

Potensi Allelokimia Padi (*Oryza sativa* t.) dalam Menekan Perkecambahan Gulma *Echinochloa crusgalli* (Kajian Pembelahan Sel)

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ABSTRACT

Research to study the potential of rice allelopathy to suppress the growth of *Echinochloa crus-galli*, one of major weed species in rice cultivation, has been conducted from May to September 2006 at the Laboratory of Plant Physiology, Faculty of Agriculture, Andalas University, Padang. The objective of this study is achieved through different approaches including cell division by measuring mitotic index at the root tips of *Echinochloa crus-galli* radicles. Fresh plant material from 1-month-old rice cv. Cisokan was cut into approximately 3 cm portions and soaked in water (25%, w/v) in a glass beaker for 24 hours at room temperature. The extract was then used to germinate the weed seeds in Petri dish. The weed radicle root tips were cut into 0.5 cm sections and soaked in 0,1 % colchicine, hydrolysed in 1 M HCl at 60°C for 5 minutes, then stained with 1 % aceto-orcein. Samples were then observed under a light microscope with 400X magnification. There were 5 fields of observation for each slide glass of weed root tips. Results demonstrate that rice plant extracts reduced cell division in *Echinochloa crus-galli* as much as 54%. This inhibition has shown the potential of rice allelopathy towards *Echinochloa crus-galli*.