

Success story of Dalod village of Ahmedabad, Gujarat on Management of Insect Pest and Disease in Cumin

Introduction

Dalod village of Mandal taluka Dist. Ahmedabad is a traditionally cumin-growing village where cumin is grown in about 300 ha. Mainly under conserved moisture conditions. The yield potential is higher than rest of the areas. However, the farmers were growing Gujarat Cumin – 4 varieties with traditional system of farming and poor Management of Insect Pest and Disease.

Baseline information

Mr. Ghanshayambhai Popatbhai Patel, resident of village *Dalod*, Taluka Mandal, Dist. Ahmedabad is holding 10 acres of land. Mandal is one of the backward Talukas of Ahmedabad district. The traditional cropping pattern of Mr. Patel was mustard, cotton, castor and cumin before 2018. In spite of very high potential land he was earning only about Rs. 3.0 lakhs from cultivation of these crops annually due to traditional method of cultivation, not able to identify insect-pests, diseases and natural enemies and followed the advices of pesticide dealers and relied on chemical pesticides and insecticide for Insect Pest and Disease management.

Cumin aphids *Aphis gossypii* Glover and *Myzus persicae* Sulz. is major aphids reported on the cumin crop and responsible for around 50 percent losses in the productivity.

Alternaria blight is considered the most devastating disease of cumin in Gujarat. It is quite prevalent and destructive as it affects all above ground plant parts including seed, thus, causing direct yield loss. it may cause complete failure of crop, if proper precautionary measures are not taken.

Therefore, looking to the extent of damage caused by Alternaria blight and aphid and enhance production and productivity of cumin , a field trial was conducted at at farmer's field Villege- Dalod, Block- Mandal, Dist.-Ahmedabad during *rabi* 2019-20

Effect of different fungicides on blight and seed yield in cumin

Sr. N o.	Insecticides	Aphid Index (0-5 Scale)					Seed yield (kg/ha)
		Before spray	1 st spray		2 nd spray		
			3DAS	7DAS	3DAS	7DAS	
T ₁	Thiamethoxam 25WG	2.04* (3.65)	1.80* (2.74)	1.66* (2.26)	1.35* (1.33)	1.22* (0.99)	740
T ₂	Carbosulfan 25EC	2.05 (3.72)	1.89 (3.06)	1.80 (2.74)	1.47 (1.66)	1.40 (1.47)	719
T ₃	<i>Lecanicillium lecanii</i> 1.15WP (1 x 10 ⁹ cfu/gm)	2.09 (3.85)	2.05 (3.72)	2.04 (3.65)	1.78 (2.67)	1.74 (2.53)	610
T ₄	<i>Beauveria bassiana</i> 1.15WP (1 x 10 ⁹ cfu/gm)	2.10 (3.92)	2.05 (3.72)	2.04 (3.65)	1.78 (2.67)	1.76 (2.60)	608
T ₅	Dimethoate30% EC	2.09 (3.85)	1.97 (3.38)	1.90 (3.12)	1.64 (2.19)	1.58 (1.99)	619
T ₆	Untreated control	2.09 (3.85)	2.09 (3.85)	2.07 (3.78)	2.02 (3.58)	1.99 (3.45)	278
	S.Em. ±	0.026	0.025	0.021	0.027	0.022	20.89
	C.D. at 5%	NS	0.073	0.061	0.079	0.064	61.60
	C.V.%	2.16	2.19	1.92	2.85	2.33	7.92

Effect of different fungicides on blight and seed yield in cumin

Sr. No	Fungicides	Concentration	Blight (PDI)	Seed yield (kg/ha)
T ₁	Mancozeb 75WP	0.25 %	27.38 (21.15)	615
T ₂	Kresoxym methyl 44.3 SC	0.044 %	25.27 (18.22)	674
T ₃	Propineb 70 WP	0.025 %	39.80 (40.98)	548
T ₄	Kresoxym methyl 44.3 SC Mancozeb 75WP, Difenoconazole 25 EC	0.044% 0.25 % 0.025 %	22.89 (15.13)	701
T ₅	Propiconazole 25 %	0.04 %	34.34 (31.82)	606
T ₆	Untreated control	---	57.19 (70.64)	255
	S.Em ±		1.16	15.07
	C.D.at 5 %		3.50	44.40
	C.V %		6.73	5.95

Recommendation for farming community of Dalod as CFA:

The farmers of village Dalod growing Cumin crop are advised spraying of kresoxym methyl, mancozeb and difenoconazole at 40, 50 and 60 days after sowing for getting the maximum yield (701 kg/ha) and income with minimum disease intensity of blight. Cumin Aphid can be efficiently managed through spraying of Thiamethoxam 25WG at the time of first appearance aphids and 2nd spray 10 days interval for getting the maximum yield (740 kg/ha) .

Contact Details:

Mr. Patel Vinod Dhirajbhai

BTM, FTC, Sabarmati

Ahmedabad

Email: kvinod94@gmail.com

Phone: 9426342041