

ABSTRAK

This study aims to determine the effect of bioherbicide extract of reeds on weed growth in red chili plants. Reeds (*Imperata cylindrica*) can be used as a bioherbicide because it contains allelochemical compounds that are effective for use as bioherbicides that are toxic and can interfere with the photosynthesis process. Allelochemical compounds are mostly found in the roots. This study was conducted in Blang Sentang Village, Bukit District, Bener Meriah Regency, using a non-factorial Completely Randomized Design (CRD) with two replications. With 5 treatments tested, namely A0 (Control), A1 (Sun up Herbicide 2%), A2 (reeds extract 1%), A3 (reeds extract 3%), and A4 (reeds extract 5%). Observation variables include plant height, number of leaves, and the number of weeds growing around the plants. These observations were conducted periodically on days 7, 14, 21, and 28 after planting, to observe the development and effects of reeds extract treatment at various concentrations on the growth parameters of red chili peppers. The results showed that reeds extract at a concentration of 3%–5% can be applied as a bioherbicide to increase chili pepper growth while reducing weed competition. The use of a dose of 300g/L provided the best balance between increasing plant height, number of leaves, and reducing weeds, so it is recommended for small-to-medium scale agricultural practices.

Keyword: Bioherbicide, reeds (*Imperata cylindrica*), red chili.