

EFFECTS OF PLANT DENSITY, NITROGEN AND DEFOLIATION
/ ON THE YIELD AND YIELD COMPONENTS OF CORN


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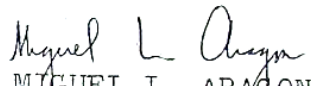
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This thesis entitled, EFFECTS OF PLANT DENSITY, NITROGEN AND DEFOLIATION ON THE YIELD AND YIELD COMPONENTS OF CORN, prepared and submitted by DANILO TAGUINALDO BENITEZ in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN CROP SCIENCE (Agronomy), is hereby accepted.


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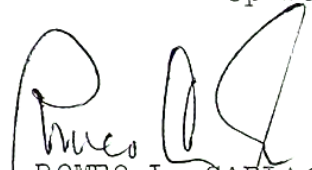

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BIOGRAPHICAL SKETCH

Danilo T. Benitez is the eldest among the eight children of Melecio O. Benitez and the former Elena B. Taguinaldo. He was born on July 4, 1961 in District No. 3, San Manuel, Isabela.

An honor pupil from grades one to four, he finished his elementary education at San Manuel Central School in 1974 and his secondary education (sixth place) at Santa Maria Community High School, Santa Maria, Isabela in 1978. He obtained his Bachelor of Science in Agriculture degree from Isabela State University, Cabagan, Isabela on April 1982 as college scholar during his third year and a CSBO President scholarship grantee during his 4th year. He was elected president of the College Student Body Organization of the University and was awarded as Student Leader of the year award in 1981-82 for his outstanding achievements and accomplishments for leadership and worthwhile activities in the University and in the Community.

He joined the government service on September 16, 1982 as a Research Assistant of the Philippine Tobacco Research and Training Center in the province of Isabela.

He has attended local, provincial and national seminar-workshops, as well as passed the career service sub-professional examination.

In November 1983, he transferred to ISU-PCARRD Pasture Management Project at Cabagan, Isabela and worked as Research Assistant of the Project.

In June 1984, he was given the chance to go for further studies in Sugar Technology through the financial support of Mayor Oscar U. Masigan of Santa Maria, Isabela in the University of the Philippines at Los Banos, College, Laguna.

In June 1985, he enrolled at the Graduate School of UPLB with the degree of Master of Agriculture major in Agronomy and transferred to Central Luzon State University on October 1985 to continue his graduate studies leading to Master of Science in Crop Science major in Agronomy. Here, he became the Crop Science Representative of the Graduate Students Association for school year 1986-87.

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ABSTRACT

BENITEZ, DANILO T., Institute of Graduate Studies,
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Adviser: Prof. Julito B. Aleta

IPB Var I was studied (1) to determine the effect of nitrogen and plant density on the yield of corn with defoliation, and (2) to compare the fresh weight of leaves removed above the ear and those removed below the ear and the subsequent effect of defoliation on the performance of the corn plant.

Higher plant density resulted in heavy fresh weight of defoliated leaves but decrease in ear length, ear diameter, weight of 1000 grains and total nitrogen content of defoliated leaves.

Nitrogen fertilization increased plant height, ear height, ear length, ear diameter, grain yield per plot, weight of 1000 grains and the total nitrogen content of defoliated leaves but reduced the number of days to silking.

Defoliation decreased grain yield per plot and the weight of 1000 grains.

The fresh weight of defoliated leaves below the ear was heavier than those above the ear at low plant density. Heavy fresh weight of defoliated leaves below the ear were obtained at high plant density.

Fresh weight of defoliated leaves below the ear was heavier from the fertilized plants while fresh weight of defoliated leaves above the ear at 0 to 180 kg N/ha were comparable.

Removal of leaves above the ear resulted to 16 percent lower grain yield while removal of leaves below the ear decreased grain yield by 15 percent.

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