

Gokhale Institute of  
Politics & Economics

19 FEB 1951

FERTILIZE CORN

FOR HIGHER YIELDS



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**AGRICULTURAL EXPERIMENT  
STATION  
NORTH CAROLINA STATE  
COLLEGE  
RALEIGH, N. C.**



**ON THE COVER: Nitrogen Made The Difference! Except for nitrogen, both plots received the same fertilization, were spaced the same, and were seeded, cultivated and harvested at the same time. The plot on the right received no nitrogen, yielded 7.2 bushels per acre. The plot on the left received 180 pounds of nitrogen per acre, yielded 103.9 bushels.**

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## **FOREWORD**

Progress does not always follow a steady course. History records many situations in which little advance is made for many years. Then, following a new discovery or under leadership with a fresh viewpoint, very rapid progress is made for a few years and the enterprise moves forward on an entirely new plane. This is the case with corn production in North Carolina.

Before the turn of the century, the average yield of corn in the State was around 11 to 14 bushels per acre year in and year out. Then came the 4-H corn clubs and an intensive educational program acquainting the farmers and farm youth with what was then known about corn production. In the short space of 12 years, the average yield increased to around 18 to 20 bushels per acre. There it remained for almost three decades.

Now we are in the midst of another period of progress which promises to be much more far reaching than that experienced in the period of 1903 to 1915. This was set off by two research programs, jointly sponsored by the North Carolina Agricultural Experiment Station and the Bureau of Plant Industry, Soils and Agricultural Engineering, namely, (1) a breeding program begun in 1938 to develop corn hybrids adapted to this area; and (2) an intensive program begun in 1943 on the cultural and fertilization requirements for corn production in this area.

New hybrids capable of yielding much greater harvests than our old varieties were developed. Hunger signs, which had long been mistaken for the effects of dry weather, were correctly diagnosed as nitrogen deficiency. With better fertilization and soil management, closer spacing was found necessary to provide the stalks required for high yields. Closer spacing also made weed control easier by providing plant competition. This avoided the necessity for late, deep cultivation which caused root damage. A study of past weather data revealed a favorable climate for corn production.

When these facts and their corrective measures were brought together in one corn production program, it has become common for practical farmers from one end of the State to the other to get yields of 100 bushels per acre or more. The program has

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CORN YIELDS INCREASED BY  
RESEARCH AND EDUCATION

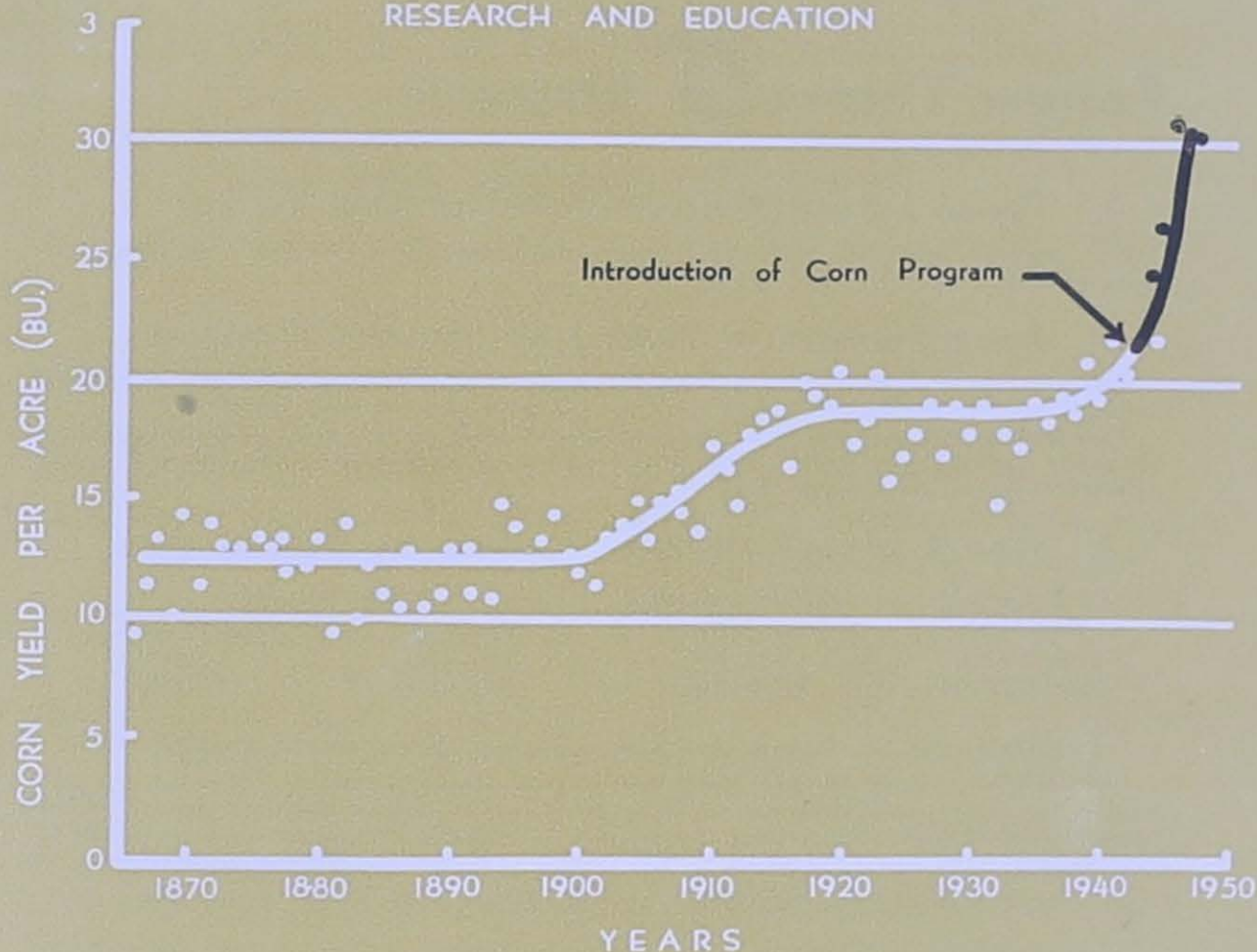


Figure 1: The corn clubs after the turn of the century and research and teaching programs during the 40's mark turning points in North Carolina's corn yield record.

demonstrated the closest possible teamwork of all persons concerned with agriculture in North Carolina. Seldom have we seen the results of a research program receive such widespread adoption by farmers in so short a time. A goal of a 40 bushel per acre average by 1955 seemed ambitious when suggested in 1945, but appears almost in sight now.

This bulletin reports the studies on fertilization and management, a very vital part of the teamwork which has made this phenomenal increase in corn production possible.

R. W. CUMMINGS  
Associate Director

May, 1949