

The Life History of the Potato

FOUR hundred years ago, before the white men ever heard of the plant, highly intelligent Indians (Incas, they called themselves,) were cultivating potatoes in the mountain valleys of Peru. These Indians had developed a system of writing, and had erected great buildings, and had done many other things of which any race of people 400 years ago might have been proud. They did not know anything about gunpowder, however, and when the Spaniards found them, the poor Incas were easily conquered, and the Spaniards took from them large quantities of gold and other treasures, and, incidentally, the tubers of the potato.

These potatoes were evidently a form which had been developed by the Incas by selection from the wild type which may be found in the mountains of Peru, Chile, Mexico and Southern Colorado to this day. In the hands of the Spaniard, the potato found its way to Southern Europe, and to the first American colony in Virginia.

One of the most interesting men who lived in England 300 years ago was Sir Walter Raleigh. He was always looking for something new, had considerable money, and was a friend of Queen Elizabeth. At that time, all the leading nations of the earth were sailing forth to investigate the new world which Columbus had discovered a hundred years before.

Origin of "Irish" Potato.

Sir Walter Raleigh—being placed as he was—also sailed forth. He hoped to find gold, but instead found the potato and tobacco plants. The potato plant had been introduced into Virginia a short time before, from Peru, and Sir Walter Raleigh took it from Virginia to his estate near Cork, in Ireland. He tried to get the English people to like the potato, but they would have nothing to do with it, fearing, because of its relationship to the deadly nightshade, that it was poison.

The Irish peasants, however, recognized its value, and during the large part of its early history the plant was cultivated more in Ireland than in any other country. That is the reason we call it the "Irish" potato, when it is by right of origin the Peruvian potato or American potato.

During the sixteenth century and the early part of the seventeenth, the potato was very little grown outside of Ireland. Gradually, people began to see that it was possible to grow a large amount of food on a small acreage by using the potato, and so the peasant people of Ireland, Germany, France and Russia grew the potatoes more and more.

Appearance of "Blight."

Drawings of the plant made in the early days indicate that it was very much the same then as it is now. The varieties, however, were much different. In 1840, a disease appeared causing blight and rot, which is now common everywhere, but at that time the potato plant as commonly cultivated had never before been attacked by it.

For several years, potato crops failed all over Europe. In Ireland, the trouble was especially serious, and thousands of people died from famine, and thousands of others came to the United States to avoid the scant food supply. Something had to be done. A variety had to be secured that could withstand, to some extent at least, this new disease. New varieties were grown from the seed balls. These new varieties seemed to do all right for a time, and then they deteriorated and became diseased. It now seems as though it is necessary to start new varieties about every 10 or 15 years. Many of our good varieties, however, have lasted for 30 or 40 years.

Burbank's Potato.

A little over 40 years ago, Luther Burbank, a young man of 23 years, planted a lot of potato seeds which he had secured from the seed balls, which look like little green tomatoes. One of these seedlings stood head and shoulders above the rest, and he called it the Burbank. It soon became the leading American potato, and to this day ranks quite high.

Mr. Carmen, who, a number of years ago, was editor of the Rural New Yorker, a farm paper which is still published in New York, became much interested in potatoes. He got his subscribers to send in seed balls. He planted thousands of these seeds, and secured two or three seedlings, which to this day are well known over the entire United States. The most famous is the Rural New Yorker. The Carmen and the Raleigh are also well known.

The Peachblow, an old-fashioned

American variety, was crossed with the Hebron. The resultant seed ball was planted, and one of the seedlings was the Early Ohio.

Since the potato plant passed out of the hands of the South American Indians, it has gone through some wonderful changes. New varieties have been continually coming up, growing old, passing away.

Favorable Conditions.

The final word has not yet been said in potato varieties. It may be that some of you will plant seed balls, and, like Luther Burbank, secure new varieties better than any we now have.

The native home of the potato plant is semi-tropical America, at an altitude of 4000 to 8000 feet. The high altitude means a long, cool, even season. The wild potato has tubers about a quarter of an inch in diameter, and the character of the soil didn't make much difference with it.

Our cultivated potatoes are often three to eight inches in diameter, and in order to do well, the soil must be fairly loose and easily pushed aside. The small wild potatoes didn't need much in the way of water. Our large cultivated potatoes must have a large supply of water.

Putting all these things together, it seems that the situation best adapted to potatoes is a cool, moist climate and a light, friable, rich soil. The irrigated mountain valleys of Colorado, Idaho and Montana supply these conditions splendidly. Maine, Wisconsin and Minnesota, with their

cool, moist climate, and rather sandy soil, raise splendid potatoes. For the same reason, England, Scotland, Ireland and Germany grow good potatoes. The soil in these foreign countries is often rather heavy, but they make it friable by applying large quantities of manure. Moreover, it doesn't seem to make so much difference if the soil is heavy, provided it is kept moist by light rains.

Kiln-Drying Process Is Found to Be Rapid

THE Forest Service has been making experiments, at its Madison, Wis., laboratory, in kiln-drying grand fir (one of the white firs), a species which is abundant in Oregon and Washington. These experiments have resulted in a very rapid and satisfactory process of drying the fir.

