Sugar Cane

Research Summarization

Canlubang Estate, Southern Luzon, Philippines
Dr. Robert Navarro and others
1982-83
Results: Good

Replicated field test with 4 treatments. Reduced N levels plus Nitro/Max were compared to the usual Canubang program at 500 kg N/ha. Highest cane and sugar yields and profits were obtained from the 40% N rate plus 3 l/ha Nitro/Max applied twice during the growing season. 60% N plus 2 l/ha Nitro/Max also gave enhanced yield and profit, though 80% N plus Nitro/Max produced lower yield and profit; it is thought that Nitro/Max increased availability of N to toxic levels as has been observed in a few cases with high N application. Greatest tillering and cane height early in the growing season were recorded for Nitro/Max treatments.

Taiwan Sugar Research Institute, Tainan, Taiwan
C. H. Chang, C. C. Wang and C. M. Huang
1978-1980
Results: Excellent

Replicated field tests with 5 treatments. A check treatment was compared to Nitro/Max at 2 rates (1 or 2 l/ha) and those same 2 rates along with added filtercake. Sugar yields with Nitro/Max increased 21% at the 1 l/ha rate for autumn cane, although ratoon cane did not respond as well. Filtercake plus Nitro/Max at 2 l/ha increased the sugar yield of autumn cane by 24%.

Occidental Negros, Philippines
Dr. Robert Navarro
1982
Results: Excellent

Side by side field tests with two treatments. Sugar cane was grown using conventional fertilization vs. the full Nitro/Max program at 2 sites. Nitro/Max plus mineral balancing produced yields 12% to 24% higher and net incomes that were considerably higher than for conventional fertilization methods.

November 21, 1994
1314 7th Street
Hull, IA 51239

Dear Bob:

I am writing to let you know what the crop results were for my 1994 corn and soybean yields after using NITRO/MAX and J&J SOIL CONDITIONER.

Inputs for the corn acres included: 1500 pounds cattle confinement pit manure knifed 6" in, 15 # N (28%), 3# sugar and 2 oz J&J SOIL CONDITIONER per acre applied with planter and banded with Broadstrike herbicide.

Then at first cultivation: 1/2 gallon per 10 acres of NITRO/MAX plus 2 oz per acre of J&J SOIL CONDITIONER, soil applied.

Yield results were:
Pioneer 3394 - 200.65 bu/ac
Asgrow 623 - 192.66 bu/ac
Pioneer 3563 - 195.17 bu/ac
Pioneer 3514 - 198.75 bu/ac
Pioneer 3547 - 194.32 bu/ac

Input for soybeans included: 15# N (28%), 3# sugar and 2 oz J&J SOIL CONDITIONER per acre applied with planter and banded with Broadstrike herbicide.

At first cultivation: 1/2 gallon per 10 acres of NITRO/MAX plus 2 oz. per acre of J&J SOIL CONDITIONER, soil applied.

Yield results were:
107 acres of soybeans averaged 63 bu/ac,
the best yield Pioneer 9252 at 65.5 bu/ac.

Other observations: Corn standability was extremely good in spite of very high winds in late June. Very low corn borer or ear worm activity - hardly any dropped ears before harvest. Shelled corn very deep yellow color - appeared very healthy.

Soybeans standability very good in spite of small hail and wind in June, less than 1% lodged due to bruised stems. Five different varieties had only a 4 bu/ac variation in yields.

I am very pleased with the results with these low inputs. It is the only way we can survive in this situation we face with low grain prices.

