'Oregon Giant' Edible Pod Pea

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'Oregon Giant', an edible pod pea (*Pisum sativum* L.) or snow pea, resulted from a breeding program underway continuously since 1954. The primary purpose of the breeding program has been to develop cultivars resistant to pea enation mosaic virus (PEMV), a disease that seriously limits pea production in many parts of the Pacific Northwest. 'Oregon Giant' was preceded in this program by PEMV-resistant 'Oregon Sugarpod' (Baggett, 1976) and 'Oregon Sugarpod II' (Baggett, 1982). The latter, which is also resistant to powdery mildew, has become an important home garden and commercial cultivar in many parts of the world. 'Oregon Giant' is resistant to PEMV and powdery mildew but differs from 'Oregon Sugarpod II' in having a larger pod and very large seeds that are dark green when in the

edible stage and are wrinkled when mature. Because of the large pod, 'Oregon Giant' is

expected to be best suited for use by home gardeners, especially where PEMV occurs.

Origin

'Oregon Giant' was tested as OSU 706, an F₆ selection made in 1985 in the F₂ generation of the cross 'Oregon Sugarpod II' x 'Sugar Snap'. In the pedigree (Fig. 1), 'Sugar Snap' is a cultivar of the "snap pea" type developed by the Gallatin Valley Seed Co. (Thorndyke, 1983). P601 is a freezer breeding line developed by the same company.

Fig. 1. Pedigree of 'Oregon Giant' edible pod pea.

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Fig. 2. Pods of 'Oregon Giant' in early maturity stages.

G59-29 is a multiple disease-resistant line (including resistance to PEMV) developed at the New York Agricultural Experiment Station, Geneva. PI 140295, identified by the New York Agricultural Experiment Station, Geneva, as being resistant to PEMV (Schroeder and Barton, 1958), was used as the primary source of PEMV resistance in the Oregon State Univ. breeding program. 'Oregon Sugarpod' was a powdery mildew-susceptible predecessor of 'Oregon Sugarpod II'.

Description

Plants of 'Oregon Giant' are of the short type, commonly reaching 75 to 90 cm in height, with rather large leaves. Flowering is midseason to late, beginning on about node 16. First pods are mature at Corvallis, Ore., ≈ 66 days after May planting. Pods (Fig. 2) are set one or two per node, depending on conditions and stage of growth. Vigorous plants will bear two pods per node on up to four nodes. The pods are large, reaching 2.8

$\times 13$ cm (width/length). Pods are parchment-free, tender, and tend to cup when mature. The large seeds, usually eight per pod, are of the wrinkled type and have good flavor in the green edible stage. Pods and immature seeds are dark green. For comparison, 'Oregon Sugarpod II' has smaller pods of a lighter color and smooth or slightly dimpled seeds. If strings are removed, 'Oregon Giant' pods are of excellent quality when seeds are fully developed. The dry seed count is $\approx 29,010$ seeds/kg. We have observed that 'Oregon Giant' seeds produced at Corvallis have a greater than average tendency to rot when planted without fungicide.

'Oregon Giant' has shown good field resistance to PEMV, red clover vein mosaic virus, and powdery mildew (*Erysiphe polygonum* DC) at Corvallis. It is resistant to common pea wilt [*Fusarium oxysporum* f. *pisi* (Linford) race 1 Snyder and Hansen] as determined by Washington State Univ. field tests conducted at Pullman. It has also shown field resistance to bean leafroll virus in the seed production area of southcentral Idaho.

Availability

'Oregon Giant' was jointly released by the Oregon and Idaho Agricultural Experiment Stations and the Washington Agricultural Research Center. Samples of seeds for trial purposes can be obtained from J.R.B.

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