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'NemaSnap' Snap Bean

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'NemaSnap' is the first bush snap bean cultivar with resistance to the southern root-knot nematode, *Meloidogyne incognita* (Kofoid & White) Chitwood. 'NemaSnap' is a useful bean for home and market gardens infested with large populations of root-knot nematodes due to continuous cropping with susceptible vegetable species. 'NemaSnap' offers a viable alternative for those who may not wish to use nematicides or who may be unable to obtain effective, restricted-use nematicides.

Origin

The root-knot nematode resistance of 'NemaSnap' was derived from PI 165426 (1). Crosses were first made in 1964 and, through a series of backcrosses and selections described previously (2), a breeding line, B4175, was developed and released in 1980. Further selections were made within B4175 in 1980 for smoother pods and slower seed development. These selections were progeny-tested in 1981. Seed of the best line was increased in the greenhouse in 1981–1982 and foundation seed was grown in Idaho in 1982.

Description

In soils heavily infested with root-knot nematodes, 'NemaSnap' roots remained free of root galls. Nematode reproduction was reduced to < 2 egg masses/root system on 'NemaSnap' compared to > 50 egg masses/root system on 'Astro', a susceptible cultivar. In multiple-harvested field plots inoculated with 500 nematode eggs/seed, 'NemaSnap' yielded 11,100 kg/ha compared to 7100 kg/ha for 'Astro'.

Plants of 'NemaSnap' are vigorous and stand upright with a heavy load of pods. Pod set is sufficiently concentrated for once-over harvest, but yields are significantly higher under multiple-pick management. 'NemaSnap' pods are 13- to 14-cm-long, smooth, straight, and medium-green (Fig. 1). Pods are held above the soil and detach easily when hand-harvested. Mature seeds are white and are nearly free of seedcoat cracking.

'NemaSnap' also is resistant to most races of bean rust [*Uromyces phaseoli* (Rebent. Wint.)] and to the type strain and NY 15 strain of bean common mosaic virus.

Availability

Small quantities of Idaho-grown foundation seed are available to interested research personnel and commercial seed growers from the senior author at the U.S. Vegetable Laboratory, 2875 Savannah Highway, Charleston, SC 29407.

Literature Cited

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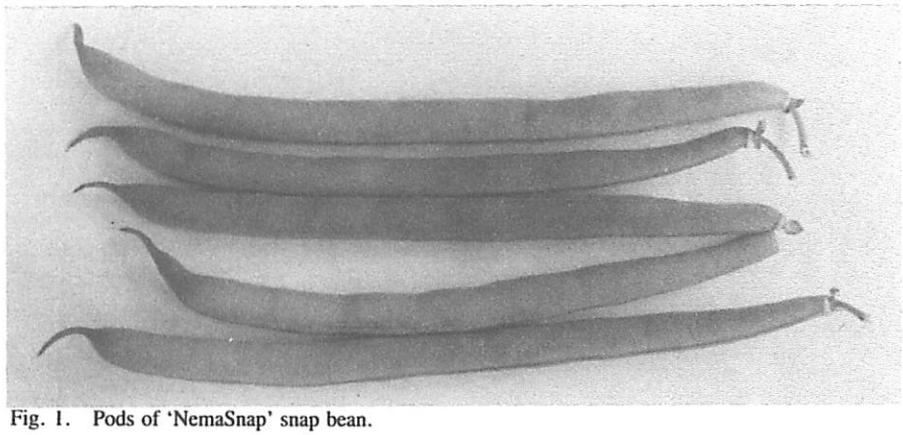

Fig. 1. Pods of 'NemaSnap' snap bean.

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