

## Plum Breeding in Several Zones of the USSR

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Plum breeding in the Soviet Union is being conducted at many locations in the Southern, Central and Northeastern Horticultural Zones. At each locale breeders have specific requirements that change as one moves across the continent. Different cultivars are adapted to each zone.

### Southern Zone

The goal of plum breeding in the Southern Horticultural zone of the USSR (Moldavia, southern Ukraine, Kuban, Northern Caucasus, Transcaucasus, Central Asia) is to breed high-quality cultivars for industrial processing, characterized by high winter hardiness, drought resistance, and resistance to the most important diseases. The requirements for a cultivar are: Medium or weak tree growth, self-fertility, high productivity, i.e. (10 harvests over 10 bearing years of orchard life), fruit with a mass of at least 30 g, violet skin color, easy stone separation, 13% sugar content, and early maturity. Major institutions which are engaged in plum breeding are:

1. The Krymsk Experiment Breeding Station of VIR, Krymsk, 353330, Krasnodar Territory. Leading breeder: Dr. Gennady V. Yeremin.
2. Moldavian Research Institute of Fruit Growing, Kishinev, 277019, SSR of Moldova, Fruktoivaya Str., 14.
3. Mliev Research Institute of Horticulture of Partially-Wooded Steppe of Ukraine, Ukrainian SSR, Cherkassky Reg., Mlievo.
4. Ukrainian Research Institute of Irrigated Horticulture, Ukrainian SSR, Zaporzhye Reg., Melitopol, 332311, Vakulenchuka Str., 99.

These and some other Research Institutes of the zone have bred in recent years such commercial cultivars of plum as 'Vengerka Krupnaya,' 'Vengerka Kubanskaya,' 'Kubanskaya Rannaya,' 'Kubanskaya Legenda,' 'Sochinskaya Yubileinaya,' in which the cultivars 'Prune d'Ente,' 'Anna Spat,' 'Althan's Reine-Claude,' and 'Italian Prune' were used as maternal parents, and 'Yellow Egg,' 'Yubileinaya,' 'Isum-Erik' as paternal parents.

### Central Zone

In the Central Horticultural zone (Baltic republics, Byelorussia, northern Ukraine, Central Chernozem regions, Non-Chernozem region Volga basin) the task is to breed winter-hardy, high yielding commercial cultivars for fresh consumption and for canning, with early-, medium-, and late-ripening fruit. The cultivars should have medium sized trees, should be self-fertile and productive (i.e., 8 harvests in 10 bearing years of orchard life) with fruit mass of 25-30 g, of bright yellow to dark violet color and no less than 10% sugar content.

Major institutions which carry out plum breeding are:

1. Experimental Base "Polli" of Estonian Research Institute of Agriculture and Reclamation, Estonian SSR, P. O. Nuya 202944. Leading breeder: Dr. K. E. Kask
2. Rossosh Zonal Experiment Station of Fruit and Small Fruit Crops, Voronezh Region, Rossosh 396600.
3. Central Genetic Laboratory, Tambov Region, Michurinsk 393740. Leading breeder: Dr. G. A. Kursakov.

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4. Kuibyshev Zonal Experiment Station of Horticulture, Kuibyshev 443072.
5. Zonal Research Institute of Horticulture of Non-Chernozem Belt, Moscow, Biryulevo 115404.

Commercial cultivars bred for the zone are 'Bogatryskaya,' 'Vengerka Dubovskaya,' 'Volgogradskaya,' 'Vengerka Voronezhskaya,' 'Evrazia 21,' 'Volzhskaya Krasavitsa,' 'Renklod Kuibyshevskiy,' 'Renklod Kolkhoznyi,' 'Pamyat Timiryazeva,' 'Skorospelka,' and 'Yaichnaya Sinaya.' Maternal parents were 'Giant,' 'Vengerka Mestnaya,' 'Rannaya Sinaya,' 'Skorospelka Krasnaya,' 'Ternosliva Kuibyshevskaya,' 'Renklod Zheltyi Mestnyi,' 'Green Gage,' 'Victoria,' and 'Climax' while 'Vengerka Mestnaya,' 'Italian Prune,' 'Ternosliv Letnii,' 'Bavay's Reine-Claude,' 'Green Gage,' 'Skorospelka Krasnaya,' and 'Reine-Claude d'Ouillins' were used as paternal parents.

#### Northeastern Zone

In severe and extreme continental conditions of the Northeastern Zone (the Urals, northern Kazakhstan, Siberia, Far East) the task is to breed

winter-hardy disease-resistant cultivars with high productivity (i.e., with 8 harvests for 10 bearing years of orchard life), with fruit of more than 15 g mass and 8 to 10% sugar content.

Major breeding institutions for the zone are:

1. Siberian Research Institute of Horticulture, Altai Territory, Barnaul 656020, Zmeinogorsky Trakt, 49.
2. Research Institute of Agriculture of Far East, Khabarovsk 680031, K. Marx Str., 107. Leading breeder: Dr. G. T. Kazmin.

In the orchards of the zone they grow such commercial cultivars as 'Altaisckaya Yubileinaya,' 'Katunskaya,' 'Kulundinskaya,' 'Amurskaya Rannaya,' 'Rassvet Rannii,' 'Tikhookeanskaya,' 'Urozhainaya Dalnevostochnaya,' and 'Khabarovskaya Rannaya.' These cultivars were bred using cultivars 'Chernosliv Manzhuskii 3' (*Prunus salicina* Lindl.), 'Zheltaya Khopty,' 'Karzinskaya sliva,' 'Dessertnaya Dalnevostochnaya,' 'Shiro,' and 'Primorskaya' as female parents forms, and *P. ussuriensis* Kov. and Kost, 'Shiro,' and *P. salicina* as male parents.



## Register List 35

The "Register of New Fruit and Nut Varieties List 35," edited by Dr. Jim Cummins of Cornell University has been published in *HortScience* 26(8), August 1991. List 35 includes brief descriptions of 351 new varieties and rootstocks, most of them introduced during 1983-1991. List 35 includes 115 apple cultivars, 76 peaches, 43 grapes, and 34 plums. Section authors included Drs. T. Beckman, D. W. Cain, H. A. Daubeny, J. L. Frecon, G. Galetta, R. E. C. Layne, P. Lyrene, S. Mehlenbacher, J. N. Moore, J. Mortensen, R. Norton, W. R. Okie, B. I. Reisch, W. B. Sherman, G. Tehrani and R. D. Way.

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Register List 36 is in preparation. Besides more new cultivars of the commodities in List 35, List 36 will include registration of Almonds, citrus crops, tropical fruits and *Carya*.