Democratic Watchman.

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Problem of Silk Culture in America Solved at Last.

One of our first ministers to China, upon being presented to the not very cordial Emperor, was greeted with words to the effect that, in spite of our power and prosperity, we as a people were not rich enough to wear the silks and satins with which the Chinaman clothed himself, but had to restrict ourselves to the wearing of garments of heavy, coarse cloth, poor in comparison to silk. At this, so the story goes, the westerner, in no way disconcerted, opened his coat and explained to the monarch that the facts were in direct refutation of his conclusion, for whereas the Chinaman wore his silks and satins as outside raiment, we used them as linings for our more expensive woolen garments. And the Emperor had to concede that the American had scored against him.

The truth is, however, that silks and satins have always been considered the aristocrats among cloths in this country as everywhere, but the war, with its reversal of so many precedents, is about to give actuality to the claims of this former American diplomat, with wool taking precedence over silk as a symbol of luxury.

The scarcity of wool is making garments made of that poduct soar beyond the means of many pocketbooks. Silk, on the other hand, though affected by increased cost of labor and material, is cheap—at least with regard to former standards of comparison between the two cloths. That the price per yard of silk will continue low, comparatively speaking, is almost certain, for the silk industry in America is making large strides. Not only, are the American mills turning out satins and taffetas which are on a par with goods previously imported, but the problem of silk culture in the United States has been solved, after more than 300 years of failure, in different parts of the country. At Austin, Tex., there has recently been firmly established a silk plantation of forty acres which gives every promise of unqualified success. The trees covering this plantation were imported from France and are of the most approved variety for feeding the worms. The fact that the production of cocoons is going forward at the rate of 40,000 a month shows what can be done in this industry.

The conditions which seem likely to make a final and complete success of this enterprise are manifold. In the first place, it has been found that the climate and soil of Texas are so well adapted to the cultivation of the mulberry trees that they can be grown in a few months, whereas in Europe they require at least five years.

Then the labor conditions are considered much more satisfactory than have ever been known before in connection with silk production in the United States. Since the revolutions in Mexico began six years ago Mexican families have crossed the border by the thousands, locating all over southern Texas, even as far north as Austin. These people take kindly to any house industry, and that is what growing silk amounts to. They have many children and children can employ themselves very profitably in this work. Children and women can be employed for from fifty cents to seventy-five cents per day.

The growing season in Texas is very long, as the mulberry leaves begin putting out in March and the trees continue producing leaves until the middle of October. By forcing the feeding a little, a cocoon can be produced from a silkworm egg in twenty-five days, so it is obvious that five or six crops of cocoons a season are not at all impossible in that climate. In Europe the season lasts only two months and only one crop a year is produced.

Before the raw material sold at $3.50 per pound. Now the price is $8. This is due to the fact that its production in France has been greatly curtailed. In 1914 the United States imported $200,000,000 worth of raw silk. This equals in value a bumper crop of cotton in Texas. With the possibilities of a successful native silk farm we need not go outside of our own boundaries; we need not pay import tax on raw material for home consumption. The United States will be able to produce the raw material, transform it into cloth that is cheaper and more beautiful than cotton fabrics, and hence take a long step in the reduction of the cost of living. Strange as it may appear, it is much cheaper to make silk goods than it is to make cotton. The short fiber of the cotton must be spun into thread, while the silk is one unbroken strand, 1800 yards in length and is ready to be spun directly into cloth.

Silk culture originated in China, the land of gorgeously embroidered cloth and tapestry. As far back as 500 B. C. efforts were made by outsiders to learn the secret of the industry and to obtain some of the eggs, but with true Oriental cunning the yellow men defied the robbers and remained snugly and safely within their walls. In 200 A. D. the Armenian king sent monks to the Empire in the capacity of teachers supposedly, but whose real motive was the acquisition of eggs and silkworms. After some time two of the monks managed to escape to Constantinople with their precious booty. Here they sold a few eggs at a fabulous price, but for lack of knowledge and proper care on the part of the owners these specimens died. In Armenia, under the care of the two monks, a successful farm was started. From this nucleus the industry spread to include principally Japan and France. Its introduction into Texas was the result of the efforts of Walter E. Long, secretary of the Austin Chamber of Commerce.

