

THE ROLE OF WEED MANAGEMENT IN GROWING VALBROAD TREE SPP.

Presented by

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Presentation Summary

Foresters had long considered maximizing production in managed forests. However, later they have come to an understanding that preserving site productivity is the primary requisite for sustainable forest management. Herbaceous weed control is an important component of sustainable forest management. Herbaceous weeds significantly reduce forest regeneration and seedling growth, especially very early in the establishment phase (the first 2-5 years) by exploiting many site resources and conditions. Controlling weeds on plantation sites therefore increase substantially the survival and growth of planted seedlings of many valuable broadleaved tree species including wild cherry (*Prunus avium*), walnut (*Juglans* spp.), and ash (*Fraxinus* spp.). Herbaceous and woody weed control has differential effects on site productivity. Like P fertilization and drainage can herbaceous plus woody weed control significantly improve site productivity or carrying capacity of a given plantation site. On the other hand, similar to N fertilization and genetic improvement, herbaceous weed control alone can substantially shorten the rotation of plantations. Productivity gains by genetic improvement, fertilization or other cultural treatments can only be realized when these treatments are coupled with effective weed control practices. Therefore, it is pivotal that effective, cost-effective, environmentally sound and socially acceptable weed control prescriptions need to be designed for growing valuable broadleaved (VALBROAD) tree plantations. Herbicides can be an effective tool for achieving this. However, preliminary research needs to be carried for these plantations, involving determining herbicide selectivity. Herbicide selectivity is governed by mode of action, placement selectivity, and application rate. Achieving herbicide selectivity will not only provide the VALBROAD tree species growers both an effective weed control and in turn improved productivity but also achieve high crop (tree) safety. Therefore, we VALBROAD growers need to design trials aiming to achieve this objective. A recent study was carried out in northwestern Turkey with one-year old seedlings of various broadleaved tree species including cherry, ash, and oak. In this study, short-term weed-control and crop-safety effects of various herbicides including the low-rate glyphosate, 2, 4-D, imazapic, and imazethapyr on young seedlings were evaluated. Herbicide weed control tended to improve survival and early growth of these broadleaved tree species seedlings without giving significant crop damages 103 days after treatment. In conclusion, in order to improve survival and growth of VALBROAD tree species in plantations, we need to determine effective and crop-safe herbicides and rates (selectivity) for each tree species and also study how genetics play into this. It should also be noted that an integrated approach need to be adopted for effective weed control rather than practicing one single weed control method (ex. herbicides).