ANALYSIS COMPARING THE EFFECTS OF HERBICIDE VARIETIES ON MORPHOLOGICAL CHARACTERS OF AMARANTH PLANTS

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ABSTRACT

This study is to compare the effects of ten accession varieties of herbicides: NH/85/161/101, NH/84/493/102, NH/85/3194/103, NG/AO/11/08/042/104, NH85/080/105, NH85/120/106, NHGB/ASPP/09/100/107, NG/SA/Dec/07/426/108, NG/SA/Dec/ 07/430/109,NG/08/621/110 on seven morphological characters: plant height (cm), Stem girth (cm) , Leaf width (cm), Leaf length (cm), Number of leaves , Petiole length (cm) and the weight (g) of 1000 seeds of Amaranth plants. It is an established fact that weeds are the major enemy of Amaranth plants (and most leafy vegetables) on the farm.

Since weeds primarily/directly affect the plants' morphology, the effect of herbicides can be examined from the measurements from the morphological characters of such plants. This is thus to research the most appropriate herbicides (of the ten varieties) to treat amaranth plants with, to control the growth of weeds hence improve the quality and quantity of the Amaranth plants production. And the aim to know if there are significant differences between the ten accessions of herbicides in relation to the seven different characters of the plant being studied.

The seven morphological characters were analyzed independently using the one way analysis of variance to test for the significance of the accession varieties of herbicides. Duncan Multiple Range Test for mean comparison, Levene's test to test for homogeneity of variance and coefficient of variation to test for level of precision were also carried out on all the seven experiments. The multivariate principal component analysis was conducted too to show the ssinterrelation among the herbicides. The experiment was carried out on the farm at federal university of Agriculture, Abeokuta. The results showed that the there is no significant difference between the ten accession varieties in each of the seven morphological characters studied. All the experiments have a reliable level of precision, homogenous variances, and there is no significant difference between the means of the herbicides varieties except in the experiment for Stem girth where NH85/080/105 and NG/08/621/110 has significantly different means.

It was concluded from the various analyses that the insignificance of the herbicide varieties was due to the similarity in their composition since they are accession and that any of the herbicides would be appropriate to control weeds in an Amaranth Farm.