

## Efficacy of New EC Formulations of Neem Oil and Pungam Oil for the Management of Sheath Rot Disease of Rice

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Neem oil (NO) and pungam oil (PO) based emulsifiable concentrate (EC) formulations, *viz.*, neem oil 60 EC (acetic acid) [NO 60 EC(A)], neem oil 60 EC (citric acid) [NO 60 EC(C)] and neem oil + pungam oil 60 EC (citric acid) [NO+PO 60 EC(C)], which had been developed at Tamil Nadu Agricultural University, were evaluated for their efficacy against sheath rot of rice. All three formulations effectively inhibited the mycelial growth of the pathogen, *Sarocladium oryzae*, under *in vitro* conditions. There was no significant difference between efficacy of the freshly prepared and stored formulations in arresting the growth of *S. oryzae*; efficacy was maintained even after 9 months of storage. These formulations effectively controlled rice sheath rot and led to increased yield in five field trials. Among the various treatments, the formulation NO 60 EC(A) achieved the highest grain yield in four out of five field trials, with a pooled mean grain yield of 4684 kg/ha *vs* 3882 kg/ha in the control. NO 60 EC(A) achieved the maximum cost-benefit ratio of 1:4.8, followed by NO+PO 60 EC(C), with 1:3.3.

KEY WORDS: Disease control; *Sarocladium oryzae*; EC formulations; *Azadirachta indica*; neem oil; *Pongamia glabra*; pungam oil.

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