The average price of silkworm eggs is $6 per ounce. An ounce of eggs will produce from 150 to 200 pounds of fresh, or fifty to seventy pounds of dry cocoons. By subjecting the fresh cocoon to a heating and steaming process, the chrysalis in the silk cocoon is killed and the cocoon rendered thoroughly dry and light. For the production of 250 pounds of cocoons a quantity between 10,000 and 12,000 pounds of mulberry leaves is required as feed for the silkworms from the time they are hatched out from the eggs until they assume the chrysalis form.

The white mulberry is the best and is preferred by successful growers at the age of one or two years. A one-year-old tree will produce from five to ten pounds of leaves; a two-year-old tree will produce from fifteen to twenty-five pounds, and a three-year-old tree will produce from thirty-five to forty pounds of leaves. Mulberry trees are properly planted about fifteen feet apart, allowing 190 trees to the acre. It will thus be seen that for the production of the above crop of dry cocoons two acres of land will be sufficient, but as the trees grow they rapidly increase in food-furnishing capacity. A five-year-old tree will furnish eighty-five to one hundred pounds of leaves; an eight-year-old tree will make from 140 to 175 pounds. The product of a ten-year-old tree will be proportionately larger.

By increased attention and additional help during the last period of feeding the worms, the crop can be virtually doubled from six ounces of eggs and two acres of land. Two acres of one or two-year-old trees will produce from $150 to $200, representing the income from the first crop. But since the raising of six crops is possible in one year, $800 to $1000 may be safely expected of the mulberry trees. This involves very little trouble; indeed, all that is needed to keep the trees in good condition is to keep them well trimmed and clear of weeds. Also, it is possible to raise good crops of corn and garden truck between the trees.

Silkworms may be kept in cold storage at a temperature of 32 to 35 degrees for a period of ten to twenty years. When desired for hatching they are placed on trays, preferably made of cheesecloth or netting stretched on frames about three inches deep, which are piled up in racks or tiers one above the other about sixteen inches apart and kept in a well-ventilated and lighted room at an even temperature of 73 to 80 degrees Fahrenheit. After five days a tiny, ugly and ravenously hungry worm appears. He grows slowly until about ten days old, shedding his skin at the end of the first five days and repeating this process thereafter every six or seven days. The reason the worms change their skin so often is because they grow so rapidly that the skin becomes tight and must be cast off. From the age of ten days the worm devours at a rapid pace the tender mulberry leaves which are offered him, and upon attaining full growth, at the age of twenty-eight days, is 14,000 times his size at hatching.

The grown worm is now ready to begin his envelope. Carefully he noses around the branch offered him until an advantageous spot is found. This is usually at the fork of two small branches, where he can easily fasten his gelatinous framework. He works sluggishly at first, gluing together in his mouth the two threads of silk that come from the large glands on either side of the body, and weaving a glistening silk web of thin, scarcely discernible threads. In three days the worm is hidden in a thick envelope of soft threads. As the cocoon grows the worm diminishes, so that at the completion of the web he is one-third of his original size.

At this time there are two possibilities for the grower to consider. Either the worm must be sacrificed that superior silk may be obtained or the perfect quality of the silk must be sacrificed for the propagation of the species, since the worm, after its metamorphosis, wets the end of the cocoon, forces apart the closely-woven silken threads and crawls out of its capsule. After a few days the female settles on a piece of paper and begins to lay. Three hundred eggs are laid the first day, the same number the second day and two hundred the third day. Then, her labors accomplished, the moth dies. These eggs do not hatch until the following season.

Since the exit of the moth weakens tse end of the cocoon, in order to obtain the best quality of silk the worm must be sacrificed. The cocoon is placed in a chemical substance which kills the inclosed moth. It is then soaked in warm water for a couple of hours. Finally the tiny loose end of the thread is found and placed on a four-pronged cop, which revolves and gradually unwinds the 1800 yards of the cocoon into a smooth hank.

Dr. V. K. Osigian, an Armenian and a graduate of the Universities of Turkey and France, is in charge of the Austin farm. He is at work on one of the most interesting problems connected with the production of silk. Like the magicians of fable and fairyland, he possesses a secret compound which he sprinkles on the mulberry leaves, and the worms react to this and produce colored threads. To what point this formula and its reactions in producing fadeless, dyed-in-the-making silk can be carried is as yet problematical. But Doctor Osigian is hopeful that a species may eventually be found which will be characterized by the production of certain colors, and that from these cross colors may be evolved.—Robert H. Moulton.

Good Maple Sugar Crop.

