

Rotation Vs. Fertilizers In Land Utilization

GUY A. CARDWELL

In the utilization of arable lands, economists recognize three stages of development. The first stage is a period in which virgin, productive soils are usually subjected to exhaustive cropping and in which little or no thought is given to proper cultivation or to returning anything to the land with a view to prolonging its productivity. Very often this stage is characterized by the growing of one major crop almost continuously on the same soil, as tobacco during the winter months and cotton, and later on, in other sections, wheat or corn. During this first period the value of manure is hardly appreciated, crop rotation is rarely practiced, and, as one observer has stated it with particular reference to colonial farming, new land is constantly brought into cultivation as soon as that which is already under the plow refuses to produce anything that is worth harvesting.

The second stage is a period in which the farmer realizes that, if he is to succeed in growing any crops at all that would give him sufficient encouragement for his labor, he would have to cultivate his land more carefully, modify his cropping system and utilize any farm manure produced for the good of the land, all with a view to preserving, in a manner, the producing qualities of his soils. This period may be called the extensive stage.

The third stage is a period in which the farmer gives much thought to cultivation and to drainage, if necessary, to rotation of crops, and to the use of soil-improvement materials. This is the intensive stage, which ultimately results in a higher yield per acre, but a smaller yield per man. With the average farmer, the sign of his approach to the third stage is the increased attention he gives to these soil-management practices which enable him to produce high yields at the lowest possible cost per acre.

Rotation As Good As Fertilizer

In the light of the study that has been made of the value of crop rotation, it may well be assumed that on naturally productive soils a proper rotation may for many years prove more effective in maintaining yields than farm manure or single, mixed, or even complete commercial fertilizers. In time, however, the manure or commercial fertilizers may give more and more positive results until they approach the effectiveness of rotation, as the experiments with corn at Urbana, Ill., seem to show.

In the experiments at Urbana the soil treatment consisted in the use of pulverized limestone, farm manure, and phosphate fertilizers (bone meal and rock phosphate); and the rotation consisted of corn, oats and clover.

Three important points were brought out in the Urbana test. (1) The average yield of corn obtained without fertilizers and rotation on this particular prairie soil in Illinois is 23.4 bushels per acre (equivalent in bushels of shelled corn); (2) the gain effected by rotation alone is practically three times that obtained from the use of fertilizers and lime; and (3) the total increase effected by combining rotation and the use of fertilizers is 7.2 bushels greater than the sum of their separate increase.

It is a well-known fact that, when an arable soil is well supplied with organic matter, nitrogen and the necessary mineral elements, it shows but little or no response to fertilizer treatments. On the other hand, a particular crop may be grown successfully on the same land only when it is introduced into a rotation. This is particularly true in case the crop is attacked by certain insect pests or crop diseases, in which case the change of crops aids in the control of such insects or diseases or prevents their development.

Timely Farm Questions Answered At State College

QUESTION: How can I increase egg production in my poultry flock?

ANSWER: Many poultrymen are getting higher production by feeding only a small amount of grain in the morning and the remainder at night. The morning grain is fed in a clean litter from four to six inches deep and consists of about one pound of grain for each 100 hens. The afternoon feeding is put in troughs. The practice of feeding grain at different intervals of the day, especially during the winter months, increases the activity of the birds, overcomes idleness, and indirectly increases feed consumption. The combination of these tends to give an increase in egg production.

QUESTION: Where can I secure plans for building a modern dairy barn?

ANSWER: Plans for building dairy barns that have been approved by the dairy specialists at State College are mailed free upon request to the Agricultural Editor at State College. However, we suggest that you get in touch with your county farm agent who will be glad to recommend the proper plan and give other information in request.

ing plans always specify the number of animals to be housed and whether a feed lot is desired. Plans for other farm buildings may also be had from the same address.

QUESTION: When should seed peanuts be selected for planting next year?

ANSWER: Planting seed should be handpicked both before and after shelling. Remove all badly mildewed pods and damaged kernels and store the seed peanuts in a dry place. Poor stands are often due to planting seed of low vitality and if there is any question as to the quality of the selected seed it is advisable to have them tested for germination. Where the peanuts are still in the field it might also be well to cover the stacks with canvas hay caps to prevent weather damage.

Removing Pine Straw Retards Tree Growth

The fairly wide-spread custom of raking up pine straw from wooded areas appreciably retards growth of the trees.

When the straw is left beneath the trees it protects the soil and

THE TIMES SNAPSHOTS

BARNEY GLADFIELD AND K. V. MAYOR DISCUSS ANTI-NOISE CAMPAIGN — Barney Gladfield, left, famous automobile racer, who is on a national anti-noise education tour sponsored by the Plymouth Motor Corporation, is shown with Mayor LaGrone at City Hall, when the veteran race driver endorsed the Mayor's "anti-noise" campaign.

THANKS TO ROBIN HOOD — This season's millinery is endowed with a fashioning quality. Marsha Hunt, film player, wears a brown felt model with a colorful gull which is thrust boldly through one side of the turned up brim.

AFFLECK KING — John E. Laird, America's premier distiller of fine applejack brandy, his family for six generations have made this typically American drink in Monmouth County, N. J., and his company has just broken all records in the 1935 year Laird history by crushing 3,000,000 pounds of Jersey apples in three months.

TREE HEN! — Hetty looks like an ordinary bird, lays ordinary eggs, but has extraordinary habits. The hen is something of a village wonder in Chelmsford, Kent, where she has nested and laid her eggs in a tree.