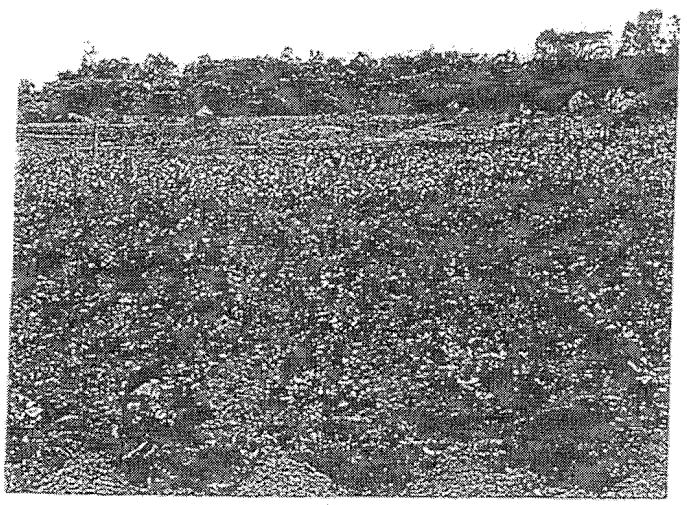
Respectfully

Ethiopian Row Crop Results

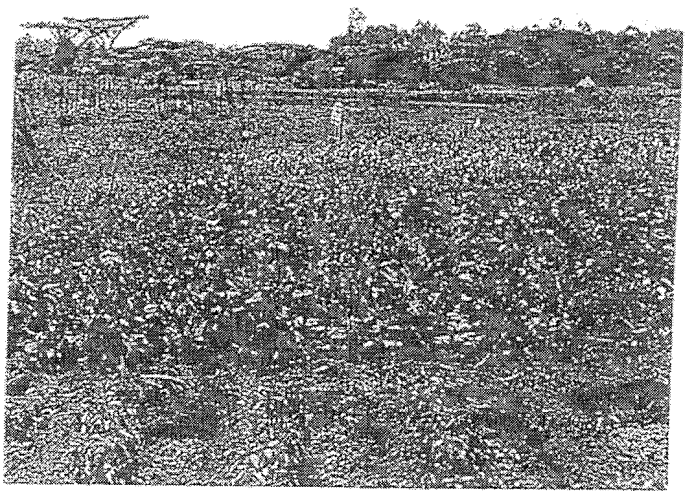
Spring 2002

HOT PEPPERS
(at 8 weeks)

NO NITRO/MAX
(100% UREA & DAP FERTILIZER)



WITH NITRO/MAX
(66% UREA & DAP FERTILIZER)



CORN
(at 9 weeks)

NO NITRO/MAX
(100% UREA & DAP)

YIELD = 1- 2 EARS PER STALK

WITH NITRO/MAX
(66% UREA & DAP)

