

B4 Row Space and Sowing Rate, HRZ South West (Westmere), Victoria

Aim

To investigate the optimum row spacing for range of faba bean varieties and the interaction with sowing rate for one variety.

Experimental Treatments

Varieties: PBA Samira, AF05095-1, AF07125, AF07125, AF09167, Farah, Nura.
Plant Density: 15, 25 and 35 plants/m² AF5095-1 only.
Row Spacing: 20 cm (8 rows) and 40 cm (4 rows).

Other Details

Sowing date: 8 May.
Stubble: none - worked.
Fertiliser: MAP @ 100 kg/ha at sowing.
Plant Density: 25 plants/m².

Results and Interpretation

- Key Message: row spacing and sowing rate had no impact on grain yield in 2015.
 - Note – There was a missing row 40 cm (4 row) plots. While a covariate accounting for the missing row has been used to statistically assess to trials, it is advised to treat results with due caution.
 - Establishment – Establishment was generally close to target densities for all treatments in the trial. Early growth and vigour was good. The dry and hot finish, did reduce potential grain yields.
 - Grain Yield – Row spacing had no significant impact on grain yield with the 20cm treatment averaging 2.73t/ha across all varieties and the 40cm treatment averaging 2.94t/ha. In AF05095-1 sowing rate also had no impact at either row space with yield of 3.20, 3.10 and 3.15t/ha, respectively in the 15, 25 and 35 plants/m² treatments. In terms of varieties, grain yields were excellent considering the season, ranging from 2.14t/ha to 3.09t/ha. Similar to previous years 2012, AF05095 was the highest yielding variety (3.09t/ha), but its yield advantage over Farah was only 5% compared with 37% in 2013 and 2012.

Table 1. Grain yield (t/ha) of faba bean varieties grown at Westmere in 2014 in comparison to 2013 and 2012.

Variety	2014	2013	2012
AF05095	3.09	3.94	5.53
AF06125		3.40	4.49
PBA Rana		3.38	4.49
AF05073		3.32	5.00
PBA Samira	3.05	2.97	5.14
Farah	2.95	2.88	4.04
Nura	2.71	2.85	4.14
AF07125	3.06	2.72	4.49
AF09167	2.14		

lsd(P<0.05)₂₀₁₄ = 0.49; lsd(P<0.05)₂₀₁₃ = 0.30; lsd(P<0.05)₂₀₁₂ = 0.37

Key Findings and Comments

- Growing conditions were relatively dry for faba beans in 2014, showing that the yield advantage of AF05095-1 is best demonstrated in higher rainfall season. The results with row spacing and sowing rate indicate the flexibility of faba beans to these practices and growers should consider the relative costs and agronomic implications within their own farming systems.
- Based on yields achieved (3.1t/ha) beans could have achieved a gross profit of approximately \$1000/ha based on management costs of \$250/ha and grain price at \$400/t.