



What the harvest will be depends to a large extent upon care given plants, the preparation and cultivation of the tobacco land.



This Wayne County, North Carolina farmer prepares his land for cotton with tractor and disc harrow.

What Fertilizers for Tobacco? Helpful Hints to Cotton Growers

Southeastern Research Committee Summarizes Official Recommendations

By A. B. BRYAN

WHAT is the best fertilizer for flue-cured tobacco and how much per acre should be used? This important question is answered by the Southeastern Tobacco Research Committee which has made recommendations for flue-cured tobacco grown on typical bright tobacco soil in Virginia, North Carolina, South Carolina, and Georgia.

For heavy or more productive soils—Three per cent total nitrogen, 10 per cent available phosphoric acid, and six per cent potash. To be applied at rates of 700 to 800 pounds to the acre.

For light or less productive soils—Three per cent total nitrogen, 8 per cent available phosphoric acid, and 6 per cent potash. To be applied 800 to 1,000 pound to acre.

Where high topping is practiced and heavy yields are expected, potash content may be profitably increased to 8 to 10 per cent.

The above analyses may be modified, provided given ratios are maintained and recommended sources of plant food used.

Plant Food Sources

One-third of the nitrogen should be derived from high grade organic materials of plant or animal origin; one-third from materials supplying nitrogen in the nitrate form; and one-third from urea and/or standard inorganic sources of nitrogen.

Phosphoric acid should be derived from superphosphate, double superphosphate, and/or dicalcium phosphate.

Potash should be derived from any source of available potash, provided the chlorine content of the mixed fertilizers does not exceed 2 per cent. If tobacco by-products are used as a source, these must be sterilized to kill organisms which might be present that cause diseases.

It is recommended that fertilizers carry 2 per cent magnesia.

Chlorine Important

Available experimental data shows that a small quantity of chlorine in the tobacco fertilizer increases the acre value of the crop. Excessive chlorine in fertilizers injures its growth and reduces quality. It is recommended that fertilizers be compounded in such proportions that fertilizer mixtures shall contain 2 per cent chlorine.

Maturity is delayed and the color of the cured leaves has a tendency to be red when large quantities of sulfur are included in the fertilizer mixtures, so it is suggested that fertilizers be formulated to contain a minimum quantity of sulfur. Tobacco fertilizers should carry in an available form a minimum of 6 per cent of calcium oxide equivalent.

If non-acid fertilizers are to be produced, the neutralizing agent should be dolomitic limestone.

There are so many variations in the soil types and soil fertility it is difficult to say definitely that one fertilizer or one analysis is better for any particular field or farm; however, there are certain general recommendations that can be followed with minor variations to suit certain local conditions.

For instance, the committee of agronomists who are working with tobacco in the flue-cured area, have made the following recommendations:

For light or less productive soils—800 to 1,000 lbs. per acre—3-8-6 mixture.

For heavy or more productive soils—700 to 800 lbs. per acre—3-10-6 mixture.

The method of application is more important than many growers realize. It is essential that the fertilizer be well mixed with the soil.

Failure to Secure Stands of Cotton Blamed to Planting in or Over Fertilizer

By DAVID R. COKER

BASED on many years of experience and observation I can state without qualification that very many failures to secure stands of cotton are due to planting the seed in or immediately over the fertilizer. During certain seasons, generally those during which the spring rainfall is light, the seed are frequently killed or the young tap root damaged or destroyed by the strong fertilizer salts. Experiments at the Florence Experiment Station indicate that the fertilizer should be placed on both sides of the row of seed several inches away from the seed and several inches below the seed.

Where the farmer does not have a distributor which will place his fertilizer in this way, he should run a plow in the furrow behind the fertilizer distributor and thoroughly mix the fertilizer with a mass of soil before it is covered by the bedding furrows. This is an extremely important matter. I have often seen seed

stands destroyed or damaged by the fertilizer being placed in a strip or roll immediately below the seed.

Another item to which farmers should give very particular attention is the vitality of the seed planted. The farmer should know the approximate percentage of germination of the seed he is planting and should put an amount sufficient to give him a normal number of vital seed per acre. No way has been discovered of separating full size rotten seed of normal weight from vital seed. However, if seed only germinate 50 to 60 per cent and are of a good variety and were grown under good conditions I should prefer to plant them using a bushel and a half to two bushels per acre, than to use a bushel of high-germinating seed of doubtful purity.

The main thing is to use a variety of good breeding, high productiveness, and premium staple and plant enough seed, germination considered, to give you a stand, regulating the placement or distribution of the fertilizer so that normal germination will neither be prevented nor destroyed.

CAMERA CRUISING IN CAROLINA



Above, 30 Green Hands initiated into the West Edgecombe, N. C., Chapter, Future Farmers of America. Right, officers of the Ferguson Juvenile Grange, Wilkes County, N. C., and their matron, Mrs. T. V. Ferguson.



Layton Plait, winner of the ninth annual co-operative essay contest conducted by the FCJ and North Carolina Cotton Ass'n. Right, these members of the Contentea chapter, Young Tar Heel Farmers netted \$27,620.88 on their farming efforts last year.



T. W. Ferguson and some of his registered Hereford cattle on his River Plains Farms, Wilkes County, N. C.



F. G. Mann, Raleigh, general manager, N. C. Cotton Growers co-op represents the south on the board of the National Co-operative Council.

AMPLE SEED NEEDED FOR HIGH COTTON YIELD

Lack of stand causes a greater loss in yield per acre than any other factor in cotton production. This impressive fact is brought out in a study of the results of the five-acre cotton contests conducted for several years in South Carolina and other Southern states. Experimental results bear out the conclusion.

On the basis of contest and research records the following suggestions seem worth consideration by cotton farmers:

1. High average yields cannot be made unless there is a regular stand of plants spaced comparatively close in the drill in close or narrow rows. Only on exceptionally fertile land should rows be more than 42 inches wide; on most cotton lands 36 inches should be the maximum width of row.

2. The seedbed should be thoroughly pulverized and well settled before cotton is planted, for retention of moisture and firm footing of roots.

3. At least six pecks of well bred seed of tested germination power should be used per acre, and the stand should be thinned to not less than one and two stalks every eight to ten inches. It must be remembered also that the narrower the rows the more seed are required to plant an acre.

Although the cost of seed is only a small item in the total cost of production of a crop, far too often a farmer will attempt to secure a good stand from the use of too few seed, forgetting it costs just as much to fertilize and cultivate a poor stand as a good stand, forgetting, too, that a thin seeding often causes a poor distribution of seed along the row and a poor stand, reduced yields, and lower returns. It is better to "chop out" many surplus plants than to "lose out" in low returns.