ETHANEDINITRILE (EDN): A NEW FUMIGANT FOR PHYTOSANITARY TREATMENT OF EXPORT LOGS

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Ethanedinitrile (EDN) has been identified as a potential alternative to methyl bromide for use as a quarantine treatment for pine logs exported from New Zealand. An important characteristic of EDN is that, compared with methyl bromide and other fumigants (e.g., sulphuryl fluoride), it is neither an ozone-depleting molecule nor a greenhouse gas. For the last two years, we have been gathering a comprehensive dataset to support the registration of EDN in New Zealand. Results to date indicate that: (1) EDN is highly toxic to all life stages of burnt pine longhorn beetle, *Arhopalus ferus* (Coleoptera: Cerambycidae), one of our three model forest insects associated with *Pinus radiata* in New Zealand; (2) the greater toxicity of EDN appears to control this insect at lower concentrations, regardless of the sorption rate and (3) when released into the atmosphere, EDN degrades to other compounds found in nature. EDN and its degradation products do not bio-accumulate (i.e., become concentrated inside the bodies of plants or animals). The results of our ongoing research will be discussed in this presentation.