

HYBRIDIZATION OF DOMESTIC PRUNES WITH BLACK APRICOT (*PRUNUS DOMESTICA* L. X *ARMENIACA DASYCARPA* EHRH.)

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Abstract

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Within the framework of hybridization of domestic prunes and black apricots (*Prunus domestica* L. x *Armeniaca dasycarpa* Ehrh.) altogether sixteen plants were obtained, of which twelve were identified as hybrids and were kept alive, the same as the variety Jibeck. In hybrids, various degrees of domination of morphological traits of domestic prune were observed. Traits of black apricot were manifested weakly in seven hybrids and in the other five and in the variety Jibeck more perfect, semi dominant. In latter the effect of double set of genes was manifested, which was brought into the zygote by unreduced microspores of the black apricot. Some important properties of unmodified status, such as resistance to abiotic and biotic environmental factors, growth inhibition, yielding capacity, earliness, and high quality of fruit, were combined in these hybrids. The obtained hybrids are very interesting from the viewpoint of selection and breeding of new varieties of domestic prune, obtaining tetraploid and hybrid varieties of black apricot, and breeding and selection of individuals of ordinary apricot with some valuable traits of domestic prune.

remote hybridization, domestic prune, black apricot, interspecific hybrids

When improving the domestic prune, its hybridization with the black apricot is of a considerable interest for the use of genetic resources of apricot due to its high productivity, frost-resistance, serotonin rhythm of spring development, and resistance to some fungal diseases. The black apricot (*Armeniaca dasycarpa* $2n = 2x = 16$) is a hybrid species, which originates from hybridization of cherry plums with ordinary apricots. Spontaneous varieties of black apricots, and artificially created hybrids of apricot with cherry-plum as well as with other diploid types of prune are known as well (Kovalev, 1995; Kostina, Riabov, 1959; Eremin, 1977). The involvement of polyploid individuals of blackthorn and domestic prune into the process of hybridization gives us an opportunity to increase essentially the frost resistance of generative buds in hybrids (Isachkin, 1997). However, this variety is less

interesting for hybridization purposes because of difficulties with getting viable and fruiting hybrids.

In our experiments, several hybrids of black apricot with domestic prune were used, which originated from the Crimean experiment selection station WIR of the Russian Federation; although they were not very fruitful or were even sterile, they were very interesting for hybridization purposes due to the fact that it was possible to obtain tetraploid apricot trees with valuable features of domestic prune (Eremin, 1997). In the Botanical Garden of the Academy of Sciences of Kyrgyz Republic, a fruitful hybrid of domestic prune with black apricot called Jibeck was selected. This hybrid produced heavy fruits (Soldatov, 1982). Within the framework of a further hybridization of domestic prune with black apricot altogether sixteen hybrids were obtained (Soldatov, 1998). The manifes-

tation of traits of parental species of interspecific hybrids is defined by a number of interrelations of their sub-genes, which are unified in the hybrid genome. In hybrids of domestic prune with the black apricot, the chromosomal part of apricot in the genome was reduced to four and this resulted in a marked domination of the morphological type of domestic prune (Eremin, 1985). Further, the hybridization of domestic prunes with gametes of an ordinary apricot allowed us to obtain several fertile hybrids with a dominant manifestation display of some apricot traits (Zdruikovskaya–Rihter, 1974). When selecting prunes and apricots, an analysis of morphogenetic phenomena and of manifestation of traits and properties of black apricot in its hybrids with domestic prune is very interesting from both scientific and practical points of view.

MATERIAL AND METHODS

When crossing the domestic prune (*Prunus domestica* L., $2n=6x=48$) with the black apricot (*Armeniaca dasycarpa* Ehrh., $2n=2x=16$), the following varieties of black apricot were used as female parents: Aelita, Vengerka Albakh, Vengerka Yubileynaya, Djoriss Plum, Monphor, Niagara, and President Stanley. As male parents, the following varieties of black apricot were used: Melitopolskiy Chernyi (*Prunus cerasifera* Ehrh. x *Armeniaca vulgaris* Lam.), Salut (*Prunus ussuriensis* Kov. et Kost. x *Armeniaca vulgaris* Lam.), and Abricosolistnaya (*Prunus cerasifera* Ehrh. x *Armeniaca vulgaris* Lam.). Prior to pollination, flowers of self-pollinating varieties were castrated and used without emasculation in self-sterile varieties. Stigmas of castrated flowers were moistened with 1% gibberellin solution and in some extesticulated in 1–1,5 hours after using pollen by means of finely dispersing pulveriser. Seeds were either stratified in boxes containing sand or cultivated on White's medium as an in vitro tissue culture (Anonym, 1978).

