EVALUATION OF THE EFFECTS OF NITROMAX™ WHEN USED AS A SEED TREATMENT ON CORN IN GREENHOUSE TESTS

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Prepared For:

J & J AGRI-PRODUCTS & SERVICES, INC.

By:

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LABORATORY REPORT - APRIL, 1985

Introduction

NitroMax™ was obtained from J&J AGRI-PRODUCTS, distributor of the product. The purpose of the experiment, conducted in March and April 1985, was to investigate further the usage of NitroMax™ as a seed treatment. During the summer of 1985, NitroMax™ significantly increased yields of Corn and Cucumber when used as a seed treatment on three sites in Wisconsin. Germination tests conducted at K Ag Laboratories Inc in 1985 indicated NitroMax™ increased the percentage of Corn and Cucumber that emerged when treated with NitroMax™. Preliminary studies from Alberta, Canada indicated that when NitroMax™ was used as a seed treatment on barley, yields were increased.

Abstract

NitroMax™ was evaluated for its effect on root mass of corn in a greenhouse test. The data indicated that NitroMax™ increased the root mass root dry weight of corn significantly.

Methods and Materials

Seeds of variety Pioneer corn were treated with one of the following four treatments:

1. Well Water
2. Distilled Water
3. Lot A of NitroMax™
4. Lot B of NitroMax™

Lots A and B of NitroMax™ were supplied to K Lab in January of 1985. Seeds were treated prior to planting by spreading them out evenly on a paper towel. NitroMax™ treatments were diluted to a 10% NitroMax™ solution with distilled water. The treating solution was misted onto the seeds with a small, hand-operated atomizer. Seeds were misted until damp and then planted. The actual amount of solution used was two ml per 100 seeds.

The experiment was conducted in a greenhouse with diurnal temperatures fluctuating between 45°F to 75°F. Seeds were planted into a rigid metal 3 cm x 21 cm x 30 cm flat containing dry, washed sand 1 cm thick. Fifty (50) seeds were planted in rows in each flat. Another cm of sand was then placed uniformly over the corn seeds. Five pans of each treatment were planted and placed on greenhouse tables in a completely random design.

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All trays were watered uniformly with distilled water. Each day after planting, trays were watered uniformly with precaution to avoid disturbing the corn.

After 20 days, the roots were washed to remove sand particles, dried for 48 hours at 140°F, and then weighed.

Results

The results of the root study are presented in Tables 1 and 2. The results are significant at the 97.5% level. The Duncan's Multiple Range Test indicated that both Lots A and Lot B of NitroMax™ were significantly different from the distilled water standard at the 5% level of probability. Both Lots A and B had greater root mass than the well water treatments, however, they were not significantly different than the Duncan's Test.

TABLE 1. Total Weight of Corn Roots by Flat (gms)

Replication	Well-Distilled Water	NitroMax™ Water	NitroMax™ Lot A	Lot B
1	9.86	9.23	10.23	10.11
2	9.75	7.34	9.70	9.87
3	9.46	8.46	11.31	8.04
4	8.98	8.45	10.10	9.79
5	8.50	8.56	11.78	11.83
Mean	9.68ab	8.40b	10.61	9.92

TABLE 2. Company: J&J Crop: Corn Date: 1985
Total Weight of Corn Roots by Flat (gms)

Treatment 1	Mean of 1 = 9.68. ab
Treatment 2	Mean of 2 = 8.40 b
Treatment 3	Mean of 3 = 10.61 a
Treatment 4	Mean of 4 = 9.92 a

Overall Mean = 9.42
Coeff. of Var. = 11.586%
Significance = 97.8%

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Notes:

Means in a column followed by the same letter are not significantly different at the 5% level. Duncan's Multiple Range Test.

Dr. Akhtar Khwaja PhD CPC and Certified professional Soil Scientist and Agronomist and President of K Ag laboratories Inc, Oshkosh Wisconsin, USA, conducted this Study.

For more information about K Ag Lab you may visit www.kaglab.com

K Ag Lab and Dr. Akhtar Khwaja PhD has worked with NitroMax™ product for over 25 years, and has supervised its application on various farms in the USA and Canada. Crops on which NitroMax™ was applied were as follows:

Soybean
Corn
Wheat
Alfalfa
Vegetables (various)
Apples
Cranberries

(Numerous Others)

Dr. Akhtar Khwaja, PhD conducted scientific studies from 1985 to 1987 at Kune Farms, Wisconsin. A number of additional reports were produces during this period, and are available upon request.