‘BetterSnap’ Southernpea

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‘BetterSnap’ is a new edible podded southernpea [*Vigna unguiculata* (L.) Walp.] cultivar that was approved for release in Jan. 1994 by the Agricultural Research Service, U.S. Dept. of Agriculture. ‘BetterSnap’ is well-adapted for production throughout the southern United States, where it can be expected to produce excellent yields of edible pods or snaps. It is resistant to root knot, a severe root disease incited by several species of the root-knot nematode, and blackeye cowpea mosaic and southern bean mosaic viruses, serious viral pathogens of southernpea in the United States.

Origin

‘BetterSnap’ is the result of a conventional, recurrent, backcross breeding procedure to transfer the dominant *Rk* gene for resistance to root-knot nematodes from ‘Mississippi Cream’ into the snap-type cultivar Snapea (Fig. 1). ‘Snapea’, released by the Univ. of Florida in 1964 (Lorz and Halsey, 1964), is susceptible to root-knot nematodes. ‘Snapea’ long has been used by the southernpea industry in the United States for the production of the immature green pods used for the snap component of the popular mixed packs of fresh peas and green snaps. ‘BetterSnap’ originated from a bulked F₄ population derived from the fifth backcross.

Description

‘BetterSnap’ plantings are more uniform in appearance than plantings of ‘Snapea’ planted with currently available seed stocks. The plant habit is a high bush, with few pods touching the ground (Fig. 2). The flowers are white. No red or purple pigmentation occurs on stems, branches, petioles, or peduncles. Pod set is concentrated, and the pods are borne scattered above the foliage. Mature pods are pendant

from the peduncles, and each peduncle typically produces two pods. A typical pod is slightly curved, 27 cm long, and contains 16 peas (Fig. 3). Pod color is dark green at the

harvestable snap stage [Munsell (1990) rating: 5 GY 4/6], yellow at the green-shell maturity stage [Munsell (1990) rating: 7.5 Y 8.5/4], and light straw when dry [Munsell (1990) rating: 2.5 Y 8.5/4].

Results of replicated field tests conducted in Charleston, S.C., indicate that ‘BetterSnap’ has the same maturity and high yield potential as ‘Snapea’. [No significant differences ($P \leq 0.05$) were identified in 2 years of testing.] The cultivar is homozygous for the *Rk* gene that conditions a high level of resistance to root-knot nematodes (Fery and Dukes, 1980). Tests conducted at Oregon State Univ. using enzyme-linked immunosorbent assay methodology indicate that ‘BetterSnap’ is resistant to

Fig. 1. Pedigree of ‘BetterSnap’ southernpea.

Fig. 2. Single ‘BetterSnap’ southernpea plant. Note the high bush plant habit, the pendant attachment of pairs of mature pods to peduncles, and the placement of pods sufficiently above the foliage as not to touch the ground.

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blackeye cowpea mosaic and southern bean mosaic viruses (R.O. Hampton, unpublished data). Observations of natural epiphytotics indicate that the cultivar also is resistant to scab (*Cladosporium vigenae* Gardner) and cercospora leaf spot (*Cercospora cruenta* Sacc.). 'Bettersnap', like its recurrent parent 'Snapea', is susceptible to fusarium wilt, and caution should be exercised in fields where the soilborne causal pathogen *Fusarium oxysporum* Schlecht. f. *tracheiphilum* (E. F. Sm.) Synd. & Hans. is known to occur.

'Bettersnap' is suitable for use as a cream-type southernpea. Pods not harvested for use as snaps are suitable for later harvest of either fresh-shell or dry peas. The fresh peas have a cream color [Munsell (1990) rating: 5 Y 8.5/4] and a kidney shape. Dried peas are tan [Munsell (1990) rating: 2.5 Y 8/4] and have a smooth seedcoat. Seed size is medium (21.0 g/100 fresh peas; 12.4 g/100 dry peas).

'Bettersnap' is recommended as a home-garden cultivar for spring, midseason, and fall plantings throughout the southern United States. It also should be considered for use as an alternative to snap bean (*Phaseolus vulgaris* L.) cultivars in many of the southern states. Unlike snap bean cultivars, 'Bettersnap' produces large yields of pods in hot summer months. 'Bettersnap' is particularly recommended for trial as a commercial processing cultivar for canned and frozen southernpea products. 'Bettersnap' will perform well in all areas where 'Snapea' has been grown successfully.

Fig. 3. Pods of 'Bettersnap' southernpea.

Availability

'Bettersnap' breeder's seed has been released to seed producers. Small trial samples of breeder's seed are available from R.L.F. for distribution to all interested research personnel.

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