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Promising Pigeonpea Varieties from ICRISAT

CP 21

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PIGEONPEAS are grown under a wide range of cropping systems in tropical and subtropical countries. Based on maturity, pigeonpea types can be broadly divided in early (up to 150 days), medium (160-180 days) and late (more than 200 days) groups. The early-maturing cultivars are suitable for sole cropping and are often grown as part of a rotation, for example with wheat. Medium-maturing cultivars are common in peninsular India and usually intercropped with cereals, while late-maturing cultivars are commonly grown as an intercrop with cereals in central and northern India and eastern Africa. Identification and development of extra early pigeonpea lines, maturing in less than 100 days, are providing the basis for innovative cropping systems, for example, in rotation with post-rainy season (rabi) sorghum in peninsular India and in other comparatively dry areas.

ICRISAT's pigeonpea improvement program is involved in the development of cultivars of all the maturity groups to fulfil the requirements of different cropping systems. The following pigeonpea cultivars have been developed by ICRISAT:

- ICPL 87: This cultivar has been released for peninsular India under the name PRAGATI. It is an early maturing line derived from cross T 21 × JA 277. This is a morphologically determinate short stature type, which has a more or less flat-topped crop canopy with the pods borne in clusters at the top of the plants. It has large brown seeds and wilt tolerance. The plants are capable of producing a good ratoon crop. In trials at ICRISAT Centre, this cultivar produced 5.4 t/ha yield in three harvests in about 220 days in 1982 and 3.8 t/ha in two harvests in 1983.
- ICPL 151: This line has been identified as promising for release in north and central India under the name JAGRATI. It is a high yielding (about 3 t/ha), early maturing line derived from the cross ICP 6997 × Prabhat. It has determinate growth, cream seeds and field tolerance to sterility mosaic disease.
- ICP 8863: This cultivar has been released in Karnataka, India, under the name MARUTI. It is a medium-maturing, high-yielding line selected from cv. 15-3-3. This line has a very high level of resistance to wilt disease. It has also shown resistance to *Alternaria* and *Phytophthora* blights.
- ICP 7035: This cultivar has been released in Fiji under the name KAMICA. It is a mid-late duration, high yielding line developed from a single plant collected from Bhedaghat, M.P., India. It has large pods, large seeds (21 g/100 seeds) and resistance to sterility mosaic disease. It is liked by Fijian farmers both as dry seeds in dhal and as a green vegetable.

Besides these, an early-maturing ICRISAT line has been released in Australia under the name HUNT. Also several lines have been identified as promising and are being tested again to confirm their performance in different countries viz: Quantum (Australia); ICPLs 147 and 151 (Surinam); ICPL 148 (Malii); ICPL 155 (Indonesia); ICPLs 8308 and 8313 (Burma); ICPLs 87, 8313, and 8310 (Argentina); and ICPLs 186, 265, 269, 304, 310, 311, 317, 358, 8306, and 8327 (India).

Progress on the Improvement of Winged Bean

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ONE of the most remarkable and potentially useful underutilised crops rediscovered by scientists is the winged bean, *Pterocarpus tetragonolobus*. No other underutilised plant has so captured the imagination of agricultural scientists, and results from investigations suggest that this highly nutritious legume can contribute more than any other food crop to overcoming malnutrition. The enthusiasm for the development of winged bean stems from several unique features of the plant. It can fix large amounts of atmospheric nitrogen (Masfield 1957) and distribute it in all parts in the form of protein. Mature seed compare favourably in protein content with soybean. The tubers contain 5-8 times more protein than other tuber crops grown in the tropics. The seed also contains 35% carbohydrate and 18% oil. Estimated production potential is given in Table 1. Varieties that are capable of producing both high seed and tuber yields have been developed. A Sri Lankan variety which can produce 4793 kg/ha of mature seed and 6789 kg/ha of tubers is now available.