

# Wedding of the Plants Produces Very Valuable Children



NEW BREEDS OF WHEAT AND OATS UNCLE SAM IS TRYING. DR. CARPENTER IS 5 FT. 8 IN. HIGH



ONE OF UNCLE SAM'S PLANT LABORATORIES



PERSIMMONS AS BIG AS BASE BALLS BROUGHT IN FROM CHINA



FRANK MEYER ONE OF UNCLE SAM'S AGRICULTURAL EXPLORES

**W**ASHINGTON, D. C.—(Special Correspondence of The Twentieth Century Farmer.)—Uncle Sam is running a great matrimonial bureau. He makes marriages by the hundreds a month, and adds to his children by the tens of thousands a year. He not only marries those within his own boundaries, but he has his agents traveling at government expense far and wide over the world searching out new brides and groomsmen to mate with them.

These marriages, however, are not of men and women, but of plants. It is strange to think of plants marrying, but the vegetable world is male and female. It is made up of such matches, and from them are coming forth new and valuable plant children each day. Everyone has heard of Luther Burbank, who married the plum to the apricot and made the plumcot, who made the white blackberry out of the brunnette and a cross, and who took the ox-eyed daisy and by uniting it with other varieties created the great Shasta flower, which is many times larger. The Agricultural department has a half dozen men who have done as much original work as Luther Burbank, and there are scores of others scattered over the country, at our state and national experiment stations, who are yearly producing grains and fruits which will add enormously to our national wealth.

### Our New Baby Wheats.

Take the matter of wheat. The agricultural matchmakers of Minnesota have done wonders in their marriages of those servants of man. They have crossed the various wheats, and they have now 2,000 hybrid babies which they are testing. They have produced one offspring which has been already scattered over 1,000,000 acres, and another which is being planted upon 500,000. Some of the new wheats are showing gains of from two to five bushels per acre, and some have averaged as high as forty-seven bushels. The old wheats beside them have been giving only fifteen or twenty. If the wheat crop of the United States could be increased only three bushels per acre it would add at least \$100,000,000 per year to our receipts from that source.

The grains used in producing these hybrids have pedigrees dating far back into history. They have been collected from all parts of the world. Among the wheats now used are some sent by Mr. Aronson from Palestine. He has discovered there a wild wheat whose ancestors are supposed to have grown in the Garden of Eden, and there is another wheat which has been found in the tomb of an Egyptian mummy more than 3,000 years old.

Among the new varieties which we are now planting is that brought in from the dry lands bordering the Sahara in southern Algeria. This is the durum or macaroni wheat which M. A. Carleton, one of our agricultural explorers, sent to be tested upon the semi-arid lands of our middle west. It was tried in Kansas, Nebraska and Texas, and the first crop was 75,000 bushels. That was eight or nine years ago. The second crop was over a million, and we are now raising 50,000,000 bushels, about one-half of which is exported to Europe and some to the very country whence the wheat came. That wheat all comes from land which would not grow wheat before.

### New Grains for the Farmer.

Similar experiments are being made by our experts of the Agricultural department in almost every grain known to man. New grains and new varieties of the old grains are being gathered from all over the world and brought here for testing and uniting with other varieties. This is especially so of corn, oats, barley and rice.

Our corn crop last year was worth over \$1,500,000,000. Its value was more than a dozen times that of our gold and silver output, and the amount raised was so great that it would have filled a solid four-horse wagon train reaching from here to the moon if the skies could be bridged and the corn taken thither. Nevertheless, the corn breeders tell me that by marrying the different varieties and planting good seed this crop could be doubled without the addition of one acre to the area or adding more fertilizer. All that is needed is good seed and cultivation and the land will produce from two to four times what it does now. This matter is understood by our well informed farmers, who belong to the many corn-breeding associations scattered over the union. The varieties of corn are now as well known as those of cattle and horses. The best are being crossed and recrossed and a variety may be discovered which will be worth a great deal of money. As it is, the best seed brings a high price in the market.

### Plants for Our Dry Land.

I am told at the Agricultural department that they are making a special effort to discover new cereals

for the dry farms of the west. Many choice varieties have been introduced, and some of these are yielding from 20 to 50 per cent more than those of the past. A great deal of work is being done in millets and sorghums, and Uncle Sam's agents in Manchuria have sent several of these from that country. They are also using the Siberian sorghums and kowliangs from China. These millets have been married to others, and their children may be better adapted to our soil and climate than the parents from far-away Asia.

We are introducing alfalfas from Siberia which withstand the cold and drought and also drought-resisting trees which will produce stock food and fruit. Among the fruit trees is an olive which grows in the half desert parts of North Africa, where the rainfall for years at a stretch is often less than ten inches. In the same connection is the date which is being grown in the irrigated hot regions of southern California and Arizona. There is also a large-fruited, dry-land Chinese date, which we are grafting and which seems to promise a new dried fruit industry.