Rooted and transplanted hybrid plants were thereafter used as the experimental material. Morphological descriptions involved altogether 136 tree, leaf, flower, fruit and stone features (Soldatov, 2000).

Peculiarities of growth rhythm and development, and the frost resistance were studied on (Anonym, 1973), the base of the leaf water-retaining capacity (Eremeev, 1976), heat-resistance (Ahmatov, 1972), and resistance to damage by biotic factors (Soldatov, Costritsina, 2001). Unsuitable hybrid plants were eliminated on the basis of a controlled hybridization and analysis of the manifestation of morphological traits of the paternal varieties.

RESULTS AND DISCUSSION

Experiments with hybridization of domestic prune with black apricot were performed within the period of 1986–1993. Variants of hybridization and the obtained results are presented in Table 1. With the exception of hybrid combinations Monphor x Abricosolistnaya and Vengerka Albakha x Abricosolistnaya, the efficiency of hybridization was extremely low in all variants. In hybridization experiments with varieties Aelita, Niagara, Djoriss Plum, and President Stanley it was found out that their flowers were completely incompatible with the pollen of black apricot varieties Abricosolistnaya and Salut. An analysis of hybrids and results of morphological descriptions demonstrated that in hybrids some growth inhibitions occurred, e.g. a considerable reduction of quantitative traits of trees, sprouts, leaves, and flowers (even on the strong-growing rootstocks the experimental trees were underdeveloped). The obtained plants were propagated on strong-growing cherry-plum rootstocks to preserve them alive and usable for further investigations. From these experiments altogether sixteen plants were obtained; twelve of them remained alive and were identified as hybrids.

I: Results of hybridization of domestic prune with black apricot

Hybridization variants	Pollen of flowers	Seeds obtained		Grown seedling		Including in vitro	Specified as hybrids
		Number	%	Number	%		
Monphor x Abricosolistnaya	300	23	7.6	6	26.1	6	6
Vengerka Yubileynaya x Abricosolistnaya	803	1	0.1	1	100	1	1
Vengerka Albakha x Abricosolistnaya	865	44	5.1	6	13.6	6	2
Vengerka Yubileynaya x Melitopolskiy chernyi	937	4	0.4	2	50.0	2	2
Monphor x Salut	168	1	0.6	1	100	1	1
Total	3073	73	13.8	16	21.9	16	12

Hybrids of domestic prune and black apricot differed according to the degree of manifestation of traits of paternal varieties.

In hybrid combinations: Vengerka Yubileynaya x Melitopolskyi Chernuyi No. 25, 31, Vengerka Yubileynaya x Abricosolistnaya No. 1, Monphor x Abricosolistnaya No. 6, Monphor x Salut No. 1, Vengerka Albakha x Abricosolistnaya No. 1, and No. 2, the display of traits was weak as far as the tree, sprout, leaf, and flower traits were concerned. It was found out that morphological traits of the domestic prune markedly dominated. In some cases, however, an intermediate display of parental traits was observed as well.

In hybrid combinations of Vengerka Yubileynaya x Melitopolskyi Chernuyi No. 25, 31 trees are of medium size with oval crowns. The bark was dark-grey, rough and strongly cracked. In these hybrids, convex lenticels were densely located. Shoots with short internodes were reddish-brown and pointed down, with medium pubescence; the crown was thorny with spines. Leaves were small, oval, with sharply pointed tops and rounded bases. Leaf blades were flat and green. Leaves were crenated and large. Petioles were short and pigmented. There were 1–2 flowers in gemma bud and they were small, acetabuli-formed, and with corona's diameter of 19–20 mm. Length of pistils was 13 mm, the stigma was rounded and longer than the anthers. In hybrids No. 31 and 25, the ovary was naked and/or slightly haired, respectively. The calyx was of campanular shape and the peduncle was short; its length ranged from 8 to 10 mm. Fruits of the hybrid No. 31 were rounded and oval. Their color was reddish and the major part of the fruit surface showed a bordeaux shade. Cuticolous spots were scarce and the wax cover of fruit was medium. The top was foveated, base with trumpet of an average depth, which opened itself into a deep celiac seam. The rind was thin and elastic. Flesh was yellow, floury, and contained coarse-fibred strings. The flavor was harmonic and was evaluated with 4.4 point in a 5-point scale. Sugar content was high, acidity average and fragrance rich. Pedicels were short and thin. Stones were elongated, oval, brownish, with widely unbend edge of furrow and a weak outgrouwing of keel, which was free of flesh. The mass of stones was 0.8 g.

