

11th World Congress on

PLANT BIOTECHNOLOGY AND AGRICULTURE

March 05-07, 2018 | Paris, France

Development and results of agroforestry in Chile: A way to connect forest and agriculture

Alvaro Sotomayor

Forest Research Institute, Chile

Statement of the Problem: Since Chilean colonization, agricultural use in the fields has been developing thinking that trees were competitors of agricultural production, and consequently trees were burned or cut, even with state policies that promoted opening of native forests for development of agriculture and livestock. This situation has led to 49.1% of the national soil, equivalent to 36.8 million hectares, with some degree of erosion. The major factors responsible for this erosion have been human action, the geological processes of the landscape and the climatic aggressiveness.

Methodology & Theoretical Orientation: In Chile, during the last 15 years, an alternative agroforestry model has been studied for small and medium-sized agricultural producers, encouraging the introduction of woody species in the fields, considering the cultural identity, the life system of these producers and the conditions soil and climate. The establishment of trees on the farm is done under a different concept from traditional forest plantations, based on systems in an agroforestry approach.

Results: Thus, with this form of tree introduction, in an agroforestry approach, decreases in erosion processes have been obtained with reduction of soil losses of more than 1,700% in relation to traditional agricultural uses; reduction of wind up to 200% by the establishment of trees in silvopastoral design in prairies for livestock production purposes; increased productivity of forage species by the use of windbreaks by 41%; reduction of contaminants in watercourses through the use of biofilters, mitigation of climate change, and other social and economic benefits.

Conclusion: This way of reintroducing trees in the fields has been found to have a better acceptance than that of industrial plantations, where 93.1% of the farmers preferred to establish trees in an agroforestry arrangement versus 27.5% disposition to forest with traditional plantations; and, silvopastoral systems and windbreaks were preferred.

Biography

Alvaro Sotomayor is a Forestry Engineer with Doctoral studies in Spain and Masters in the United States. He has focused on the study of the potential of agroforestry in Chile, as a way of complementing forestry and agriculture with small and medium agricultural producers. His work at the Forestry Institute of Chile, as well as the Ministry of Agriculture, has allowed him to work with more than 1,600 farmers promoting agroforestry, obtaining resources from both the central and regional government, and from research funds.

alvaro.sotomayor@infor.cl

Notes: