6-7	4-5	7	6-7	0	2-3	2	2	1-2
Valenciano	7-8	4	6-7	5	8	7	0	2-3	2-3	1-2	1-2
Valnur	6-7	4	6-7	5	7-8	6-7	0	2	2	2	2
Vászonbarack	6-7	4-5	6-7	4-5	7	6-7	0	3	2	2	2-3
Veecot	6	3-4	6	4-5	8	6	0	2-3	2	1-2	3
Vegama	6-7	4	6-7	5-6	7-8	7	0	2	2-3	2	2
Velasquez Fino	7-8	4-5	7	5	8-9	7-8	0	1-2	3	2-3	2
Velita	7	3-4	6-7	5	7-8	7	0	2	2	2	2
Velvaglo	7	3-4	7	5	7-8	6-7	0	2-3	2-3	2	3
Vemina	7	3-4	6	4-5	7	6-7	0	2	1-2	2	1-2
Venus	7	3-4	6-7	5-6	7-8	6-7	0	2	2	2	2
Versaillesi	6-7	3-4	6-7	5-6	7	6	0	2	1-2	2	2
Vestar	6-7	3-4	6-7	5-6	7	6	0	2	2-3	2	2
Viceroy	8	4	7	5	7-8	6-7	0	2	2	2	2
Vivagold	8	4	6	5-6	7-8	6	0	2	2	2	1-2
Voronyezsi	5-6	3-4	6	4	7	5-6	0	2	1	1-2	1
Vulcan	6-7	4	6-7	5	8	6-7	0	1-2	3	2	2
Watkins	6	3-4	6-7	5-6	7	6	0	2	2	2-3	2
Westley	6	4	6	5-6	7	6	0	2	2-3	2	2
White Silver	6	3-4	6	6	7	5-6	0	2-3	2	2-3	1.2
Wondercot	7	4	7	5-6	7	7	0	2-3	2	1	2
Yakamine	6	3-4	6-7	5-6	7-8	6-7	0	2	2	1-2	1-2
Yellowcot	6	4	6-7	5-6	7-8	7	0	2	2	2-3	2
Ying ji-sha	6-7	4-5	6	6	8	7-8	0	1-2	2	2	1-2
Zaposzdole	6	3-4	6	5	7	6	0-1	2	1	1	1
Zard	5-6	3	5-6	5	9	7	0	2	1	1	1
Zarolju	5-6	3-4	5-6	4-5	7-8	5	0-1	2	2	2	1-2
Zolotoje leto	6	4	6	4-5	7-8	6	0	2-3	2	2	2

Table 2: Relative ecological indicator values of apricot cultivars

Relative ecological indicators	Interval	Mean	CV, %
Temperature figures (TB)	5→8	6,56±0,81	12,3
Moisture figures(WB)	3→5	3,64±0,69	18,1
Reaction figures (RB)	5→7	6,41±0,34	5,3
Nitrogen figures (NB)	4→6	4,84±0,82	16,9
Light figures (LB)	7→9	7,55±0,74	9,9
Continentality values (KB)	5→8	6,65±0,89	13,6
Salt figures (SB)	0→1	0,03±0,04	135,3
Open pollination (OP)	1→4	1,99±0,71	35,8
Frost resistance (FR)	1→3	1,94±0,69	36,1
Sharka sensitivity (SS)	1→3	1,79±0,56	31,3
Disease resistance (DR)	1→3	1,74±0,63	36,0

Table 3: Comparison of ecological and biological indicator values on two fruit species

(The plums were in Intern. J. Hort. Sci. 2015)

Indicator values (means)	Plums	Apricots	Differences, %
TB	5.79	6.55	88.4º
WB	5.56	3.64	152.7**
RB	5.48	6.41	85.5º
NB	5.17	4.84	106.8
LB	5.57	7.55	73.8
KB	5.83	6.55	89.0º
SB	0.04	0.03	133.3*
OP	2.62	1.99	131.7*
FR	1.84	1.94	94.8
SS	1.96	1.79	109.5
DR	1.88	1.74	108.0

º P=10 %, * p= 5 %, ** p= 1 %

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