In hybrids of Vengerka Yubileynaya x Melitopolskyi Chernyi, the manifestation of black apricot traits was very weak. Scarce leafage, frequent occurrence of lentils, hazel color of shoot bark and presence of spines in the tree crown were manifested in these hybrids. Leaves had a rounded base of lamina and a pointed top, and the upper part of the pubescence was absent. Flowers had narrow sepals and their surface was of a faint pink color. The color of fruits was bordeaux-red, with a depression at apex fruit, acid the flavor of skin, specific aroma, coarse-fibred of

flesh, and adherence of stone to flesh were displayed in fruit. Some forms had a deep celiac suture on fruits, short fruit stalks, and semi-enclosed spinal suture on stones.

In hybrids of Monphor x Abricosolistnaya No. 1, 2, 3, 4, and 5 and in the Jibeck variety, an incomplete degree of domination of domestic prune and a considerable influence of the morphological type of diploid species was observed. In this case, the manifestation of modalities of the morphological character of black apricot in the phenotype of hybrids was stronger.

Hybrids of Monphor x Abricosolistnaya No. 1, 2, 3, 4, and 5 were either dwarfed (with heights of 1.5–3 m) or of medium size (with heights of 4.2–4.5 m). Their crowns were mostly oval in shape and very thick due to a very rich character of branching and abundant formation of annual shoots. Lenticels were convex and their number was average. Annual shoots were of hazel color, upright, and with short internodes. One half of hybrids were without pubescence, with spines within the crown and with the formation of generative buds on long shoots. The leaves of most forms were small, oval, top-pointed, and with an obtuse base. Petioles were short (4–8 mm) and pigmented. There was mostly only one flower in the bud and in the majority of hybrids these were of average size (with the diameter ranging from 20 to 26 mm) and with a flat corona. Petals were of obovate shape, with the length of 9–11 mm, white, widely-open, and with naked ovaries. Fruits were small, (weighing from 15.4 to 18.1 g), rounded, egg-shaped, and of violet-bordeaux color. Their top was rounded, and their base was with a shallow stalk cavity and a weak suture. Fruit skin was thin and acid, flesh of yellow color, fibred, and with average juiciness. Their taste was acid-sweet taste and with a slight apricot aroma. Fruit stalks were short and thin. Stones were rounded, egg-shaped, with the weight of 0.7–1.5 g, and their spinal suture was opened while the ventral one was narrow; their outgrowing keel was large and sharp and there were also shallow hammered adhereance in the stone surface. The separability of flesh from stones was either average or bad.

In hybrids Monphor x Abricosolistnaya No. 1, 2, 3, 4 and 5, the display modalities of traits of the cultivar Abricosolistnaya was strong. Internodes on annual shoots were short and there were some spines in the crown. The color of bark was green to brown, buds were without pubescence and the number of lenticels was higher. Tops of generative buds were rounded and the vegetative ones were very small. Leaves were of rounded-to-oval shape, with a sharply pointed top, bending blades and elevated nectaries. Flowers were with cup-shaped naked calyx and sepals of oval-triangular shape, and pigmented. The majority of fruits was of bordeaux-red color, with acid skin, floury

flesh and rounded thick stones with hardly visible lateral ribs. In one third of hybrids, fruit stalks were short, and the flesh was yellow and finely fibred. In some forms, the surface of stones was smooth and there was a half-closed spinal suture on them.

