

Table 8. Effect of integrated measures on bean vegetative growth, pod characteristics and total yield during the two successive seasons 2008 and 2009 under field conditions.

Treatments	Season, 2008						Season, 2009					
	Vegetative growth		Pod characteristics			Yield (Kg) /plot	Vegetative growth		Pod characteristics			Yield (Kg) /plot
	Plant height (cm.)	No. of branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)		Plant height (cm.)	No. of branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)	
Micronized sulphur (a)	33.5	4.1	11.4	7.8	7.3	25.5	34.3	5.0	11.4	8.0	7.4	22.5
Sumi Eight (b)	37.8	5.9	11.6	7.5	7.6	27.0	39.7	6.1	11.8	8.2	7.7	26.0
Potassium sulphate (c)	29.3	3.6	11.2	7.4	7.1	24.0	31.5	4.8	11.4	7.6	7.2	25.0
Ethyphone (d)	25.4	3.3	10.7	6.8	6.8	20.5	26.7	4.0	10.9	7.0	6.9	21.5
(a + b + c +d)	44.7	7.4	11.9	8.4	8.1	29.5	45.1	9.5	12.3	8.7	8.3	30.0
Control	21.2	2.8	10.4	6.4	6.3	8.5	21.4	2.7	10.6	6.5	6.4	9.5
L.S.D. at 5%	1.34	0.46	1.00	0.93	0.73	1.48	1.53	0.77	1.32	0.89	0.79	2.06

Table 6. Effect of curative spraying with nutritive salts, growth regulators and fungicides on bean vegetative growth, pod characteristics and total yield during the two successive seasons 2008 and 2009 under field conditions.

Treatment	Season, 2008							Season, 2009						
	Vegetative growth		Pod characteristics				Yield (Kg) / plot	Vegetative growth		Pod characteristics			Yield (Kg) / plot	
	Plant height (cm.)	No. of branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)	Spherical index		Plant height (cm.)	No. of branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)		Spherical index
Calcium chloride	26.7	3.1	10.8	6.9	6.8	1.01	21.0	25.0	2.9	10.6	6.8	6.7	1.01	20.5
Potassium sulphate	29.3	3.4	10.7	7.3	7.0	1.04	24.5	27.2	3.3	10.5	7.1	7.0	1.01	23.0
Ethyphone	27.1	3.2	10.5	7.0	6.9	1.01	22.5	25.3	3.1	10.3	6.9	6.8	1.01	21.5
Berlex	25.5	3.0	10.9	6.8	6.7	1.01	21.5	24.4	2.8	10.7	6.7	6.6	1.02	21.0
Micronized sulphur	34.6	4.6	11.5	7.9	7.5	1.05	26.5	32.3	3.8	11.4	7.7	7.3	1.05	26.0
Agrocopper	33.4	3.8	11.4	7.5	7.2	1.04	25.0	31.7	3.6	11.2	7.4	7.1	1.04	24.0
Plantvax	36.3	4.7	11.6	8.0	8.0	1.00	28.0	34.5	4.6	11.5	7.8	7.5	1.04	27.5
Sumi Eight	39.1	5.7	12.2	8.6	8.2	1.05	29.0	37.6	5.6	11.7	8.0	7.6	1.05	28.5
Control	23.8	2.6	10.1	6.2	6.1	1.02	19.2	22.6	2.7	10.5	6.5	6.4	1.02	19.5
L.S.D. at 5%	0.81	0.69	0.91	0.59	0.73	-	1.47	0.78	0.52	0.80	0.70	0.63	-	1.18

Table 5. Effect of protective spraying with nutritive salts, growth regulators and fungicides on bean vegetative growth, pod characteristics and total the two yield during successive seasons 2008 and 2009 under field conditions.

Treatments	Season, 2008							Season, 2009							
	Vegetative growth			Pod characteristics				Yield (Kg) / plot	Vegetative growth			Pod characteristics			
	Plant Height (cm.)	No. of Branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)	Spherical index	Plant Height (cm.)		No. of Branches / plant	Pod length (cm.)	Pod thickness (mm.)	Pod width (mm.)	Spherical index	Yield (Kg) / plot	
Calcium chloride	29.2	3.3	11.1	7.3	7.0	1.04	23.5	27.3	3.2	11.0	7.0	6.9	1.01	22.0	
Potassium sulphate	32.5	3.6	11.3	7.5	7.1	1.06	24.5	30.1	3.5	11.1	7.3	7.0	1.04	23.5	
Ethyphone	28.9	3.1	10.9	6.9	6.9	1.00	21.5	26.5	3.0	10.5	6.5	6.4	1.00	21.0	
Berlex	27.8	3.0	10.7	6.8	6.8	1.00	22.5	26.5	3.1	10.6	6.7	6.7	1.00	21.5	
Micronized sulphur	36.1	4.2	11.7	7.9	7.7	1.03	27.0	34.8	4.0	11.5	7.8	7.5	1.04	26.5	
Agrocopper	35.0	3.9	11.5	7.8	7.3	1.07	26.0	33.1	3.7	11.3	7.7	7.2	1.07	25.0	
Plantvax	38.0	5.0	11.8	8.3	7.9	1.05	28.5	36.6	4.8	11.6	8.0	7.7	1.04	28.0	
Sumi Eight	40.5	5.8	11.9	8.5	3.2	1.04	30.0	38.5	5.7	11.8	8.3	8.0	1.04	29.0	
Control	23.8	2.6	10.1	6.2	6.1	1.02	19.5	22.3	2.9	10.5	6.5	6.4	1.02	19.0	
L.S.D. at 5%	0.81	0.60	0.98	0.88	0.80	-	1.15	1.11	0.35	0.98	0.60	0.81	-	1.15	

Table 4. Effect of protective and curative spraying with nutritive salts, growth regulators and fungicides on bean rust infection during the two successive seasons 2008 and 2009 under field conditions.

Treatments	Protective sprays						Curative sprays					
	% Infection		Disease severity		Reduction		% Infection		Disease severity		Reduction	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Calcium chloride	15.25	17.50	10.25	12.10	79.78	79.78	22.50	23.00	14.70	15.00	70.10	70.32
Potassium sulphate	14.00	16.25	8.75	11.30	81.40	81.40	20.25	21.75	13.35	14.15	73.10	71.94
Ethyphone	18.75	20.25	12.30	14.00	75.48	75.42	24.25	25.00	16.15	16.10	68.15	67.10
Berlex	21.50	23.00	14.15	16.10	63.33	71.43	28.75	30.00	18.70	20.60	61.18	63.33
Micronized sulphur	10.25	12.25	6.75	8.45	75.16	86.38	17.25	19.25	12.10	13.10	77.08	75.16
Agrocopper	13.50	15.00	8.80	10.10	70.97	82.39	20.00	22.25	14.00	14.75	73.42	70.97
Plantvax	7.00	8.50	4.70	6.15	81.94	90.70	15.50	14.00	10.20	10.35	79.40	81.94
Sumi Eight	5.50	6.75	3.00	4.00	89.35	92.75	10.75	8.25	6.80	6.40	85.71	89.35
Control	75.25	77.50	50.10	52.10	-	-	75.25	77.50	50.10	52.10	-	-
L.S.D. at 5%	1.87	2.11	1.91	0.99			2.12	2.79	1.42	1.41		