

ABSTRACT

COMPETITION OF WEED SPECIES AND DENSITIES ON THE GROWTH AND YIELD OF CORN (*Zea mays* L.)

By

Elsa Destya Putri¹⁾, Dad R.J. Sembodo²⁾, Hidayat Pujisiswanto²⁾

Corn is one of the world's most important foods. One way to increase corn productivity is by improving cultivation techniques. Weed is one of the problems encountered in the practice of corn cultivation. The presence of weeds on cultivated land have real influence in decreasing yield. It is caused by the competition between weeds and corn in obtaining nutrients, water, light, CO₂, and space to grow.

The objective of this study were to identify: (1) the influence of each weed species on the growth and yield of corn; (2) the influence of weed densities on the growth and yield of corn; (3) the interaction between weed species and densities in affecting the growth and yield of corn. This research was conducted in Bataranila Research Farm, Natar, South Lampung and at the Laboratory of Weed Science, Faculty of Agriculture, Lampung University from November 2010 to March 2011. The treatments were applied to experimental plots in a factorial treatment design (5x4) with 3 replications. The first factor is 5 species of weeds: *Paspalum conjugatum*, *Setaria plicata*, *Borreria alata*, *Asystasia gangetica*, and *Cyperus rotundus*. The second factor is 4 levels of weed densities: 0, 20, 40, 60 weeds/m². The treatments applied to experimental units according to plots of stripe plot design. Homogeneity of variance was tested with Bartlett's test and additivity was tested by Tukey's test. Then, the data were analyzed with ANOVA and mean differences among the treatment were determined with Least Significant Difference Test (LSD) at level P=0,05.

The results of this study indicated that (1) Weed species affect corn population but can't affect height, dry weight and the yield of corn. *Setaria plicata* has higher suppressing than *Paspalum conjugatum*, *Borreria alata*, *Asystasia gangetica*, dan *Cyperus rotundus*; (2) Weed densities in level 20, 40, 60 weeds/m² affect corn population but can't affect height, dry weight and the yield of corn; (3) There is no interaction between weed species and densities in affecting the growth and yield of corn.

- 1) Alumni Program Studi Agroekoteknologi, Fakultas Pertanian, Universitas Lampung.
- 2) Dosen Program Studi Agroekoteknologi, Fakultas Pertanian, Universitas Lampung.