Differences in the degree of manifestation of paternal traits in these hybrids indicated the presence of a diploid set of black apricot genes in genomes of Monphor x Abricosolistnaya No. 1, 2, 3, 4 and 5 and in the Jibeck variety; in contradistinction to other hybrids, which had only one genome, this resulted probably from an interaction of a reduced gamete of domestic prune with an unreduced diploid gamete of the black apricot. The presence of two genomes of black apricot in these hybrids gives an opportunity to obtain not only hybrids with a more perfect, semi dominant manifestation of traits but also to reach

normal interactions of chromosomes in zygote and produce viable seeds and plants. This was the main cause of a higher efficiency of hybridization (Tab. I). A different degree of growth inhibition and of branching was caused by the homozygosity of the recessive allele. Formation of unreduced microspore can be observed in representatives of different kinds of stone fruits, which connected with the genetic control of reduction under microsporogenesis. We have received analogous types of hybrids in different variants of crossings *Prunus domestica* L. x *Armeniaca vulgaris* Lam. and *Prunus domestica* L. x *Persia vulgaris* Mill. (Soldatov, Costritsina, 2001; Soldatov, Costritsina, 2002).

It was found out that hybrids of domestic prune and black apricot differed in quality of their fruits and in their yielding capacity (Tables II and III).

II: A brief characterization of fruits of domestic prune x black apricot hybrids

Name of hybrid and/or variety	Average weight of fruit, g.	Fruit color	Flesh consistency	Separability of stones	Taste	Ripening Date
1. Monphor x Abricosolistnaya 1	16.1+0.53	Red-bordeaux	Dense, grained-stringy, average juicy.	Inseparable	3.8	22.08
2. Monphor x Abricosolistnaya 2	24.5+0.39	Bordeaux-violet	Dense, grained-stringy, average juicy.	Average	4.2	04.09
3. Monphor x Abricosolistnaya 3	18.2+0.59	Violet-bordeaux	Dense, grained-stringy, average juicy.	Average	3.9	21.08
4. Monphor x Abricosolistnaya 4	22.2+0.91	Violet-bordeaux	Average dense, grained-stringy, juicy	Difficult	3.8	20.08
5. Monphor x Abricosolistnaya 5	17.7+0.65	Red-bordeaux	Dense, grained-stringy.	Difficult	3.9	22.08
6. Monphor x Abricosolistnaya 6	15.4+0.46	Yellow-orange	United, fine-grained, average juicy	Average	4.0	20.08
7. Monphor x Salut	18.6+0.86	Violet-black	United, grained-fiber, average juicy.	Difficult	4.1	20.08
8. Vengerka Albakh x Abricosolistnaya 1	16.0+0.52	Violet-bordeaux	Average dense, grained-fiber, juicy	Average	3.9	12.08
9. Vengerka Albakh x Abricosolistnaya 2	11.2+0.71	Violet-bordeaux	United, fine-fiber, average juicy	Good	3.7	26.08
10. Vengerka Yubileyanaya x Melitopolskyi Chernyi No. 1	23.5+0.76	Red-bordeaux	United, <u>pulverulent</u> , mealy, average juicy	Good	4.3	30.08
11. Vengerka Yubileynaya x Melitopolskyi Chernyi No. 2	33.6+0.95	Red-bordeaux	United, mealy average juicy	Difficult	4.4	27.08
12. Jibeck	52.3+0.88	Red-bordeaux	United, fine-fiber, average juicy	Average	4.8	15.08

As the result, initial varieties of fruit were small and of average size, and 58.3 % of hybrids gave only small fruits. The yellow color of fruits of the hybrid Monphor x Abricosolistnaya No. 6 showed heterozygosity

of Monphor in the color of fruits. The taste of more than a half of hybrids was satisfying, and one third of them were evaluated as good. The Jibeck variety produced fruits of an excellent quality.

III: *The yielding capacity of domestic prune x black apricot hybrids*

Name	Fructification degree	Average fruit yielding capacity (kg per 1 tree)
1 Vengerka Albakh x Abrikosolistnaya No. 1	Weak	3.7
2 Vengerka Albakh x Abrikosolistnaya No. 2	Very weak	1.8
3 Monphor x Abrikosolistnaya No. 1	Satisfactory	2.7
4 Monphor x Abrikosolistnaya No. 2	Good	12.7
5 Monphor x Abrikosolistnaya No. 3	Good	14.4
6 Monphor x Abrikosolistnaya No. 4	Satisfactory	7.8
7 Monphor x Abrikosolistnaya No. 5	Satisfactory	4.3
8 Monphor x Abrikosolistnaya No. 6	Good	
9 Monphor x Salut	Fair	32.7
10 Vengerka Yubileynaya x Abrikosolistnaya No. 1	Good	13.8
11 Vengerka Yubileynaya x Melitopolskyi Chernyi No. 31	Satisfactory	15.5
12 Vengerka Yubileynaya x Melitopolskyi Chernyi No. 25	Satisfactory	11.2
13 Jibeck	Fair	65.3

