

Calculating treatment efficacy against Invasive alien species in trade

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Much has been achieved in identifying the types of invasive alien species (IAS) that move in international trade. Much has equally been achieved internationally in developing and applying risk analysis methodologies to determine areas that could be degraded by those IAS. One area that has lacked equivalent international attention however, is the understanding of how strong phytosanitary measures need to be to manage the risks of IAS moving in international trade. By 1939 the USA had set the require level of efficacy for phytosanitary treatments at probit 9, or no survivors in 93,616 exposed target IAS, and since then probit 9 has predominantly been used as the default level of efficacy for treatments applied in international trade. More recently various authors have begun to challenge this default level of efficacy as being arbitrary and, depending on the IAS in question, either failing to adequately manage the risks in trade or over managing the risks and imposing unnecessary costs on trade. The International Forest Quarantine Research Group (IFQRG) has been asked by the Secretariat of the Food and Agricultural Organisation, International Plant Protection Convention to evaluate more suitable levels of efficacy for treatments on wood packaging material moving in international trade. To this end a formula has been developed that, when applied to a particular IAS, requires specific trade and organism related information. While the information on trade is relatively easy to identify, the appropriate biological and epidemiological information on the IAS can be more difficult to uncover. The challenge now is to collate the information required to calculate required treatment efficacies for IAS on wood packaging material, either from existing literature or research notes or from targeted research using agreed methodologies. Efforts to resolve biological concepts such as founder population size, Allee affect, and the maximum pest limit (MLP) will also be discussed in this presentation.

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