YIELD = 3-4 EARS PER STALK

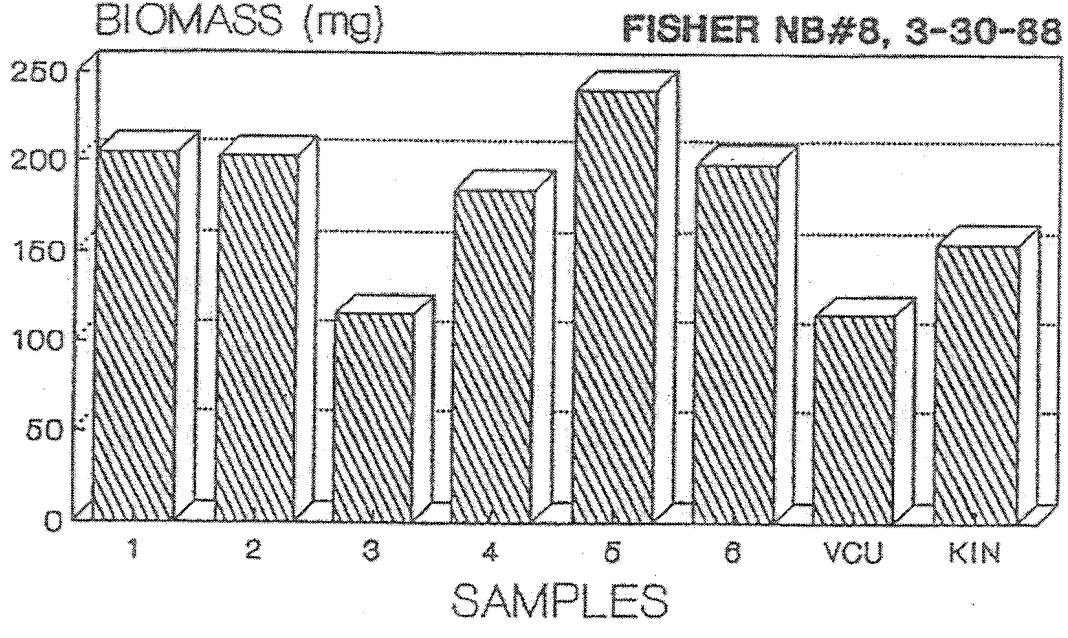
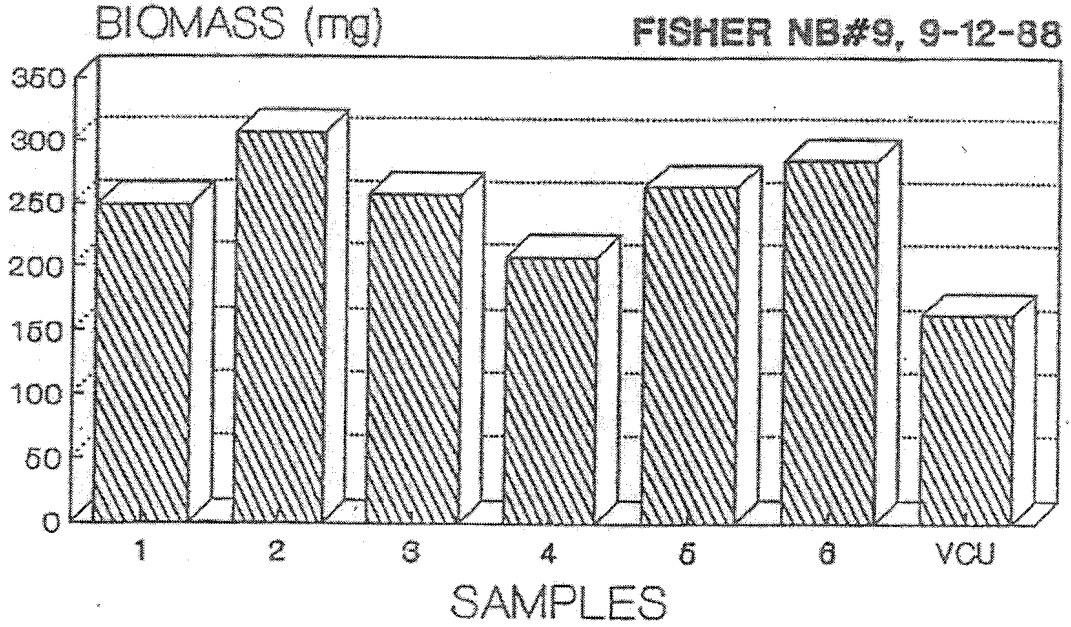