In F_1 -hybrids of domestic prune with the ordinary apricot, the sterility was a typical trait (Zdruikovskaya–Rihter, 1974). Hybrids of domestic prune with the black apricot were fertile and showed, in dependence on their origin, a great variability in this trait (Tab. III). In this case, the role of a “mediator” of a better interaction of apricot chromosomes of those of domestic prune was played by chromosomes of the cherry-plum plants (Isachkin, 1997). In 53,8 % of hybrids the yielding capacity was low and small and compact crowns of hybrid trees enabled to receive only low yields of fruit. In hybrids Monphor x Salut and Monphor x Abrikosolistnaya No. 6, an average yielding capacity was observed while in the Jibeck variety this capacity was high.

Trees of the Jibeck variety were of medium height, fast growing and their crowns were of average density. Annual shoots were thick, with curved bases, brownish-gray in color and with a great number of big lenticels. Leaves were of medium size, oval, with a concave, and with crenated margins. Fruits were very big, of obovate shape and their average weight was 52.3 g. Their tops were skewed to the suture, concave, and the stalk cavity was deep and opening into the suture. Fruit-stalks were short, thick, and moderately attached to fruits. The skin was of medium thickness and easily separable from the fruit. The basic color of fruits was pink, and the surface was of carmine to bordeaux-red color. The flesh was green-yellow, with average density, with fine fibers, and the content of juice was average. Sugar content and acidity were of average degree and the aroma was rich. The pulp contained 20.7% of solids, 10.7% of sugar, 1.5% of organic acids. The taste was sour-sweet and harmonic. Sensory evaluation of the taste was 4.8 point (on a 5-

point scale). The stones were of average size, their weight was cca 1.2 g, and separability of flesh from fruit stones was of average degree.

According to the results State Variety Trials, the average yielding capacity of the Jibeck variety grown in the Chuy Valley in Kyrgyzstan exceeded the standard value and was as high as 87.8, the maximum yield was obtained in the 6 year, i.e. 146 metric quintals per hectare. The Jibeck variety was successfully used for a repeated hybridization with the domestic prune. The new hybrids produced good yields and their fruits were of top quality. The earliness of these hybrids and of the Jibeck variety is a very favorable trait, which is inherited from the black apricot: on long annual shoots the first fertile buds (and fruits) occurred already in the 2–3 year after planting.

The shortcomings of the black apricot are as follows: quick rhythm of winter-spring development, insufficient winter resistance, and low resistance to fungus diseases. Varieties of domestic prune were more stable and transferred their ecological and biological properties to hybrids of domestic prune and black apricot.

In November, the evaluation of frost resistance under conditions of $-26\text{ }^{\circ}\text{C}$ demonstrated a good resistance of hybrids Monphor x Salut No. 1, Monphor x Abrikosolistnaya No. 2, 3, 4, 5, and 6, and of Jibeck. Hybrids of Vengerka. Yubileynaya x Melitopolskyi chernyi No. 1, and 2; and hybrids of Vengerka Albakh x Abrikosolistnaya No. 1, and 2, Vengerka Yubileynaya x Abrikosolistnaya No. 1 showed a medium resistance to frost. The resistant hybrids showed the same degree of resistance as original varieties of domestic prune and the rest of them occupied an intermediary position.

A high water-holding capacity of isolated leaves was observed in hybrids of Monphor x Abricosolistnaya No. 1, 2 and 4; a medium water-holding capacity was demonstrated in hybrids No. 3 and 6. In the majority of hybrids, the heat-resistance of their leaves was intermediary. As far as this trait was concerned, hybrids No. 4 and 6 were more similar to the original varieties. When evaluating individual components of drought-resistance of leaves, a high degree (corresponding to Monphor variety) was observed in hybrid No. 4 while hybrids No. 1, 2, 3, 5 and 6 and the Jibeck variety occupied an intermediary position.

In hybrids Vengerka Albakh x Abricosolistnaya No. 1 and No. 2, Mophor x Abricosolistnaya No. 1, 3, and 5 and in the Jibeck variety, the release from deep dormancy was observed at the end of January, i.e. it was the same as in the original varieties of domestic prune. In hybrids Monphor x Abrikosolistnaya No. 2, 4 and 6 this release occurred earlier, i.e. simultaneously with the variety Abricosolistnaya.

In hybrids of domestic prune and in the varieties Salut and Abricosolistnaya, the beginning of growing season and the onset of flowering took place from 16 to 23 March; this means that it occupied an intermediary position. Flowering occurred simultaneously

with that of early varieties of domestic prune. In these hybrids, the end of vegetation and the leaf fall was observed from the end of October to the beginning of November. An earlier drop of leaves, which indicated a shorter growing season, was observed in hybrids: Monphor x Salut, Monphor x Abricosolistnaya No. 6, Vengerka Albakh x Abrikosolistnaya No. 1. The total length of growing season was 225–230 days.

Studies on physiological traits of resistance to abiotic environmental factors and observations concerning individual stages of development demonstrated that hybrids of domestic prune and black apricot showed different, changing and unstable traits of resistance and development. Half of them occupied an intermediary position between parental varieties and the rest of them did not differ from the original varieties of the domestic prune.

Studies on the resistance of hybrids of the domestic prune and the black apricot to the damage caused by biotic factors showed that they were resistant to clasterosporium (*Clasterosporium capraphilium* Aderh.), and that they were not infested by monilia (*Monilia fructigena* (Pers), and/or sphaerolecanium (*Sphaerolecanium prunastri* Fonsc.).



1: Fruit of variety Jibeck



2: Yielding capacity of variety Jibeck



3: Yielding capacity of hybrid Vengerka Ybileinayia x Melitopolskiy Chernyi



4: Yielding capacity of hybrid Monphor x Abricosolistnaya No. 3



5: Yielding capacity of hybrid
Monphor x Salut No. 1



6: Yielding capacity of hybrid
*Monphor x Abricosolistnaya
No. 4*

SUMMARY

In these experiments altogether sixteen plants were tested; twelve of them were identified as hybrids. These twelve hybrids and one plant of the variety Jibeck survived.

In these hybrids, a different degree of dominance of the morphological type of domestic prune was manifested. In seven hybrids, traits of the black apricot were manifested only weakly while in the remaining five and in the Jibeck variety more perfect, semi-dominant effects of a diploid set of genes, which was brought into the zygote by unreduced microspores of the black apricot, could be observed.

Hybridization of domestic prunes and black apricots is very interesting from both scientific and practical points of view because in these hybrids such important properties can be observed as resistance to abiotic and biotic environmental factors, inhibited

growth, high yielding capacity, earliness, and top quality of produce.

Basing on the results of these experiments it is possible to conclude that the selection of new forms of F_1 hybrids is promising and perspective as far as the utilization of large-fruited varieties of the domestic prune and the black apricot are concerned.

Very interesting is also the use of hybrids domestic prunes and black apricots in a repeated hybridization with some varieties of the domestic prune.

Hybrids of domestic prunes and black apricots have an extraordinary value for a further hybridization when creating tetraploid varieties of apricot showing some valuable characteristics of domestic prune. For this purpose, it is necessary to use not only hybrids of the domestic prune with the black apricot and the ordinary apricot but also tetraploid varieties of these apricot species.

SOUHRN

Hybridizace švestky domácí a meruňky purpurové (*Prunus domestica* L. x *Armeniaca dasycarpa* Ehrh.)

Při hybridizaci švestky domácí a meruňky černé (*Prunus domestica* L. x *Armeniaca dasycarpa* Ehrh.) bylo získáno 16 rostlin, z nich bylo 12 identifikováno jako hybridy a odrůda Žibek. U hybridů je pozorován různý stupeň dominance morfologického typu švestky domácí. Znaky meruňky černé se u sedmi hybridů projevují slabě, u zbylých pěti hybridů a odrůdy Žibek je pozorován projev efektu zdvojení genů, vnesených do zygoty neredukovanými mikrospory meruňky purpurové.

V hybridech se kombinují důležité vlastnosti původních druhů, např. odolnost k abiotickým a biotickým faktorům prostředí, slabý vzrůst, úrodnost, ranost, vysoká kvalita plodů. Získané hybridy jsou velmi zajímavé pro tvorbu nových odrůd švestky domácí, tetraploidních hybridních odrůd meruňky purpurové a meruňky obecné s cennými vlastnostmi švestky domácí.

vzdálená hybridizace, švestka domácí, meruňka, mezidruhové hybridy

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