



Deutscher Tropentag, October 11-13, 2005, Hohenheim

“The Global Food & Product Chain—
Dynamics, Innovations, Conflicts, Strategies”

Methods of Control and Rehabilitation of *Imperata* Grasslands in Peruvian Amazon

LENKA NAVRATILOVA, BOHDAN LOJKA, JAN BANOUT, JANA LOJKOVA, ZBYNEK POLESNY

Czech University of Agriculture, Institute of Tropics and Subtropics, Czech Republic

Abstract

The region of Ucayali in the Peruvian Amazon is confronted with the problem of the noxious weedy grass *Imperata brasiliensis*. It covers large areas of former rainforest that was replaced by farmland through so-called slash-and-burn farming. After one year of sufficient yields the soil becomes very poor in nutrients and weeds like *I. brasiliensis* appear. The typical method of control of *Imperata* grasslands used by local farmers is to burn the grassy fields to get “clear” land again.

The focus of this pilot study was to develop the most suitable method of suppression of this weedy grass. The trial was set up in the Ucayali region near the city of Pucalpa and biological, mechanical and chemical methods of control were compared. A complete randomised block design with four replications was used. Treatments as shading, herbicide spraying, manual weeding, leguminous cover crop and burning were compared to the control plot. An ANOVA test was conducted to investigate statistical differences in the height of the stems and biomass growth. The samples of height and weight of aboveground (AB) and belowground (BB) biomass was measured every 45 days from the square area of 0.5 per 0.5m. Shading had statistically lowest values of biomass growth after 225 days (19.3 g AB and 60.8 g BB) while burning reached the highest values (104.6 g AB, 97.6 g BB). Manual weeding and herbicide reached lower values in the beginning but since the 270th day the weight has been growing more rapidly. After burning *Imperata* produces seeds, which enable better spreading to the surrounding area. Leguminous cover crop didn't show any significant effect. From the results we can conclude that the most efficient method of control in the short term is manual weeding and herbicide spraying, but they are the most expensive methods in the meaning of labour or money. In the long term shading out the grass, e.g. through tree growing, could be suitable and efficient method for small farmers in the study area.

Keywords: Biomass growth, *Imperata brasiliensis*, Peruvian Amazon, slash and burn farming, weed control