BIOMASS (mg)
FISHER NB#8, 3-30-88
250
200
150
100
50
0
1
2
3
4
5
6
VCU
KIN
SAMPLES

FIGURE 2


BIOMASS (mg)
FISHER NB#9, 9-12-88
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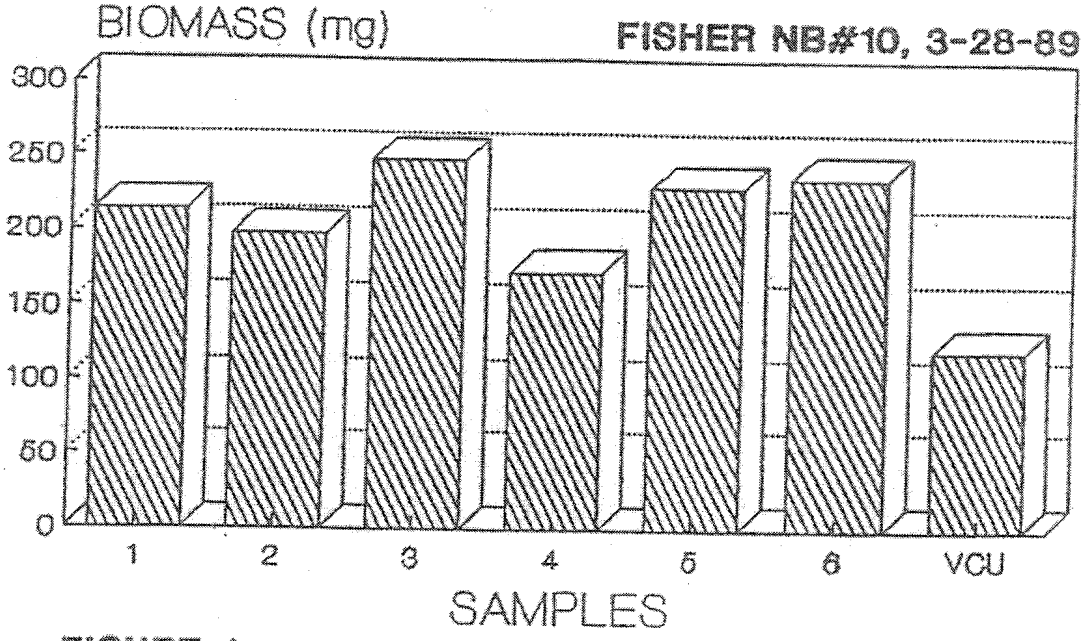
300
250
200
150
100
50
0
1
2
3
4
5
6
VCU
SAMPLES

FIGURE 3


BIOMASS (mg)
FISHER NB#10, 3-28-89
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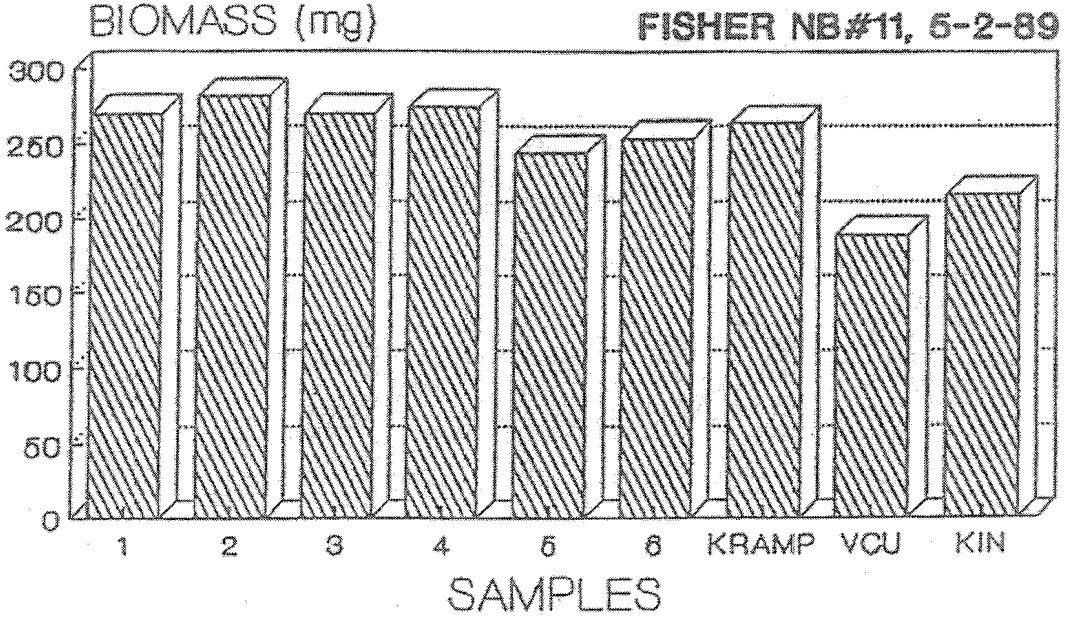
250
200
150
100
50
0
1
2
3
4
5
6
VCU
SAMPLES

FIGURE 4


BIOMASS (mg)
FISHER NB#11, 6-2-89
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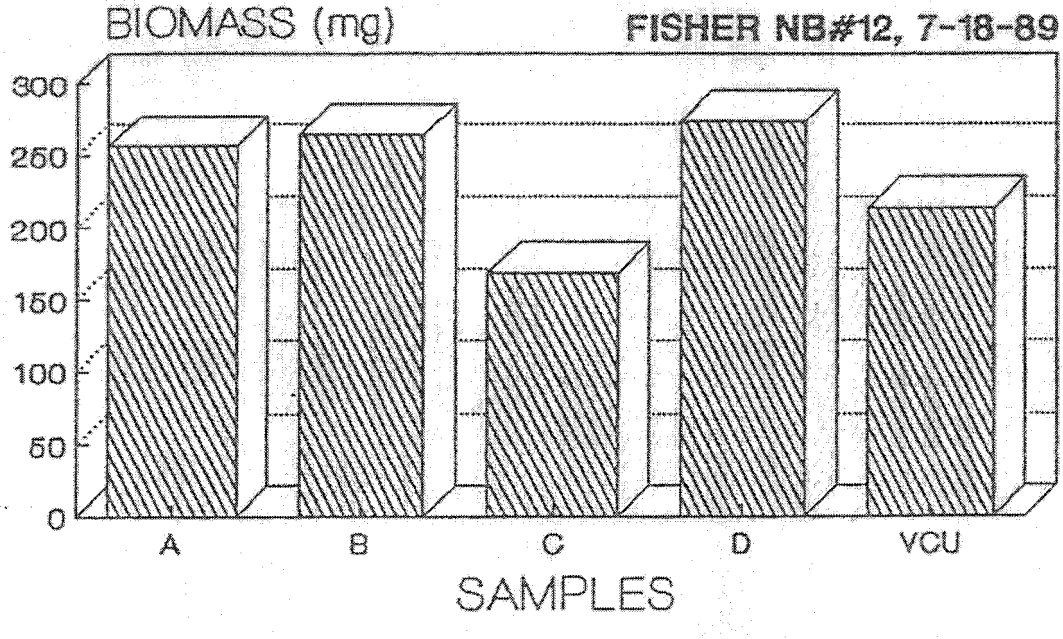
250
200
150
100
50
0
1
2
3
4
5
6
KRAMP
VCU
KIN
SAMPLES

FIGURE 5


BIOMASS (mg)
FISHER NB#12, 7-18-89
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250
200
150
100
50
0
A
B
C
D
VCU
SAMPLES

FIGURE 6

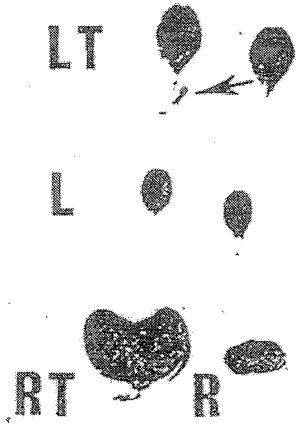

FIGURE 7 SEEDLING CHARACTERISTICS

Experiment Report on the Effect of Nitro/Max on Vegetables

In order to find out the effect of Nitro/Max on vegetable growth, we are entrusted by the International Nitro/Max Production Company to carry out experiments on cabbage and small Chinese cabbage in the experimental field of Shenzhen Agricultural Science & Research Center, Vegetable Institute.

I. Materials and Methods

1. Cabbage after 50 days growth
2. Small Chinese cabbage with black leafs

II. Experiment Methods

1. **Indoor Germination Experiment**

   Put a piece of filter paper, which is soaked with 1:20 Nitro/Max solution on a glass beaker. Then place 100 seeds in each glass beaker, cover the glass beaker and put it at room temperature to sprout. A comparasion experiment is done by using the distilled water. All experiments are done for three times. The germi nation will be calculated after 72 hours. The biomass namely fresh plant weight and the germination rate shall be studied after 7 days.

