

NEW THINGS IN TOBACCO.

Discoveries Which Will Add Hundreds of Millions to Our National Wealth.

(Special Correspondence of the Deseret News by Frank G. Carpenter.)

WASHINGTON, D. C.—I take off my hat to the agricultural department! It is the fairy godmother of Uncle Sam's children. It waves its wand and ten blades of grass grow where none would grow before. It nods its head and a wheat crop comes from the Atlas mountains, and covers the dry lands of Texas and the far west. It speaks and the lowlands of the south are green with rice fields equal to those of China and Japan. It again shakes its rod and the nitrogen of the air, harnessed to bacteria bred in the department stables, makes mother earth produce as she has not produced before. The agricultural department is the great creative department of the government. It is the department that is doing things, and it has done so much since Secretary Wilson took charge of it that it is now giving object lessons to every nation on the globe. A few years ago it was laughed at as a seed-sending, gopher-farming organization. It is now known as a great scientific institution, operated for the enrichment of the country and the people. It has today more than two thousand scientists, experimenting here and in other parts of the world, and about the only restriction of its possibilities lies in the meager appropriations which Congress gives to carry on its work. I here advise every farmer in the United States to write his own congressman that the agricultural department be treated liberally, in the way of appropriations, for, in doing so, he is putting money into his own pockets and those of Uncle Sam.

OUR BIG TOBACCO CROP.

You have already heard how we are adding to our corn crop. The increase in its value within ten years, through careful seed selection, will give us enough money to build the Panama canal two or three times over. Hundreds of millions of dollars will be added to the south by new discoveries as to raising cotton, and I now want to show you some of the wonders discovered during the past year along the line of tobacco.

Tobacco has been one of our big money crops since the very beginning of things. The plant was not known until America was discovered. Columbus saw the natives smoking it during his first voyage, and a physician who was sent to Mexico by Philip II of Spain brought back the first tobacco plants to Europe. About the same time Jean Nicoit, the French ambassador to Portugal, sent some tobacco seed to Katharine de Medici, the queen of France; and from him the name Nicotiana was given to it and from that we get the nicotine as the poison of tobacco today. It was in 1585 that the first Virginia tobacco was taken to England, and it was in 1612 that John Rolfe, the husband of Pocahontas, became the first civilized tobacco grower and raised tobacco for export. Shortly after this the demand became so great that tobacco was raised generally in our southern colonies. It was used as money and a ship load of girls who were brought over from England to be married to the first settlers of Virginia were sold there at 100 pounds of tobacco and upwards a piece. From then on the business grew rapidly. A hundred years before the Declaration of Independence, England was collecting

\$600,000 annually in tobacco duties, and the product of Maryland and Virginia alone, a little more than fifty years later, was worth in the neighborhood of \$2,000,000. Tobacco became fashionable in all the courts of Europe. It rapidly spread to Africa and Asia and today there is hardly a place in the big round world where it is not more or less used.

AN AMERICAN MONOPOLY.

Indeed, the tobacco business of today is an American monopoly. We control the trade of England and the continent, and our big tobacco trust has its branches in every part of the world. With its affiliated companies it has a capital of about \$200,000,000, and it is paying dividends upon that amount. Tobacco manufacturing is steadily growing in the United States. There are more than 15,000 establishments of this kind in the country, and they employ 100,000 hands. They use raw material worth \$100,000,000, and their output has a value three times or more that amount. The industry is found in every city and the cigar store in every town, and I might say cigars, cigarettes and tobacco at every cross road in the United States.

A MILLION ACRES OF TOBACCO.

In order to show what the crop means to the United States, let me give you a few figures. We had last year more than a million acres under cultivation, and we raised in round numbers \$15,000,000 pounds, or more than 10 pounds for every man, woman and child in the country. This tobacco came from a dozen different states, and it was by no means confined to the south. Here are the localities which produced it. I give round numbers only:

	Acres.	Pounds.
Kentucky	338,000	267,000,000
North Carolina	315,000	185,000,000
Virginia	152,000	121,000,000
Wisconsin	52,000	70,000,000
Ohio	60,000	61,000,000
Tennessee	71,000	50,000,000
South Carolina	40,000	24,000,000
Pennsylvania	15,000	22,000,000
Connecticut	13,000	21,000,000
Maryland	33,000	31,000,000
New York	8,000	9,000,000

IT FILLS UNCLE SAM'S POCKET-BOOK.

This product brings in several hundred millions dollars a year in the way of gross receipts. It is one of the most profitable crops to the government. It is classed as a luxury and heavily taxed. Altogether the treasury gets more than \$65,000,000 a year out of such duties and taxes; and last year the revenue tax from tobacco alone amounted to more than \$44,000,000.

