

Apirat Bundit 2009: Studies on Weed Competition and Chemical Weed Control in Physic Nut (*Jatropha curcas* L.). Master of Science (Agriculture), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Sombat Chinawong, Ph.D. 114 pages.

Studies on weed competition and chemical weed control in Physic nut (*Jatropha curcas* L.) were conducted in 2 planting seasons, the early raining season during May 2007-December 2007 and the late raining season during February 2008-September 2008, at research field of Agronomy Department, Faculty of Agriculture at Kamphaeng Saen, Kasetsart University, Kamphaeng Saen campus and research field of Flying Training School, Kamphaeng Saen District, Nakhon Pathom Province. The first experiment was to determine the critical periods for weed control in physic nut and the second experiment was a study on efficiency of herbicides for weed control in physic nut, to find out the optimum of the critical periods for weed control and herbicides used in physic nut. The results showed that the critical periods for weed control in early raining and late raining planting season was 4-12 weeks after planting were good for growth and development of physic nut. Among pre-emergence herbicides, pendimethalin at 400 g ai/rai had the highest efficiency for weed control in both seasons and can be persistent about 1-1.5 months after application. Post-emergence herbicides gave good control when applied to physic nut at 1.5-2 months after transplanting, but it was not recommended to use for weed control in late raining season at same age. However, glyphosate at 340 g ai/rai gave excellent for weed control in early raining season. These results can be used as database to improve the future research and weed management in physic nut.

Student's signature

Thesis Advisor's signature

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