### The Marriage of the Rice.

Uncle Sam is giving new crops to the wet lands as well as to the dry. He is bringing rice from all parts of the world and marrying the different varieties. This is a job. There are no less than 1,400 different kinds of that grain in Japan, India and China, and some of these are found to grow better than our famous South Carolina rice, which was long considered the best of the world. Not long ago we sent the late Dr. M. S. A. Knapp to Japan and he brought back rice from the island of Klushu which has revolutionized this industry and added millions of dollars to the value of our crop. We have now rice for the uplands as well as for the swamps, and, on the prairies of Arkansas, we are raising twice as much to the acre as they are getting in South Carolina and Georgia. We now produce hundreds of millions of pounds of rice every year, and that at less cost than Asia can raise it with cheap coolie labor. The secret is in the use of machinery and the profits are large, averaging \$50 and upward per acre.

Since these introductions the rice lands of the United States have been greatly extended. The crop is now very large in Louisiana, Arkansas and Texas, and it is said that it can be grown on any soil adapted to wheat or cotton, provided the climate conditions are right.

### Some Other New Crops.

We are also breeding new cottons, marrying the best of India and Egypt to our favorite daughters of the uplands and sea islands. We are breeding for seed as well as for lint. We are breeding corn for the oil contained in the grain and also to increase the size of the crop and cut down the size of the cob. We are making oranges which will withstand the frost, extending the orange belt 400 miles farther north. We are marrying the lettuce and joining the varieties of flax so that the plants are taller and the fibers are better. We are marrying the tobacco from all parts of the world and growing certain kinds of wrappers and others for fillers and binders.

In this work we are aided by agricultural explorers who have been sent all over the world and who are now scratching the skin of old Mother Earth for new plants and seeds. There is a bureau devoted to this introduction in the west wing of the Agricultural department, and it is one of the busiest places in Uncle Sam's factory. It has already introduced something like 30,000 new vegetable creations and more are arriving each day. The moment one comes in it is sent to the special station or plant breeder best fitted to test and develop it, and within a few days it is under the earth and in just the conditions fitted to give good results. Records are kept of every receipt and there are now several hundred thousand cards which tell the story of each distribution.

### The Seeds and Plants of One Week.

During my stay in the department Prof. David Fairchild, who is at the head of the bureau, showed me something of the work as it is now going on. With him I went over the cards that have been received the last week. Here are the items. The first is a new alfalfa from Pretoria, South Africa, the second a scarce barley from Nepal in India, and a third a Japanese larch sent from Copenhagen in Denmark. And then we have a new magnolia from Calcutta, which will be married to a yellow magnolia just received from Buitenzorg, Java, a new kind of banana which comes here through the Kew Gardens of England, and twenty-one bulbs of the yellow lily, which are sent from Ya Chow-fu in China, on the borders of Tibet. Other importations of this week are a white rubber from near Buena Ventura, Colombia, which it is thought may be grown on the Everglades of Florida, a new tobacco from Santa Clara, Cuba, which may withstand the Granville tobacco insect, and a passion

fruit from Tahiti, in the Society Islands of the Southern Pacific ocean.

This passion fruit is as large as a peach and it is thought that it may be crossed with the may-pop of South Carolina. It makes delicious ices and the profits of raising it may reach as high as \$300 per acre. The fruit is now grown in the greenhouses of England and it commands a good price in the markets.

In addition to these the bureau received yesterday a hardy white ginger from the province of Shantung in China, which will be planted in Texas, four species of persimmons from Java, and some plants related to the papaya from the Royal Botanical Gardens at Rome. Explorer Parker of Mukden has just sent in eight new kinds of soy beans from Manchuria, and some of these, it is thought, may produce an oil which can be mixed with linseed oil to be used as a paint dryer. There are also several new wheats from the highlands of Mexico, and a number of mangoes to be added to the several hundred varieties which have already been tested.

### New Crops for Uncle Sam.

This work of one week gives you some idea of what Uncle Sam is going to find food for his American children. New seeds and plants are coming in daily by express, freight and mail, and in some cases the importations weigh tons. Among the results already accomplished we have now the largest collection of date varieties known. They are growing in the gardens of Arizona and California. We have also the greatest variety of mangoes extant and we are testing that fruit with a view to its introduction into Florida, Porto Rico and Hawaii. We have French artichokes

now growing in the truck gardens of the south, Kaffir corn from Abyssinia, which is being tested in Kansas, and a new kind of oats from northern Finland, which is being grown in Alaska. We have new alfalfas from Arabia and Chinese Turkestan. We are starting a sisal hemp industry in Porto Rico and we are growing Japanese bamboos, which, it is thought, take the place of the old cane brakes of the south. We have also a valuable paper plant from Japan, wood oil trees from China and are setting out in California hundreds of plants which it is thought will make varnish. We have also a pedigreed barley which is especially desired by the brewers, and altogether so many other fruits, grains and trees that to mention them would be like quoting a botany.

### Persimmons as Big as Base Balls.

Among the fruits in which the department is especially interested just now is the persimmon. Not the little persimmon as big as a walnut which grows in our south, but the Japanese, Chinese and Korean persimmons which are as big as base balls, or larger. I have eaten them in all of these countries and I verily believe they are the most delicious fruit upon the earth. Some kinds look like mammoth tomatoes, and when ripe are so soft they can be scooped up with a spoon. Others are eaten while still hard like apples, and others are frozen and served like a sherbet or Roman punch.