The value of the crop is enormous. As far back as 1890, according to an estimate which I have, our tobacco products brought in more money than the printing and publishing trades. The people were then paying as much for tobacco as they were for boots and shoes and twice as much as they paid for sugar. Their tobacco cost them more than all their magazines, books and newspapers, and since then it has increased rather than diminished.

A MILLION DOLLARS TO TICKLE UNCLE SAM'S NOSE.

Snuffing is looked upon by many as a custom of the past, but the taxes on the snuff used to tickle Uncle Sam's nose last year brought in more than a million dollars; and we are now making enough snuff annually to give every

What Our Tobacco Business Means—Its Vast Revenues—Farming Which Costs a Thousand Dollars an Acre—The Little Tobacco Seed And Its Half Million Children—Breeding New Tobaccos—Some Curious Experiments Which Will Enrich the Nation.



TOBACCO FIELD UNDER A CANVAS COVERING.

man, woman and child in the country a quarter of a pound. We use something like 7,000,000,000 cigars and \$,000,000,000 cigarettes every year and an enormous quantity of smoking tobacco.

Many people think that chewing is dying out, but the product of plug tobacco made in 193 was enough to give every man, woman and child in the United States two and one-half pounds, and in addition there were 12,000,000 pounds of fine cut. The snuff made that year amounted altogether to 22,000,000 pounds, and, strange to say, 5,000,000 pounds were made in Delaware, 9,000,000 in Maryland and much of the balance in Pennsylvania, New Jersey and Tennessee.

TOBACCO AT TEN DOLLARS A POUND.

The most of the tobacco raised in the United States is low grade tobacco. The lands in many parts of the country are worn out, the variety is poor, and the yield per acre comparatively small. In some years it does not yield on the average seven cents per pound to the producer. Nevertheless, we imported more than 33,000,000 pounds of tobacco leaf in 1903 and paid out more than \$17,000,000 for it, or more than 50 cents per pound. The cost of our imported to-

bacco last year was greater still, for some of it we paid \$10 and upward per pound. What the agricultural department is trying to do is to teach our tobacco growers to raise this expensive product at home. Experiments to that effect are being made in Connecticut and Florida, and the discoveries of the present year promise success. They also show that the general grade of tobacco over the whole United States can be raised, and the value of the crop made enormously greater.

FARMING IN TENTS.

The fancy tobacco farming which is now going on is perhaps the most expensive farming on earth. There are plantations in Connecticut which annually cost \$1,000 an acre to run, not including the cost of the land. On these plantations the seed is sown in hot beds heated by steam pipes and covered with glass, and the plants are set out under great tents, each after acre being covered with cloth supported by posts, in order to give the plants about the same temperature as they have in the tropical countries from where our finest tobacco leaves come. Let me give you the cost of a single acre of such tobacco raising. The plantation I speak of is an irrigated

one and it cost about \$400 an acre for water. Its cover costs \$200 per acre, fertilizer \$100 per acre, cultivation and planting \$150, and in addition there are other expenses which bring up the total cost to about \$1,000.

SUMATRA TOBACCO IN CONNECTICUT.

Experiments like this have been attempted on a large scale in Connecticut. There are thousands of acres under cloth. The planters have found that they have a soil about like that of Sumatra, and by this cloth they can get a climate much the same. They have taken Sumatra tobacco seed and planted it and in this way are attempting to raise the costly Sumatra tobacco wrappers used for our choice cigars.

What has been their success? Until this year they have practically failed. The Sumatra seed brought into Connecticut in 1901 left its original type, and through the difference of soil and climate broke up into hundreds of different types, each distinct in itself. The successors of these types made other types, and the planters were in despair. Some of the types had the large round Sumatra leaf which is so valuable, for six cigar wrappers can be cut out of

it, but others were long and stringy and more like shoestrings than the valuable Sumatra type.

This was the case when the scientists of the agricultural department began to study the matter and to experiment with it. Mr. A. D. Shamel, whose work in corn I have already referred to, was sent to Cuba to study the tobacco there. He went to Connecticut and experimented, and after a time found that by taking certain plants which had the proper Sumatra leaf and covering them with bags to prevent the insects from bringing any pollen from other plants to fertilize them, that the seed grown inside those bag plants would when planted, reproduce all the characteristics of the original plants. The male and the female elements of the tobacco plant are found on the same stem, but you may have a high grade tobacco plant and a bee or other insect which has come from some other starved mongrel plant of the same race may carry on its legs some of the pollen which will fertilize the former plant. The experimenters prevented this by the bags, and have before now found that when they get a plant of the right kind they can reproduce it without limit.

THE LITTLE TOBACCO SEED.

What this means can only be appreciated by those who understand something of tobacco and the seed.