First, the green lumber is heated clear through to the boiling point by allowing live steam to escape into the kiln until a vapor temperature of 225 to 230 degrees F. is reached. For one-inch lumber, this should continue for about four hours, and is designed to prevent surface drying and also to aid in the evaporation of some of the moisture in the wood. The live steam is then turned off, and the humidity reduced from about 100 to 40 per cent. The temperature of air and circulation should be maintained, however. At the end of 16 hours, the humidity is still further reduced to 30 per cent, and the lumber removed at the end of 30 to 44 hours.

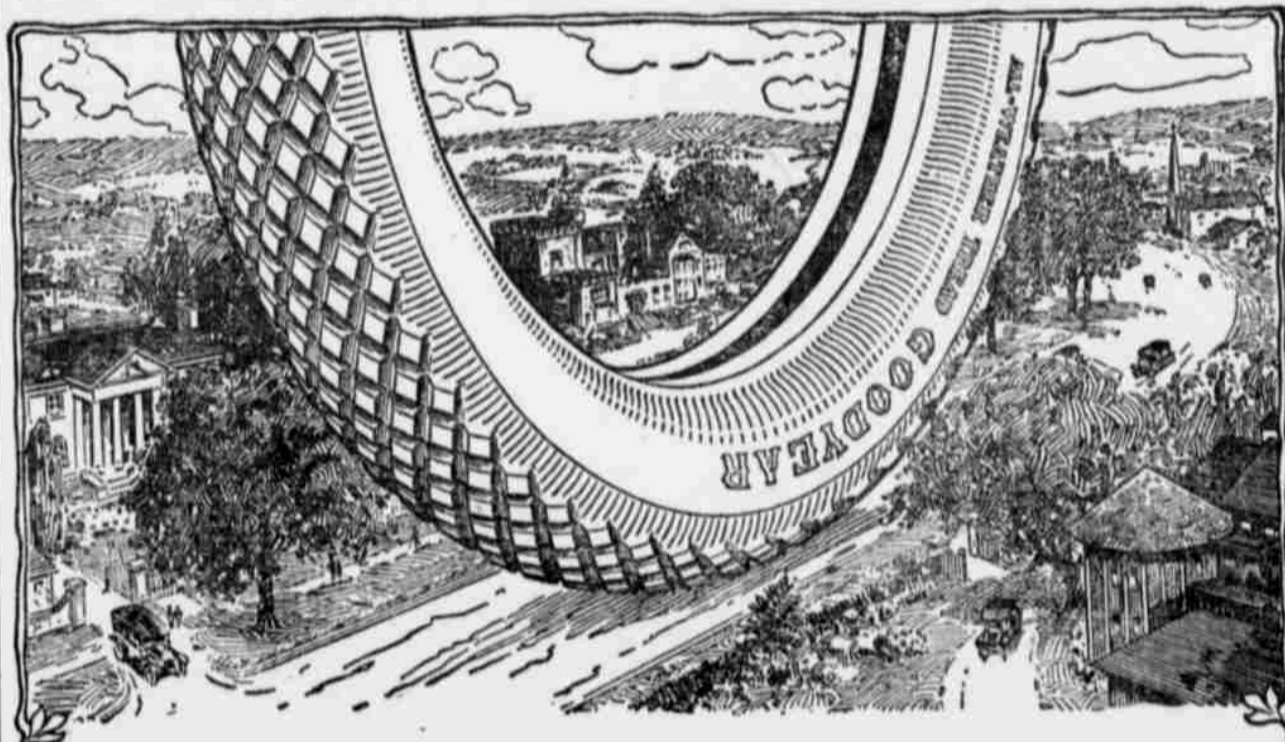
The length of time for each operation will depend upon local conditions or circumstances—such as

method of piling, kind of lumber, initial amount of moisture and the exactness with which the required conditions of drying can be maintained. The piling is an important factor, for the lumber must be so piled that there is free circulation of air over every part of it. Edged stacking or piling is the best.

Although this method of drying is very rapid, the lumber showed very little checking, no discoloration, but slight loosening of the knots, and slight case-hardening. In material that is not to be resawed, probably this latter difficulty would not appear. At all events, the amount of circulation and high humidity at the same time tends to diminish or prevent this effect.

The tests from which this method was developed were made with a special humidity-regulated kiln. Similar results may be obtained by using somewhat the same process by the oven or non-draft method now quite extensively used in the Northwest. In fact, any type of kiln may be operated in this manner by closing the ventilators to prevent draft. It is important that the lumber be heated through by means of a steam bath, and that a temperature of 225 to 230 degrees F. be maintained. It is difficult to control the humidity in most of the kilns now in use, but as the drying proceeds, the humidity automatically drops and the required conditions are approximated.

The forest service is co-operating with 54 railroads, mining companies, pole companies and cities in making tests of wooden ties, timbers, poles, piling and paving blocks which have been given preservative treatments.



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