

Crusader

- high yielding, semi-leafless green field pea



Crusader is a high yielding, semi-leafless, small-seeded green field pea cultivar bred by Crop & Food Research. Plants have excellent lodging resistance and, with appropriate management, can remain erect until harvest. Grain of Crusader has better bleaching resistance than Hadlee, and grain yield has been significantly higher than existing small-seeded green pea cultivars in FAR pea trials in Canterbury. Crusader is resistant to pea seed-borne mosaic virus and Fusarium wilt Race 1, but is susceptible to powdery mildew.

Key features

- Highest yielding, small seeded, green field pea in FAR trials
- Excellent lodging resistance
- Improved bleaching resistance
- Suited to both irrigated and dryland environments
- Produces more tillers than Hadlee

Characteristics

Crusader is a spring-sown, semi-leafless green field pea that produces a vigorous tall plant with excellent lodging resistance. Yield performance at both irrigated and dryland sites has been superior to Hadlee.

Crusader produces a green, spherical grain with a 100 grain weight of 220-260 g. Grain bleaching resistance is better than Hadlee, and grain damage caused by seed coat cracking is normally low.

Crusader is resistant to pea seed-borne mosaic virus and Fusarium wilt Race 1. Resistance to downy mildew and *Ascochyta* blight (caused by *Mycosphaella pinodes*) is slightly better than Hadlee. It is susceptible to powdery mildew.

Grain yield of Crusader expressed as a percentage of Hadlee in Crop & Food Research and Foundation for Arable Research (FAR) regional field trials conducted in Canterbury between 1994/95 and 1996/97.

Cultivar	Lincoln 1994/95 (irrigated)	Lincoln 1995/96 (irrigated)	Gore 1995/96 (dryland)	Fairfield 1996/97 (irrigated)	Methven 1996/97 (dryland)	Fairfield 1997/98 (irrigated)	Chertsey 1997/98 (FAR, irrigated)	Methven 1997/98 (FAR, dryland)	Mean (% Hadlee across all sites 1994/98)
Crusader (CFR 4L28)	130	131	160	128	111	112	116	127	126
Hadlee	100	100	100	100	100	100	100	100	100
Beacon	112	91	-	100	107	-	101	96	101
Rovar	111	132	114	115	123	108	104	-	115

Management

General agronomic practices should be similar to those used for other field pea varieties adapted to Canterbury.

Sowing

Crusader is best sown from mid-September to late October. It should not be sown earlier than September. The recommended sowing rate is around 220 kg/ha. Aim for a plant population of 80/m². **Crusader** can produce 1 to 3 tillers at low sowing rates.

Fertiliser

Recent research conducted by FAR indicates that peas do not respond to fertiliser (beyond maintenance applications prior to sowing). Excess fertiliser applications may promote too much growth which may reduce lodging resistance.

Herbicides

Crusader has been exposed to most registered pea herbicides with no apparent problems. Follow the recommendations of your field representative before herbicides are applied.

Irrigation

Crusader will produce high yields if water use is monitored and irrigation scheduled. However, excessive irrigation can enhance vine growth which may reduce yield, lodging resistance and harvest-ability.

Fungicides

Crusader is susceptible to powdery mildew so careful crop monitoring is recommended to reduce its incidence. Very erect, semi-leafless cultivars have an open canopy which can readily be infected by wind-blown spores. Historically, this disease starts to infect pea crops in late December. An application of an appropriate systemic fungicide is recommended at this time. Severe epidemics can develop very quickly. Therefore timing of fungicide applications critical to ensure maximum yields and grain quality.

Utilisation

Crusader was developed for New Zealand and international pea export markets which require uniform, green and unbleached grain. Its use is targeted primarily at export food markets for split or whole grain. **Crusader** may be suitable for some canning markets as it exhibits better canning quality than Hadlee.

Marketing

The New Zealand Institute for Crop & Food Research Ltd has appointed New Zealand Plant Breeding Ltd as seed production licensee in New Zealand.

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