

Study Of Tobacco Being Made At Agriculture Experiment Station

Chemical Analysis Of Leaf And Work On Growing And Curing Of Weed Is Started

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The time may come when you will be able to dash off the chemical formula of your favorite cigarette as readily as you can now write H₂O for water. That's one of the things in prospect for the tobacco analysis study now being conducted by workers at the North Carolina Agricultural Experiment Station.

Even try guessing at the number of different chemical elements and compounds in tobacco? Science has long known that tobacco contains large amounts of a half a dozen or more inorganic elements like potassium, chlorine, magnesium and phosphorus.

Then there are such things as nicotine, sugars and various acids which are called organic compounds. (Organic compounds always contain the element, carbon, in combination with one or more other chemical elements.) No doubt there are many other elements in amounts so small that they have not yet been identified.

The thing the chemists haven't found out up to now is: "Just how much of these various elements and compounds is there in high quality smoking tobacco?" What are the chemical differences between good and poor tobacco?

Investigators at State College,

in cooperation with the U. S. Department of Agriculture, began their study just about a year ago as a part of the expanded tobacco research program set up by the 1947 Assembly. A new laboratory was set up on the State College campus especially for the study. Dr. W. E. Colwell, in charge of tobacco research and recently named head of the Agronomy Department at State College, was placed in charge.

Assisting with the agronomy phase of the study—the growing and curing of the tobacco—is Dr. W. G. Woltz. Dr. W. A. Reid is the technical advisor on the chemical phases—analyzing the leaves to find their chemical content. John Hall is laboratory supervisor. As soon as the study reveals new facts, they will be carried to the growers and manufacturers by R. R. Bennett, tobacco specialist for the Extension Service.

Dr. Colwell points out that his group is not breaking all new ground. "All the major cigarette manufacturing companies maintain their own laboratories," he says. "The cigarette which you smoke today is a standardized product. Making good cigarettes is no longer a hit or miss proposition."

People who are satisfied with cigarettes as they are will ask, "Then why all this concern about tobacco quality?" Dr. Colwell explains that developing good tobacco is a never-ending process. "We develop a new tobacco variety that seems to fit our climate and soil as well as please our consumers and then what happens? This new variety is attacked by some new disease or insect. Then we have to begin our search all over again."

The new method for analyzing tobacco will be helpful in the breeding program. Dr. Woltz explains that in the tobacco breeding program, the workers must often bring in new types of tobacco. In some cases it has been wild tobacco. After crossing these new varieties with the old types, the breeders may find that they have the disease resistance that they are after. But they may also find that this new cross does not make good cigarette tobacco.

In many years past this step has had to wait until the cigarette reached the consumer. What the Experiment Station workers want is a way to test the quality of tobacco before it reaches the consumer—yes, even before a new variety is released for the farmers to grow.

Another application of the new testing method will be to permit closer study of the effects of the various fertilizers on the smoking quality of tobacco. For instance, the workers already know that large amounts of nitrogen fed into the leaves through fertilization, makes tobacco unfit for manufacturing cigarettes.

Other studies can be made on the effect of geography and climate on tobacco quality. The tastes of smokers have shown that they will smoke tobacco grown in some regions in preference to that grown in other areas. Chemical analysis may reveal the reasons for this preference.

Dr. Reid mentions several other services which his tobacco analysis laboratory is performing. "As tobacco producers know, the temperature and length of curing has a lot to do with tobacco quality," he explains. "We think that some day we may be able to standardize curing methods according to their effect on the chemical content of the leaves."

The laboratory is also studying the effects that certain promising insecticides have on the quality of the leaf. For instance, it has been found that benzene hexachloride in its present form used for controlling horn worms, gives the tobacco an undesirable odor. Another important function of the laboratory will be to aid in training students at the college.

Samples of the 1947 tobacco crop have been analyzed during the past year. Dr. Reid thinks that as soon as the statistical analysis is complete, there will be some significant facts added to the fund of knowledge about tobacco.

There Is More Than One Kind Of Hog Thief In Columbus County

Five Dangers Beset Swine; Farmers Should Take Special Precautions

The thief who steals a hog in Columbus County is not as dangerous to hog growers as the thief that endangers the animals, retarding the growth and consuming additional feed.

Five hog thief are common on practically every farm in Columbus County. The farmer who goes out to his hog lot in the morning and finds one or more of his top hogs gone, leaves no stone unturned until he finds the thief.

However, he will go out day after day and see five common thieves in his pasture and do nothing about it. These common thieves are parasites, poor management, poor type hogs, unbalanced rations and unsanitary conditions.

The parasites, therefore, probably do as much or more damage than any of the others. There are two distinct types of parasites on hogs, the internal parasite and the lice.

Farmers can do away with the damage done by these parasites by using clean land for the sows to farrow on and in housing. The old hog lot is contaminated with worms and lice eggs.

The farmer who uses strong sanitation is usually the man whose hogs pay him the most profit. He also fattens his hogs out on less feed than the man who feeds his hogs and worms.

Hogs cannot live and thrive on corn alone, and they can also be over-fed protein supplement. Hogs should be fed all the corn they will eat along with a good protein supplement of fish meal and cotton seed meal mixed.

However, during war time when protein supplement is scarce, a good supplement may be used in place of the fish meal and cotton seed meal. Good mixtures are as follows: 30 pounds soybean oil meal, 30 pounds cotton seed meal, 30 pounds peanut oil meal, 8 pounds ground limestone, 5 pounds steamed bone meal, and 2 pounds salt. If tankage or fish meal is available, 30 pounds may be added to this mixture.

It would be well for a farmer buying breeding stock to buy the best type hog that is available and get rid of the poor type hogs that he is keeping.

