

WINTER BEANS (VICIA FABAE)

DISEASE CONTROL, 1991

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Summary

This trial was affected by herbicide and drought. Both the disease and yield data are subject to unacceptable variation which invalidates the intended comparisons. The data are not presented.

Object

To evaluate a range of fungicides and test a number of fungicide programmes for season-long control of the main diseases, chocolate spot (Botrytis spp.) and rust (Uromyces fabae) of winter-sown field beans.

Introduction

Concern had been expressed by growers of winter field beans that chocolate spot was becoming more difficult to control through increasing prevalence of fungicide resistance. This trial was initiated to investigate these claims and propose alternative strategies for cost-effective disease control in this crop.

Materials and method

A range of fungicide treatments was applied to plots of Bourdon winter beans drilled on 7 November 1990 by a Matco pneumatic precision drill at a seedrate of 24 seeds/m<sup>2</sup> resulting in a plant population of 20/m<sup>2</sup>. Details of the treatments are shown in Tables 1 and 2 below.

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\*NOT FOR PUBLICATION WITHOUT THE DIRECTOR'S CONSENT. This report deals primarily with only one year's work, so any conclusions given are only provisional.

Table 1. Fungicide treatment (rate of product/ha)

	Early flower (23 May)	Late flower (4 July)
1	Nil	Nil
<u>Product comparison</u>		
2	Benlate (1.1 kg)*	Benlate (1.1 kg)*
3	Bravo (3.0 l)	Bravo (3.0 l)
4	Ronilan (1.0 l)	Ronilan (1.0 l)
5	Rovral (2.0 l)	Rovral (2.0 l)
6	Compass (3.0 l)	Compass (3.0 l)
7	Folio (2.0 l)	Folio (2.0 l)
8	Kombat (2.8 kg)	Kombat (2.8 kg)
9	Bravocarb (2.0 l)	Bravocarb (2.0 l)
10	NAS F 124	NAS F 124
11	NAS F 130	NAS F 130
<u>Tank-mix programme comparison</u>		
12	Benlate (1.1 kg) + Bravo (1.0 l)	-
13	-	Benlate (1.1 kg) + Bravo (1.0 l)
14	Benlate (1.1 kg) + Bravo (1.0 kg)	Benlate (1.1 kg) + Bravo (1.0 l)
15	As 14	As 14 + Corbel (0.5 l)
16	As 14 + Corbel (0.5 l)	As 14 + Corbel (0.5 l)
17	As 14	As 14 + Corbel (0.5 l) + LI700 (1.0 l)
18	As 14	As 14 + Corbel (0.5 l) + Dazide (0.45 kg) + LI700 (1.0 l)

\* Benlate applied with wetter

Table 2. Products used and active ingredients

Product	active ingredients (g ai/l or kg)
Benlate	benomyl (500)
Bravo	chlorothalonil (500)
Ronilan	vinclozolin (500)
Rovral Flo	iprodione (250)
Compass	iprodione (167) + thiophanate-methyl (167)
Folio	chlorothalonil (500) + metalaxyl (75)
Kombat	carbendazim (100) + mancozeb (540)
Bravocarb	carbendazim (100) + chlorothalonil (450)
LI 700	soyal phospholipids (750)
Dazide	daminozide (850)
Corbel	fenpropimorph (750)

## Results

Crop growth was severely affected by herbicide residues. These were believed to have been released from in-line filters and/or on pipework of the farm sprayer by solvents in a spray containing Cypermethrin (cypermethrin, 100 g ai/l) and Manteq (manganese sulphate). This was applied to the crop for early control of insect pests and as a precaution against manganese deficiency. The crop was stunted and flowering was adversely affected. Because of these effects the overall yield of beans was low (3.2 t/ha) and variable (CV = 9.5% of GM) and therefore unreliable. Consequently no data are presented and the experiment has been discarded.