Integrated Pest Control: Plants That Repel Pests

2. Butimba

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Introduction:
For many years the world has been experiencing very hard time with regard to existence and evolution of resistant species of pests that attack crops. Farmers therefore; face very difficult time in ensuring that they fight against pests. This is not only a problem to the farmers as they don't get enough food for subsistence and some for sale but it brings back the economy of the country and the world at large.
Some plants have shown capacity to attract pests and some tend to repel pests by producing some chemicals that either attract them or repel them away. One plant that attracts pests is Penniseturm spp or Sorghum, this plant can be used to assist in doing away with maize pests for sorghum attracts the pests that would attack maize in so doing the maize will grow well un attacked by the pests hence high yield at the season of harvest.
We are Butimba day secondary school Young scientists bringing to you one plant that locally can be grown with maize to repel pests that attack maize (Zea mays).we started our experiment on 4th May 2013 and harvested on 2nd August 2013.

Materials:
In this project the following materials were used, Hand hole for tilling the land, slashers for cutting down grasses, Maize seeds, sorghum seeds, poultry manure, and buckets for watering the plants, we also used an electronic balance for recording the weight of our harvests.

Procedure:
An experimental method has been adopted in this project. We had two plots of the same number of maize plants and all the two plots have been supplied with an equal amount of poultry manure. One plot is an experiment plot, in this plot a mixture of sorghum and maize seeds were grown in the same field. The second plot had maize only to act as the control experimental plot. The number of maize seedlings in the experimental plot and that in the control experimental plot are kept the same for easy analysis of the results at the end of the experiment. Each plot had 50 maize plants making a total of 100 maize plants. In one plot we had 30 sorghum plants grown with the 50 maize plants in the experimental plot.

Source: Field data in the experimental plot

Source: Field data in the control experimental plot.

RESULTS
The experiment was successful and we managed to ascertain that the experiment worked properly. This is because the hypothesis we had in mind that Sorghum plants attracts stem borer making them move away from maize was realized. As a result in the experimental plot we got higher yield than in the control experimental plot. Maize in the experimental plot were unaffected while in the experimental plot they were attacked by the stem borers.

A caterpillar

a caterpillar in the stem of a plant.

Stem borers are caterpillars that bore and affect the stem of the plant. In this way they make the plant weak and less productive, they feed on the xylem and phloem vessels which are significant in translocation of water and food in the plant respectively.

From our investigations and observation during the experiment, we realized that Pennisetem spp or sorghum has had stem then that of maize hence difficult to be attacked by the stem borers. But the stem borers show more affinity to sorghum hence when grown with maize the stem borers will be attracted to the sorghum and not to the maize making the maize free from attack by the stem borers.

Source: Field data in the control experimental plot.

Source: Field data from the experimental plot.

From the measurement done in the laboratory on 2nd August, 2013 we realized that in the control experimental plot the yield was a total of 12kg whereas in the experimental plot it was 17kg of maize. This significantly explains that sorghum has a role to play in raising the maize harvest.

Conclusions:
From the analysis of the experimental results support the hypothesis that, "Ashes of mixed plants promote more growth than than that of a single plant. Leaf appearance and the health of the plants are evident on the photos shown. The average of the heights and circumference from the tables and bar graphs cements the acceptance of the hypothesis stated. Possibly mixed ashes have varieties of nutrients that come from area where they grew up

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