A farmer who is feeding and caring for his livestock is usually the one responsible for either the profit or loss. If he feeds his hogs properly, keeps good stock, and watches his sanitation, he will more than likely show a profit at the end of the year.

production and he also wondered why paper could not be made directly from flax fiber. He sold bankers and tobacco companies on his idea.

He proved it was possible to manufacture a high grade cigarette paper from the fibers of the native flax. Previously this flax (produced in Minnesota and California) was raised solely for its seed and the stubble was burned off the fields.

Straus decided a spot at the mouth of the Davidson river was ideal. The Carolina highlands offered a surplus of labor. In France it takes a traditional 10 years to produce an expert paper-maker; Carolina mountaineers have reached journeyman status in as short as two years.

The site was within a day's run of the factories which produce more than half the nation's supply of cigarettes; the river produced a supply of mineral-free water.

In the beginning a French operator stood at the controls with a North Carolina mountaineer peering over his shoulder. A third party in each team was a French-Canadian, employed to translate the questions and answers.

Ecusta now uses 19,000,000 gallons of water daily and 100 tons a day of brown (Minnesota) flax and yellow (California) seed flax straw.

The plant operates 24 hours a day and seven days a week.

History Of Farm Bureau Written

Organization Was Result Of Trial-And-Error Set-Up With Many Rural Leaders Giving Share

Who discovered, or developed, the farm organization formula which has won the backing of the more than a million and a quarter farm families holding membership in the Farm Bureau? The answer is no one man. It was the result of trial-and-error methods over the years in many states, with many farm leaders contributing in one way or another to the final result.

FIRST STORY
Until now, the epic story of the great growth of the Farm Bureau in membership, influence, and power has never been told, except in fragments. For the first time, the story has now been set down and documented by the man who wrote the original Farm Bureau book in 1921, Mr. Orville M. Kile, who was employed in the information department of the American Farm Bureau Federation in the early years. Mr. Kile's interest in the organization has never flagged. He has attended every annual meeting of the American Farm Bureau Fed-

eration, with one exception. A level, will be of profound interest to members of all Farm Bureau families. The volume is being sponsored by the American Farm Bureau Federation. The new book, which may well be considered necessary equipment for all Farm Bureau leaders at county, state, or national internal parasitism.

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Fag Firms Are Big Advertisers

Tobacco Manufacturers Spend Huge Sums In Newspapers To Boost Sales

FAG FIRMS 24
NEW YORK — Printers' Ink compilation of figures show that of the 100 largest advertisers in newspapers in 1947, six were cigarette and tobacco manufacturing firms and one a cigar manufacturing Co.

The seven firms were: R. J. Reynolds Co., \$3,013,576; American Tobacco Co., \$1,489,994; Liggett & Myers Tobacco Co., \$1,417,322; Philip Morris & Co., Ltd., Inc., \$1,073,135; P. Lorillard Co., \$851,179; Brown & Williamson Tobacco Corporation, \$803,492, and the General Cigar Co., \$511,215.

India is one of the principal tobacco producing countries in the world second only to the United States. The tobacco plant was first introduced into the country by the Portuguese in 1508.

Cigarette Paper Made At Brevard

Eusta Plant Produces Billion Fag Covers Per Day; Last Word In Modern Plant Construction

BREVARD.—Chances are that almost every cigarette you smoke is wrapped in the thin paper made at the Eusta plant near Brevard which produces a billion cigarette papers a day.

And, if it hadn't been for Ecusta, you might have gone for long spells without cigarettes during the war and many of the tobacco companies and tobacco towns would have taken an economic rawhiding.

The big paper plant is the foothills of the Western North Carolina mountains, at one entrance to the huge Pisgah national forest, is about the last word in modern plant construction.

Harry H. Straus, a broker with foresight, barely won a race with time in getting his plant started before the war—the first sheets of cigarette papers rolled out of the plant on Sept. 2, 1939, the day German armies marched into Poland.

French manufacturers made most of the cigarette paper up until then, from linen rags. Straus foresaw that war would halt this

Pecans Can Be Valuable Crop For This Area

Recent Sales Furnish Evidence That Trees Will Provide Profitable Yield

The recent pecan sales on the Whiteville Market have made many farmers realize that pecans can be one of the most valuable farm crops. Recent records show that as much as a thousand pounds of pecans have been produced by a single tree. Fortunately pecan trees take very little labor other than harvesting the nuts but the yield can be increased in both size and value by proper fertilization and cultivation of the trees.

When new trees are being planted they should be fertilized with barn yard mixtures or hen house sweepings. If commercial fertilizer is used, one-half pound of nitrate of soda or two pounds of 5-7-5 fertilizer should be mixed into the soil around the trees. Avoid having any fertilizer in direct contact with the roots of the trees.

In fertilizing older trees apply one-half pound of nitrate of soda or 2 pounds of 5-7-5 fertilizer for each inch of diameter of the tree being fertilized. This should be well mixed into the first 6 inches of top soil extending from the trunk of the tree to the limit of the branches.

Cover crops are also helpful in maintaining the soil fertility of the land producing pecan trees. The best soil builders are Austrian Winter Peas, cow peas, velvet beans, lespedeza, and crineta clover. After small grains such as wheat and oats can be grown successfully in pecan orchards.

The land between rows of young pecans can be used for growing any crop, but as the tree increases in size, cultivation should be gradually restricted to the area not shaded by the branches of the trees. Where cover crops are used, care must be exercised not to turn them under at too great a depth. Plowing, discing, etc. must not go deeper than 6 inches into the soil because of the danger of destroying the tree roots.

"They'd never have been found out," he vowed. "If Ashmore and Hadley had kept quite there wasn't a soul who'd have known them with that soot a-covering their faces."

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