

Biofungicides in Nursery Production

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Abstract : Oak powdery mildew is a serious problem on seedlings in nurseries as well as on naturally and artificially introduced progeny. The experiments were set on oak seedlings in two nurseries located in Central Serbia, where control of oak powdery mildew *Microsphaera alphitoides* Griff. et Maubl. had been conducted through alternative protection measures by means of various dosages of AQ-10 biofungicide, with and without added polymer (which has so far never been used in this country for control of oak powdery mildew). Simultaneous testing was conducted on the efficiency of a chemical sulphur-based preparation (used in this area for many years as a measure of suppression of powdery mildews, without the possibility of developing resistance of the pathogen to the active matter). To date, the Republic of Serbia has registered no fungicides for suppression of pathogens in the forest ecosystems. In order to introduce proper use of new disease-fighting agents into a country, certain relevant principles, requirements and criteria prescribed by the Forest Stewardship Council (FSC) must be observed, primarily with respect to measures of assessment and mitigation of risks, the list of dangerous and highly dangerous pesticides with the possibility of alternative protection. One of the main goals of the research was adjustment of the protective measures to the FSC policy through selection of eco-toxicologically favourable fungicides, given the fact that only preparations named on the list of permitted active matters are approved for use in certified forests. The results of the research have demonstrated that AQ-10 biofungicide can be used as a part of integrated disease management programmes as an alternative, through application of several treatments during vegetation and combination with other active matters registered for these purposes, so as to curtail the use of standard fungicides for control of powdery mildews on oak seedlings in nurseries. The best results in suppression of oak powdery mildew were attained through use of AQ-10 biofungicide (dose 50 or 70g/ha) with added polymer Nu Film-17 (dose 1.0 or 1.5 l/ha). If the treatment is applied at the appropriate time, even fewer number of treatments and smaller doses will be just as efficient.

Keywords : oak powdery mildew, biofungicides, polymers, *Microsphaera alphitoides*

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