

GREY ROT MANAGEMENT IN RAINFED CASTOR

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In castor cultivation, the disease caused by *Botrytis ricini* resulted in rotting of the seeds and yield loss upto 50%. This disease can be controlled by spraying of carbendazim during flowering period. In addition of spraying, optimum spacing, practices like removal of affected spikes and giving additional dose of N and K will help to produce fresh spikes to compensate the yield loss.

Keywords : *Botrytis ricini*; Grey rot management.

In Salem and Namakkal districts of Tamil Nadu (India), castor is grown as an intercrop with groundnut mostly under rainfed condition using local varieties. However, after the introduction of the hybrids like GCH4 released by GAU and TMVCH1 released by TNAU, the farmers have started to raise castor as a pure crop both under rainfed and irrigated conditions and they are getting higher yield when compared with local varieties.

In castor cultivation, semilooper and capsule borer are the major pests and among the diseases botrytis is the major one which occurs during the unfavourable climatic condition like low temperature and high humidity. The disease is caused by the fungus *Botrytis ricini* and is spread by air. The fungus infects the capsules resulting in rotting of the seeds and yield loss up to 50%. This disease can be controlled by spraying of carbendazim @ 2g/lit. of water during the flowering period. However in addition to the spraying of carbendazim, optimum spacing, practices like removal of affected spikes and giving additional dose of N & K will help to produce fresh spikes so that the yield loss can be compensated. With these objectives, a field experiment was carried out for two years under rainfed condition during kharif 99 and 2000 at TCRS, Yethapur adopting split-plot design with two spacings viz., 90 x 60 cm (S1) and 90 x 90 cm (S2) in main-plot and four management practices viz., control (no spraying - M1), prophylactic spray of carbendazim 1g /1 of water + removal of affected spikes + spraying carbendazim 1 g/1 of water (M2), removal of

affected spikes + carbendazim spray (1 g/1 water) + application of 20 kg N/ha after rain (M3) and removal of affected spikes + application of 20:10kg N & K / ha after rain (M4). Uniform dose of recommended fertilizers 30:15:15kg NPK/ha was applied in two splits, 50% as basal and 50% on 35 DAS. The treatments were replicated three times and the test crop was TMVCH1 hybrid castor. The seed yield was recorded and furnished in Table-1.

The statistical scrutiny of the data indicated that the main-plot, sub-plot treatments as well as their interactions significantly influenced the seed yield of TMVCH1 hybrid castor. Among the main-plot treatments, adopting a spacing of 90 x 90 cm (S2) recorded the highest seed yield of 1090 and 1583 kg/ha during kharif 99 and 2000 respectively. Comparison of the different management practices showed that removal of affected spikes + Carbendazim spray (1g/1of water + application of 20 kg N/ha as additional dose after the rain (M3) resulted in the highest seed yield of 1108 and 1327 kg/ha respectively during kharif 99 and 2000.

The treatment combination of adopting a spacing of 90 x 90 cm and management practices of removal of affected spikes + Carbendazim spray (1g/1) + application of 20kg N/ha as additional dose after the rain (S2 M3) recorded the highest seed yield 1221 and 1671 kg/ha during kharif 99 and 2000 respectively. Adoption of higher spacing might have resulted in high temperature around the crop area resulting

Table 1. Seed yield of TMVCH1 hybrid castor (kg/ha).

	Kharif 1999					Kharif 2000				
	M1	M2	M3	M4	Mean	M1	M2	M3	M4	Mean
S1	654	753	996	985	847	918	947	983	1108	989
S2	784	1140	1221	1218	1090	1596	1539	1671	1527	1583
Mean	719	946	1108	1101	968	1257	1243	1327	1317	1286
	SED		CD(P=0.05)			SED		CD(P=0.05)		
Main-plot (spacing)	2.89		5.75			0.10		0.19		
Sub-plot (Management practices)	4.33		8.63			0.10		0.19		
Interaction	17.32		24.54			0.60		1.198		

in low incidence of the botrytis leading to higher yield. Application of additional dose of 20kg N/ha might have influenced the development of new spikes which would have compensated the yield loss due to botrytis incidence. In the field experiment

conducted at Regional Research Station, Palam (AP) similar results were also reported¹.

References

1. Anonymous 1999, Annual report of AICORPO - Castor, Directorate of oilseeds Research, Hyderabad.