REALLY SHOCKING — Bottle manufacturers, constantly improving the strength of glass, check their efforts scientifically, but Mother Nature provided the perfect shock test recently in Helena, Montana, for a carload of bottles manufactured by the Owens-Illinois Glass Company, Toledo. A warehouse roof collapsed during an earthquake, smashing the top and sides of a box car loaded with approximately 25,000 bottles of whiskey. Only five bottles were broken.

WHERE IT'S A DISGRACE TO BE IN MOURNING — This peddler in Korea is wearing this big hat, so that his face is shaded and people cannot see he is bereaved.

SPIDER MEN — These workers are spinning cables on a FWA financed suspension-type bridge.

Teachey Home I

The Teachey Home... (text continues)

Population Changes To Be Discussed

Recent shifts and changes in the population of North Carolina will be discussed by Dr. C. Hamilton, rural sociologist of the Experiment Station, on the Carolina Farm Features radio program Wednesday.

Family Reunion

A beautiful and enjoyable Birthday Family Reunion was celebrated at Potters Hill, Thursday, November 21st, when 175 of his relatives and friends gathered at the home of Mr. J. K. Thigpen on the 55th Anniversary of his birth.

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supplies needed plant food, said R. H. Page, Jr., assistant extension forester at State College.

On a recent visit to Wayne County, Page found a 75-acre tract of Loblolly pines that had been raked continually during the past 15 years.

Increment borings into the trunks of several representative trees indicated that during those 15 years the trees had gained less than an inch in diameter.

Normally, the same trees, ten inches in diameter and about 70 feet high, should have grown enough to increase their diameter by more than two inches.

In other words, Page said, raking up the straw had cut the trees' growth more than 50 per cent.

Sometimes farmers find it necessary to gather pine needles for mulching their crops and bedding livestock. The needles are as valuable as the cord wood and saw timber on the wooded area.

In such cases, Page said, the straw should not be raked from the same area year after year. Rather it at one place this year, he suggested, and from another next year.

If the straw is not raked away more than once in every four or five years, he said, the damage is not so severe.

should be well wrapped or plunged into a barrel of water while waiting to be set out, as this keeps them from drying out.

The trees should be spaced 60 feet apart each way, with 12 trees to the acre. The holes should be about 2 1-2 feet deep and 2 feet wide; large enough to accommodate the tap root.

Only good topsoil should be used to fill the holes. Pack it firmly around the roots. Be careful however, not to set the trees more than an inch or two deeper than they grew in the nursery.

The trees should be cultivated as a crop and it is advantageous to grow farm or garden crops between the rows of trees, but not too close to the trees.

Apply from 1-1-2 to 2 pounds of 4-8-4 fertilizer to each tree just before growth starts in the spring.

contains a lot of weeds or coarse stems, the quantity fed should be increased. A good practice is to give the animals all the roughage they will eat without waste.

When animals have plenty of good hay or pasture, and are not working, the grain feed may be cut in half.

Gives Hints For Choosing Colors

A great artist once said, "When the Creator fashioned the humming bird and the butterfly He gave them brilliant colors, but when He created the elephant He made it tame."

The same rule may be used by women in selecting colors for their clothes, said Miss Julia Melver, assistant extension clothing specialist at State College.

Stout women should select dark, quiet colors to minimize the size of their figures.

For the unusually slim woman there must be no dull, drab colors, no black or dark brown. Black has a slenderizing effect. The slim woman may choose the lighter tones, pastel tints, warm though not brilliant hues.

White and the warm colors, red, orange, and intermediates give the effect of nearness and largeness. Shadowy textures seem farther away or smaller.

The colors worn must be considered in relation to the individual.

Work Animals Need A Balanced Ration

For economy and efficiency on North Carolina farms, the horse and mule are hard to beat.

Good work animals supply a highly satisfactory form of pulling power for farm implements and machinery, and they utilize feed crops that can be grown at home.

But to get the best service out of work stock, care must be exercised to feed it properly, said Prof. R. H. Ruffner, head of the animal husbandry department at State College.

Corn, oats, and barley are about equal in feeding mature animals. Barley, should be crushed or ground before feeding.

A great variety of hays are suitable for horse or mule feed. For each grower, the best type to feed is that grown on his own farm, Professor Ruffner stated.

Among the hays and roughages fed with good results are: lespedeza, timothy, clover, corn stover, soybean, cowpeas, alfalfa, and peanut.

When timothy and ear corn are fed, it is well to include a quart of wheat bran each day to balance the diet.

Animals at work need 2 to 2 1-2 pounds of feed, dry roughage and concentrates combined, for each 100 pounds of live weight. A 1,000 pound mule should receive 10 lbs. of hay and 10 pounds of grain.

However, if the hay or roughage

Suggestoins For Planting Pecans

Pecan trees may be set out in the coastal plain and Piedmont section of the State anytime from late November until time for growth to start in the spring.

But where winters are more severe, the best transplanting time is early in the spring, said Robert Schmidt, associate horticulturist of the N. C. Agricultural Experiment Station.

Pecans thrive on a great variety of soils: heavy clay soil, light sandy land, river bottoms that are well drained, but they will not do well on soil underlain with quicksand or hardpan, or on land that does not have good drainage.

Schley, Stuart, Success, Pabst, and Aley are good varieties for the coastal plains. Stuart is best for the lower Piedmont, and Indiana and Busserron are good for the upper Piedmont and mountain areas of the State, Schmidt said.

The roots of trees for planting

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