How big do you think a tobacco seed is? The plant grows to be taller than a man. It has leaves from 20 to 50 inches long and from 3 to 18 inches wide. One would think the seed might be the size of a walnut. It is, in fact, about the smallest seed known. I have before me a bottle about half the length of my little finger, and not so large around. It contains 25,000 such seeds. Each seed is not much bigger than a pin point of a pin. Nevertheless it produces this mighty plant, and, more wonderful still, on the plant will grow from 500,000 to 700,000 seeds. A single seed of tobacco will in one planting produce half a million children. I will furnish enough seed to plant 100 acres of tobacco and that seed has in it all the hereditary germs of the plant from which it comes. The seeds grow in pods of which there may be a hundred on a single seed plant, each pod containing from 5,000 to 7,000 seeds.

GROWING SEEDS IN BAGS.

The agricultural scientists have found that if they take one of the long-leaved plants and inclose it in a bag its seed will produce a long-leaved plant, with all its characteristics. If they take a full, round leaf of the kind needed for wrappers its seed, if so treated, will produce the same type, and this is true not only as to the shape of the leaf, but as to the flavor of the tobacco. In other words, whatever the character of the tobacco plant, they can reproduce it under similar circumstances by merely keeping its seed true to type. They can go to the field and select the ideal plant and grow the next year a whole field of such plants, instead of the ragged, poor plants found in the rest of the field.

They have discovered that they can not only better the shape of the leaf, but also increase the number of leaves on the stalk. Some tobacco stalks may have only five leaves on them, whereas others may have 40. The seed from the 40-leaved stalks, properly treated, will produce plants having many leaves, often as many as 40, and thus greatly increase the size of the crop. If they take seeds from plants having but few

suckers the children of those plants—and each seed, you must remember, may have a half million children—will be comparatively free from suckers; as you see they can be seed alone materially change the tobacco crop of the United States.

TALK WITH A TOBACCO EXPERT.

During my talk with Mr. Shamel I asked him whether the tobacco growers in different parts of the United States were bettering their crops in this way. He replied:

"Not yet. The discovery has only been made within a comparatively few months, and it is practically unknown to the general public. We have only had one season's work at it, but we have gone far enough to believe that we shall succeed in greatly improving the size of our tobacco crop and its value. We expect to develop new varieties by crossing the best plants from different localities, and to produce tobacco which will have all the hardness of our native tobacco and at the same time the flavor and quality of the imported strain."

"Where are our fancy tobaccos now grown?"

"There is much experimenting going on in Connecticut, and Florida," said Mr. Shamel. "In Florida they are raising tobacco under slats and are succeeding very well. Texas is now growing filler tobacco from Cuban seed and promises to raise a product equal to the Cuban article. The crop there will be improved by selecting the best plants in the fields as seed plants, inclosing them in bags as I have described."

"I should think the tobacco crop of every state and every locality could be improved in the same way."

"It could," was the reply. "The planters might use imported seed or they might take the best plants of their own best seed by selecting them from the crops for the next year. By doing this year after year they would soon greatly improve the crop in quantity and quality."

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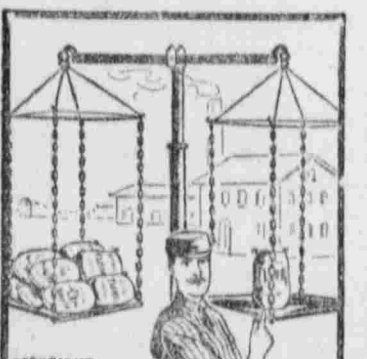


The Cathedral of St. Isaac, brought into public notice by the recent civil disturbances at the Russian capital, is not only one of the most imposing churches in St. Petersburg, but it is also a somewhat reduced replica of St. Peter's at Rome. It has all the dignity of the Roman model, and its proportions are rather more successful. The interior of the Russian temple in nowise resembles the great basilica of the Piazza di San Pietro. It is far more splendid in its ornamentation and abounds in color and gold. It was begun in 1819 and was under construction for thirty-six years. It is certainly one of the best examples of neo-classic architecture in Europe.

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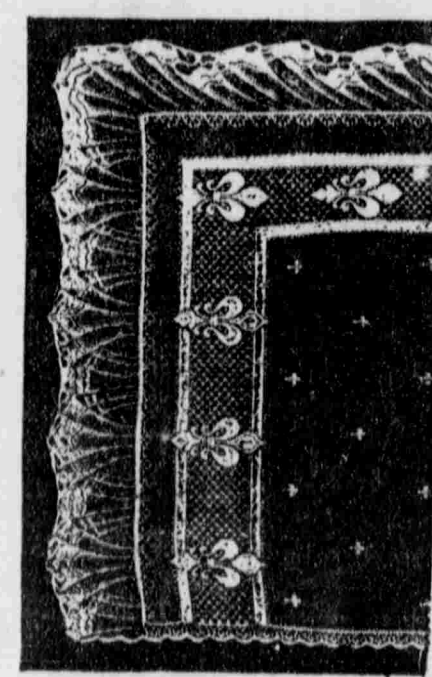
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