

FABA BEANS NEED HIGHER SEEDING RATES IN HIGH RAINFALL AREAS

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The recommended plant density for growing Fiord faba beans (*Vicia faba*) in eastern Australia is in the range 20-35 plants/m² (1, 2); the lower rate often used for earlier sowing. Growers commonly sow the variety Aquadulce at 10 plants/m². In 1993 a medium seed size variety, Icarus, was released. However, little research has been conducted to determine optimum seeding rates for Icarus or Aquadulce. These experiments evaluated seeding rates for the three commercial faba bean varieties in different rainfall zones in western Victoria.

MATERIALS AND METHODS

Three faba bean varieties of different seed size (Fiord, 40 g/100 seeds; Icarus, 90 g/100 seeds and Aquadulce, 110 g/100 seeds) were sown at plant densities between 5 and 65 plants/m² at sites in three different annual rainfall zones (Kaniva, 400-500mm; Wonwondah, 500-600 mm and Hamilton, 600-700 mm) in western Victoria in 1993. A similar trial was sown with Fiord at Hamilton in 1991. A randomised block design, with four replicates, was used, with 2x30 m plots. Plant establishment, crop height, grain yield and grain weight were assessed.

RESULTS AND DISCUSSION

Grain yield was optimised for Fiord when recommended plant densities were used in the 400-600 mm rainfall zones. However, in the high rainfall zone grain yield increases of approximately 1 t/ha and 2 t/ha (1991 and 1993 trials respectively) were obtained when plant density was increased from 35 to 50 plants/m² (Fig. 1). In 1993, significant yield increases were achieved in all rainfall zones by increasing the plant density of Aquadulce from 10 to 20 plants/m², and yield continued to increase with higher plant densities at Hamilton (Fig. 1). This had no effect on grain size, an important quality factor for marketing this variety. Icarus showed similar responses, except at the 400-500 mm site. A plant density of 30 plants/m² was required to increase yield there by 0.5 t/ha.

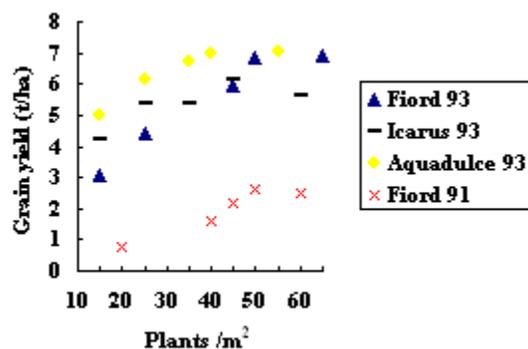


Figure 1. Effect of plant density on grain yield of faba bean cv. Fiord in 1991 and cvv. Fiord, Icarus and Aquadulce in 1993 at Hamilton.

REFERENCES

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