

RESEARCH NOTE

Efficacy of new fungitoxicant molecules in management of anthracnose (*Colletotrichum gloeosporioides* Penz.) of arecanut (*Areca catechu* L.)

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ABSTRACT

Dropping of immature arecanut due to anthracnose was reduced (15.55 %) by application of difenconazole @ 0.1 per cent twice during April and May, 2009. Hexaconazole @ 0.1% application twice was also effective in reduction (18.88 %) of anthracnose of arecanut during summer. This was followed by Carbendazim + Mancozeb (Saff) @ 0.2 % application twice wherein there was reduction of disease 23.32 %. Carbendazim @ 0.1% spraying twice also minimized (26.66%) button dropping of arecanut. However, Copper oxychloride @ 0.3% twice (35.55 %) and Potassium phosphonate @ 0.3% (38.88 %) twice were less effective in control of the disease. Maximum disease incidence was recorded in untreated bunches (55.55 per cent).

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Arecanut is extensively chewed as masticatory nut and used in also several religious, social ceremonies and medicinal purpose. It is widely used in South, South East Asia and Pacific Ocean islands. Arecanut is an important plantation crop in Western Ghats of Uttara Kannda district of Karnataka. It is cultivated naturally in valley condition as multistoried cropping system along with black pepper, cardamom, nutmeg, banana, colocasia, ginger, turmeric etc.

The crop is affected by a number of diseases wherein

anthracnose of arecanut causing huge loss by way of nut dropping during summer months *i.e.*, February to May and resulted in low fruit set in areca palms (Anonymous, 1971). Saraswathy *et al.* (1977) reported that about 60 per cent of the palms were affected by *Colletotrichum gloeosporioides* Penz. Present investigation was taken up to know the response of systemic and non-systemic fungicide and their combinations to combat the disease as there is meagre literature available.

The experiment was conducted in farmers' plantation of

Table 1 : Efficacy of new fungitoxicant molecules for management of Anthracnose of arecanut

Treat. No.	Fungicides	Per cent disease incidence
T ₁	Carbendazim @0.1%	26.66
T ₂	Mancozeb @ 0.2%	35.55
T ₃	Chlorothalonil @0.2 %	33.33
T ₄	Carbendazim+ Mancozeb (Saff)@0.2 %	23.32
T ₅	Difenconazole @0.1%	15.55
T ₆	Hexaconazole@0.1%	18.88
T ₇	Potassium phosphonate 0.3%	38.88
T ₈	Copper oxychloride @ 0.3%	35.55
T ₉	Control	55.55
	S.E.±	2.11
	C.D. @ 5%	6.34

Mr. Sanjay Hegde, Mudigesara village at Sirsi, Uttara Kannada, Karnataka during March, 2009. Fungicides viz., Carbendazim @0.1%, Mancozeb @0.2%, Chlorothalonil @0.2%, Carbendazim+ Mancozeb (Saff) @0.2%, Difenconazole @0.1%, Hexaconazole@0.1%, Potassium phosphonate 0.3%, Copper oxychloride @ 0.3% were sprayed to bunches of arecanut during April and May 2009. There were ten trees per treatment with three replications. The design of experiment was RBD. Observations were made for dropping of arecanut due to the disease by following 0-5 scale where in 0 grade – No nut fall, 1 grade -1-10 % nutfall, 2 grade- 11-25% nut fall, 3 grade - 26-50 % nut fall, 4 grade – 51-75% nut fall and 5 grade -> 75% nut fall. The data were statistically analyzed to find out the effective fungicide for control of the disease.

The data presented in Table 1 revealed that dropping of immature arecanut due to anthracnose was reduced (15.55 %) by application of difenconazole @ 0.1 per cent twice during April and May 2009. Hexaconazole @ 0.1 % application twice was also effective in reduction (18.88 %) of anthracnose of arecanut during summer. This was followed by Carbendazim + Mancozeb (Saff) @0.2 % application twice wherein there was reduction of disease 23.32 %. Carbendazim @ 0.1%

spraying twice also minimized (26.66%) button dropping of arecanut. However, Copper oxychloride @ 0.3% twice (35.55 %) and Potassium phosphonate @ 0.3% (38.88 %) twice were less effective in control of the disease. Maximum disease incidence was recorded in untreated bunches (55.55 %). Similar results were obtained by application of Dithane Z78 and heptanes antibiotic or Zineb 0.4 per cent in reduction of nut fall under field trail (Saraswathy *et al.*, 1975).

It is clear from the present investigation that application of difenconazole @ 0.1 per cent as spray to bunches during April and May reduced the nut fall of arecanut.

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