2. **Experiment on Germination Rate and Seedling Growth**

   1:20 Nitro/Max solution is used for soaking seeds for 6 hours (soak seeds at 9:00 am, sow the seeds at 3:00 p.m.). A comparasion experiment is carried out by using the distilled water. Sow the soaked seeds in the field within a antiinsect net. 100 seeds are sowed in a block with an area of 0.5 m^2. Experiments are repeated three times. After 10 days, germination rate is studied. Take 20 plants from each block, and measure fresh plant weights and fresh plant weights for the part above the soil surface. After 15 days, take 20 plants from each block and measure the fresh plant weights and fresh plant weights for the part above the soil surface.

3. **Field Yield Experiment**

A. Use 62 ml Nitro/Max together with 760 ml water for an area of 666 m^2 (1 mu). Spay 0.8 ml Nitro/Max together with 9.1 ml water to a block with all area of 8 m^2 and make it even. After 7 days, plant the baby vegetable in the field.

B. Use 61 ml Nitro/Max for an area of 666 m^2 each time. Spay 0.8 ml Nitro/Max together with some water to the leafs of plants within a block with an area of 8 m^2. Spay one time after baby vegetables are planted, and spay another time after 10 days.

It is shown in Fig.2 that 1:20 Nitro/Max solution, after seeds soaking 6 hours in the solution, has different promoting effects on the germination and growth of both cabbage and small Chinese cabbage. Germination rate of cabbage is increased by 8.55%, fresh plant weight is increased by 15.06% and fresh plant weight for the part above the ground by 15.63% after 10 days growth. Fresh plant weight for 15 days growth is increased by 6.07%, fresh plant weight for the part above the ground by 6.35%. For small Chinese cabbage, germination rate is increased by 4.22%, fresh plant weight by 11.68% and fresh plant weigh for the part aboove the ground by 11.32% after 10 days growth; fresh plant weight is increased by 24.24% and fresh plant weight for the part above the ground by 23.41% after 15 days growth.

3. Field Yield Experiment

At harvest time, the experiment results on cabbage are shown in Fig.3, and that on the small Chinese cabbage are shown in Fig.4.

It is shown in Fig.3 and Fig.4 that spay of Nitro/Max to both field and to plant leafs can increase growth of cabbage and small Chinese cabbage and thus increase the yield. By spaying Nitro/Max to field, yield per mu for cabbage can increase 121.25 kg compared with water, an increasement of 6.68%, yield per mu for small Chinese cabbage can increase 124,99 kg, an increasement of 4.62%. By spaying Nitro/Max to the plant leafs, yield per mu for cabbage can increase 210.40 kg, an increasement of 11.05%, yield per mu for small Chinese cabbage can increase 41.65 kg, an increasement of 1.59%. Calculated according to the market price1.00 RMB/kg, by using Nitro/Max spay to the field, an extra income of 121.25 RMB can be gained for cabbage per mu and 124.99 RMB for small Chinese cabbage per mu; by using Nitro/Max spay to the plan leafs, 210.40 RMB and 41.65 RMB can be gained for cabbage and small Chinese cabbage relatively per mu. Experiment yields has been analied by using _____ method, and no obvious difference are found.

III. Brief Summary

Experiments show:

1. The germination tendancy and germination rate can be increased after the seeds soaking in Nitro/Max soultion;
2. The germination rate in the field is also increased after soaking in Nitro/Max solution;

Fig.2 Germination and Growth Results in the Field

Plant	Germination Rate (%)			Single Plant Weights (G) 10 Days			Single Plant Weight for Part above Ground (G) 10 Days			Single Plant Weight (G) 15 Days			Single Plant Weigh for Part above 15 Days		
	Nitro/ Max	Water	Incr.(%)	Nitro/ Max	Water	Incr.(%)	Nitro/ Max	Water	Incr.(%)	Nitro/ Max	Water	Incr.(%)	Nitro/ Max	Water	Incr.(
Cabbage	74.00	67.70	+8.55	0.166	0.141	+15.06	0.160	0.135	+15.03	0.445	0.418	+6.07	0.425	0.398	+6.35
Small Cabbage	71.17	68.17	+4.22	0.274	0.242	+11.68	0.265	0.235	+11.32	1.32	1.00	+24.24	1.26	0.965	+23.4