**INTRODUCTION**

Sesame belongs to the family Pedaliaceae and genus *Sesamum*. The genus consists of about 36 species out of which the commonly recognized is *S. indicum* L. (Faiyaz, 2006). *S. indicum* is very drought resistant. It has been called a voracious crop because of its ability to grow where most plants fail. The crop is believed to have originated from Africa where the greatest diversity of the genus sesame and its family Pedaliaceae is present (Faiyaz and Saldaña, 2003). Currently, it is cultivated in the tropical and subtropical region of Africa, South America, North America and Asia principally for its seeds which contains about 50-52% Oil, 17-19 %Protein and 16-18% Volatiable Fiber (Faiyaz and Saldaña, 2003).

**MATERIALS AND METHODS**

Collection and SODIUM AZIDE TREATMENT OF SESAME SEEDS

Seeds of two varieties of sesame (Ex-Sudan and Kanana-4) were obtained from the National Cocoa Research Institute (NCRI) Badagry, Lagos State, Nigeria. The seeds were treated with sodium azide at five different concentrations: 0.00%, 0.02%, 0.04%, 0.06% and 0.08%. Sodium azide was diluted to the required concentration by using distilled water. 0.00%, 0.002%, 0.004%, 0.006% and 0.008% were dissolved in 100mL of water respectively to make 0.02%, 0.04%, 0.06% and 0.08% concentrations. Seeds were soaked in the water for six hours to initiate biochemical reactions. The presoaked seeds were put in flask and Sodium azide was added and left for eight hours. Inheritance studies were given to ensure uniform exposure of the chemicals. The chemical was drained after the treatment time is over. The seeds were washed immediately not less than 30minutes.

**Experimental design**

Field experiments were conducted during the 2012 rainy season between May and August in the Experimental Garden, Federal University of Technology, Minna, Niger State, Nigeria. The experimental design was used a randomized block design with 50 pots per block. The experiment was replicated three times, with a total of 150 pots. Ten seeds were planted per pot (that is 5 per hole in each pot). These were planted three weeks after, each plant was thinned to two plants per pot. A total of 90 plants for each treatment combination were used.

**Soil analysis**

The physical and chemical properties of the soil used were determined using the procedures adopted by International Institute for Tropical Agriculture (IITA) Ibadan, Nigeria and the results are shown in Table 1.

**Data Analysis**

The results of this research were subjected to analysis of ANOVA to show whether there were significant differences among the yield parameters. Duncan Multiple Range Test (DMRT) was used to separate the means. The Pearson's correlation was used to show relationships between the chemical treatments and the parameters.

**RESULTS**

Treatments obtained for all the yield parameters showed an interesting variation between and within the varieties.

Number of flower plant:

The number of flowers per plant were not statistically uniform in Kanana 4 and Ex-Sudan at different concentrations of SA (p<0.05 level of significance Table 2), the concentration of flower number was negative to (0.06) and (0.03)

Number of capsule per plant:

For number of capsule per plant all the two varieties showed statistical differences at p<0.05 level of significance (Table 2). The correlations in capsule number were both negative in Kanana 4 and Ex-Sudan (0.485 and -0.85 respectively).

Length of capsule (cm):

The capsule length in Ex-Sudan was not significantly different at different doses of SA but Kanana 4 showed significant differences at certain doses of SA at p<0.05 (Table 2). However, there were negative correlations Ex-Sudan (0.451) that positively moderate (0.557) in Kanana 3 (Table 3).

Weight (g) of capsule:

The two varieties treated with sodium azide showed significant differences (p<0.05) with respect to capsule. The correlations in weight of capsule were both negative in Ex-Sudan and significant (0.635) (Table 3). Similarly in Ex-Sudan the correlation was negative (0.627) but not significant.

**DISCUSSION**

The magnitude of difference in capsule number per plant in Ex-Sudan treated with Sodium azide could be associated with high Chemical tolerance of species by exposed to (SA). However, the variations observed in the Kanana 4 and Ex-Sudan to the other yield parameters might be due to environmental factors such as temperature and relative humidity that affect growth and development of the fruits. The results observed in this study is in close to the findings of Muhammad, Akbar, Muhammad, and Zia (2011). Also reported that lack of emerging emergence, poor leaf and fruit development, low yield was a result of the level of stress from chemical treated soil. The negative correlation in the leaf weight of SA (2012), they showed highly significant (p<0.05) differences in number of pods per plant which decreased with increase in concentrations in both varieties.

**CONCLUSION**

Sesame crop is of great significance for breeding program as well as for economic systems. Ex-Sudan appears to be the most sensitive to the chemicals based on the results of this study. However, the use of chemical substances should be considered and further research is needed to develop more effective methods of management. This could lead to better yield and reduce the use of chemical substances in the future. The results of this study will be of great help in determining an effective management strategy for sesame. The experiment was conducted using the and statistic of the study.

**REFERENCES**