

Wild. GMAL 3559. Collected 09/14/1993 in Kazakhstan. Latitude 45 deg. 30' N. Longitude 80 deg. 42' E. Elevation 1280 m. Kazakhstan, Lepsinsk, Black River Forestry Camp, Dodakalava Ridge ?, Dzhungarsky Alatau. At edge of flat cultivated area edge of Malus forest with defoliation. Soil dry. Slope W facing. Pedigree - Wild. Fruit medium large, 3.3 x 3.4 cm, medium pedicel length, yellow, glossy, overripe. Flavor sweet, bland, very mealy. Fruit disease: scab ++. Leaf disease: scab, red circular necrotic spot, scorched leaves on one side of tree. Tree height 10-12 m; very broad and squat habit; one major trunk; branches Golden Delicious type.

**PI 600457. *Malus sieversii* (Ledeb.) M. Roem.**

Wild. GMAL 3560. Collected 09/14/1993 in Kazakhstan. Latitude 45 deg. 30' N. Longitude 80 deg. 42' E. Elevation 1270 m. Kazakhstan, Lepsinsk, Black River Forestry Camp, Dodakalava Ridge ?, Dzhungarsky Alatau. At edge of flat cultivated area edge of Malus forest with defoliation. Soil dry scant. West facing. Other trees in area also with scorched defoliation. Pedigree - Wild. Fruit medium, yellow green. Flavor sweet, acidic, some astringency, almost nice flavor. Fruit disease: scab. Fruit insect: strange dimpling on fruit; Leaf shape: normal. Leaf disease: scab; N and SE side of tree, scorched defoliation; oxidizes quickly. Tree height 8-10 m; broad as high habit spur type; short branches.

**PI 600458. *Malus sieversii* (Ledeb.) M. Roem.**

Wild. GMAL 3561. Collected 09/14/1993 in Kazakhstan. Latitude 45 deg. 30' N. Longitude 80 deg. 42' E. Elevation 1275 m. Kazakhstan, Lepsinsk, Black River Forestry Camp, Dodakalava Ridge ?, Dzhungarsky Alatau. At edge of flat cultivated area edge of Malus forest with defoliation. Soil dry. Slope 45% west facing. Pedigree - Wild. Fruit medium small, 2.5 x 3.1 cm, round, yellow green with red blush. Flavor: aromatic, acidic, somewhat astringent, juicy. Fruit disease: scab+. Fruit insect: dimpling on fruit matched by small thread of nectoric tissue in flesh. Leaf disease: scab ++, some defoliation. Tree height 8 m broader than tall habit.

**PI 600459. *Malus kirghisorum* Al. Fed. & Fed.**

Wild. GMAL 3562. Collected 09/17/1993 in Kazakhstan. Latitude 43 deg. 26' N. Longitude 77 deg. 27' E. Elevation 690 m. Kazakhstan, Aktogai Village, Issyk Arboretum. Slope flat. Surrounding plants 60 species of *Crataegus* and many other Kazakh species; lots of buckthorn. Pedigree - Wild. Fruit long pedicel, greenish-yellow, orange-pink blush. Flavor sweet, little acid. Seeds, resistant to frost and winter dryness (form, Ketmen Dessert).

**PI 600460. *Malus sieversii* (Ledeb.) M. Roem.**

Wild. GMAL 3563; niedzwetzkyana. Collected 09/17/1993 in Kazakhstan. Latitude 43 deg. 26' N. Longitude 77 deg. 27' E. Elevation 690 m. Kazakhstan, Aktogai Village, Issyk Arboretum. Slope flat. Surrounding plants 60 species of *Crataegus* and many other Kazakh species; lots of buckthorn. Pedigree - Wild. Fruit large, ribbed calyx, bright crimson. Flavor acidic-sweet with pleasant aroma. Fruit insect: damaged by moth, less than domestica. Frost hardy and resistant to winter dryness.

**PI 600461. *Malus sieversii* (Ledeb.) M. Roem.**

Wild. GMAL 3564. Collected 09/17/1993 in Kazakhstan. Latitude 43 deg.