Faculty of Agriculture

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A COMPARISON OF THREE WEED MANAGEMENT METHODS ON MAIZE PRODUCTION

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The researcher investigated the effectiveness of chemical weeding, mechanical weeding and hand hoeing on a maize crop variety SCSI3 in terms of growth rate, yields and cost analysis benefit. The researcher used the experimental study design in order to find out which weeding management method promotes fast growth, gives higher yields and is less expensive in terms of cost compared with yields realized. The researcher had three treatments which were replicated. Treatment A was under chemical weeding, treatment B under mechanical weeding and treatment C under hand hoeing. The researcher found out that during the first four weeks there were not much differences in terms of growth rate. Plants under chemical method delayed germination but picked up after two weeks. After four weeks the plants in treatment A grew vigorously to surpass B and C. The results indicate that chemical weeding promotes a relatively faster growth rate in maize production. Also observed as the three treatments were used, are the differences in terms of growth after mechanical and hand hoeing. If the rain does not come immediately after weeding the crops show moisture stress and the growth rate is retarded. The crops under chemical weeding take long to show signs of moisture stress even if the rain has taken long to come. Also noted were the differences in grain quality, treatment A had maize seed from the cobs being of high texture quality. Maize in treatments B and C had maize seeds from the cobs of lower quality. The researcher concluded that chemical weed control method is more effective and less costly as compared to mechanical or hand hoeing. So all those farmers who have serious shortage of weeding manpower and those where weeding labour is expensive can use herbicides in controlling weeds but may need to continuously carry out soil tests. Those farmers who have abundant free family labour may continue using it as the very long term effects of herbicides on soil micro organisms may be negative.