The 1918 maple sugar crop in Pennsylvania was estimated at 993,000 pounds and the syrup at 440,000 gallons. The weather in the maple tree sections was favorable for a good flow of sap, the cold nights, alternating with warmer days. The early flow furnishes a very good quality of sap.

It is estimated that there were 1,220,000 trees tapped in the State during the season and that the average as sugar was 3.7 pounds to the tree and as syrup .46 gallons. This is a much better flow than a year ago and an increase in production, as nearly 100,000 more trees were tapped than a year ago.

Last year the estimated yield of sugar was 988,000 pounds and syrup 370,800 gallons from 1,130,000 trees.

Too Ponderous to Pet.

Mrs. Stout (fondly reminiscing)—I remember, Henry, when you used to chuck me under the chin.

Husband—Yes, my dear, but you didn't have so many chins then.—Boston Transcript.

—Subscribe for the "Watchman."

THE CAREFULLEST MAN IN THE WORLD.

The Spring's work's done an' it's up to the sun—all the crops an' the garden sass—
He's banished the cold an' sowed his gold on the flats in the medder grass.
Le's raise the flag—a better one was never yet unfurled—
But first I want to tell ye 'bout the Carefullest Man in the World.

Kings are kind o' careless-like with others' blood an' bone,
But no one can, I swear to man! be carefuller o' their own.
When I read about the German dead before the heated guns
I think of the King of Germany with six uninjured sons.

Each fireside has its martyrs who have either died or bled;
The millions grieve for the sons who leave an' join the host o' the dead,
But the Kaiser's brood is safe and sound—it either shirks or runs—
He's the only man in Germany with six uninjured sons.

The halt an' blind an' crippled line its byways an' its roads;
Once swift an' strong, they creep along 'neath everlastin' loads,
An' some with crippled intellects still hear the roarin' guns,
Yet there's a King in Germany with six uninjured sons.

Such caution in a fightin' man was never seen before;
It stands the while like a lonesome isle in a mighty sea o' gore.
The death an' woe he recommends to all the other Huns
Is not for him—you bet your life—or his uninjured sons.

Each Hohenzollern battles in a steel-clad limousine,
When the big shells come he's goin' some on legs o' gasoline;
With rubber feet, hell-bent for home, the reckless hero runs,
Oh! speed's the great preserver o' the Kaiser an' his sons.

They're like the bold jackrabbit an' other tribes accursed
Who have lightnin' in their sinews an' the motto "Safety first;"
All clear the road an' stan' square-toed an' look with rested guns
When the Kaiser starts for safety with his fat uninjured sons.

While hunger starves the German host, how fat the Kaiser's brood!
No gizzards yearn with cash to burn or mind the price o' food.
When the trumpet calls the Teuton dead in the line o' crippled Huns
Just think o' the Kaiser marchin' up with six uninjured sons!

—Irving Bacheller.

Southern Chivalry.

Chad and Jule, a young colored couple, every morning walked to the village where they both worked.

One misty morning Chad discovered a catamount stretched along a limb which hung directly over the path. Like every one else in that country, he carried a shotgun, hoping to get a squirrel or rabbit for supper. He fired at the brute, luckily blinding it. It fell to the ground and Chad killed it by beating it with the gun. Between them the two carried it to town where it was admired, weighed, and measured. Chad proudly told his story over and over. At last one of the bystanders asked:

"Weren't you frightened, Chad?"

"Yah! yah!" laughed Chad, " I was mighty skeered when I saw the varmint right over my head, and I didn't know what to do, 'ca'se my shot waren't big 'nough to kill him; then I 'membered I could run a heap faster than Jule—so I jes' up an fired!"—Harper's Magazine.

To Fly 250 Miles an Hour.

"It would be very easy for any English airplane manufacturer to produce a machine which could make better than 250 miles an hour," declared Capt. W. G. Aston, one of the leading English experts on air mechanics, the other day.

"This could be accomplished," he explained, "by merely altering the curvature, or camber, of the planes. But this would mean a minimum landing speed of about 150 miles an hour, and there is the great difficulty. The machine would be unquestionably flyable, but its successful landing would require an aerodrome five or six miles long, to say nothing of extraordinary skill on the part of the pilot."

"What's your time?" asked the old farmer of the brisk salesman.

"Twenty minutes after five. What can I do for you?"

"I want them pants," said the old farmer, leading the way to the window and pointing to a ticket marked, "Given away at 5.20."