



Changes in Weed Diversity and Biomass during Crop Growth in Three Age Chronosequence of Forest Fallows in Muallungthu Village, Mizoram

Wapongnungsang, SH. B. Singh¹ and S.K. Tripathi*

Department of Forestry, Mizoram University, Aizawl-796 004, India

¹NERCORMP- KCRMS, West Khasi Hill District-793 119, Meghalaya

*E-mail: sk_tripathi@rediffmail.com

Abstract: Mizoram Farmers are witnessing rapid ecological alteration due to human activities that makes them highly dynamic. In the present study, plant species diversity and aboveground biomass (AGB) and belowground biomass (ABG) were investigated at three age chronosequence of *Jhum* fallows in Muallungthu village, Aizawl. The species occurrence at each site was recorded at seasonal intervals for one year. Weed species diversity, IVI and AGB and ABG were estimated for each site seasonally. A total of 16 weed species representing 4 monocots and 12 dicots, predominantly annuals, belonging to 11 families were recorded from all sites. Total species count at each site was highest in rainy season and lowest in summer. Amongst the sites, 3 years showed greater species diversity and IVI, however species biomass was more in 10 years. The herbaceous vegetation showed a mosaic pattern, which was more pronounced in dry months than in wet months. *Ageratum conyzoides* was the most dominant species followed by *Chromolaena odorata* and *Gynura crepidioides* as co-dominant from all sites. The total weed biomass at these sites (63 to 176 g m⁻²) showed wide spatial and temporal variations. In the drier months after rains, soil organic C and disturbance regimes greatly influence the species composition and diversity in this successional agroforestry system. The study is important to formulate future weed management strategies in shifting agriculture in Mizoram.

Keywords: Weed diversity, Crop growth, Forest fallows, Shifting agriculture