These Asiatic persimmons are beautiful. They are sometimes of an orange red color, measuring from three to five inches in diameter, and often weighing more than a pound. Mr. Frank N. Meyer, one of the

most expert of our agricultural explorers, has discovered one which is as seedless as a navel orange, which has no pucker, and can be eaten when green and hard. It is known as the Tamopan persimmon and was found, I believe, somewhere near the Ming Tomb, north of Peking, in a climate colder than any of our states of the south. He has sent cuttings which will be grafted on our persimmon trees and it may be that this fruit will some day be almost as common as apples. The trees are said to be hardy. They bear so heavily that the limbs break, and they last for forty or fifty years before the fruit falls.

There are many other persimmons in Asia which have seeds, but they all grow large and they are one of the most common fruits in the markets. The natives have a method of taking out the astringency or pucker by leaving the fruit several days in a cask or tub which has once contained a spirituous liquor. The effect of the liquor which is soaked into the wood seems to take out the pucker. We are now raising some Japanese persimmons in Florida, where the crop is said to be commercially profitable. There is no doubt that the fruit can be grown wherever our native persimmon now thrives, and it is probable in many places much farther north.

### Frank Meyer's Work.

Indeed, it is impossible to estimate the value of our agricultural explorations. They cost us comparatively little, but they yield bigger dividends than any other money appropriated by congress.

Take, for instance, the work of Frank N. Meyer, the man who has sent us the persimmons I have just mentioned. He is now in Chinese Turkestan, west of Tibet, traveling on foot and on camels, looking up new plants ad seeds for arid lands. He receives, all told, something like \$5,000 a year, and out of this pays his traveling expenses, doing the work more as an enthusiast and for the good of the country than as a means of making a living. He is one of the most famous of our botanists and plant experts and, like Powell, who recently belonged to the same bureau, he could easily command a salary of \$10,000 a year if he chose to leave the department.

Mr. Meyer has traveled all over China, Manchuria and Siberia, sending us new fruits, nuts and grains. In addition to the persimmon he has given us a score or more new peaches, which are now being tested. Some of these are as large as navel oranges; others have a flesh which is blood red, looking more like that of a beet root than anything else. He has sent in the so-called honey peach, which grows in Shantung, and the beef peach of Shansi, which looks like raw meat. Some of the peaches now being tested are flat, and they are of all shades, from green and yellow to a rich, rosy red.

Mr. Meyer has sent in many apricots from China, and wild apricots from Manchuria and northern Korea, which will stand more cold and drought than anything we now have. Some of these apricots have been successfully tested at Boston, and some even as far north as Wisconsin.

We are indebted to Mr. Meyer, also, for new Chinese varieties of plums, cherries, quinces and apples, as well as for other fruits which the department expects will be grown in different parts of the country. One of the most important of the latter is the jujube, the fruit of which is not unlike dates and can be eaten fresh, dried and preserved, and also stewed or smoked. The jujube will grow in an alkali soil, and it is well adapted to some of the dry lands of the west.

FRANK G. CARPENTER.

## Big Missouri Town Without Government

**T**HE door of the city calaboose is wide open and silent. Like a faithful sentinel it stands, keeping guard when all things else have fled. Its hinges are rusting in idleness because no criminal has been detained there for many moons. The city hall has long since been vacated and the mayor and other municipal officials have retired to business and private life and the former chief of police has become a deputy sheriff. Every vestige of the once-strong and assertive city government is now only a pleasant memory of bygone days.

The preceding paragraph, taken from the St. Louis Republic, might well be an epitaph for Juarez or some ill-fated city that had been wiped from the map by fire, flood or pestilence, but such is not the case. Those conditions are true, it is asserted, in every detail of a growing, thriving Missouri town, and it is one of the wealthiest, busiest places in the state.

Flat River, Mo., with a population of from 8,000 to 10,000 people, representing almost every nationality, political conviction and religious belief; yet without the slightest pretense of municipal government, is the center of the most unique economic situation of the present decade. It is another link in the chain of evidence proving that truth is stranger than fiction.

Flat River is a typical mining town; and, so far as being selected because of the conspicuous congeniality of disposition, its population is more cosmopolitan than perhaps any city of its size in America.

Another remarkable feature, says the St. Louis paper, is that though a mining camp is usually looked upon as the embodiment in a pre-eminent degree of

lawlessness and a low order of citizenship, Flat River is the very heart of the greatest lead mining district in the world and 60 per cent of its male population makes its living underground.

Twenty years ago the town was not even on the map of St. Francois county. As recently as ten years ago it was practically unknown except to those living in that immediate vicinity, and a few Wall street operators, who were interested in the lead market and hence familiar with the centers where the metal was mined.

Though there are no saloons in Flat River, which fact in itself is remarkable considering the number of foreigners, men occasionally take up in neighboring towns and stray into Flat River, where they are arraigned on various charges before the justice court, and petty crimes and family disputes are not less frequent there than in many other towns.

The thing that has made possible the development and crystallization of such a powerful moral sentiment in this mining community is the fact that from its very beginning the most prominent men of the neighborhood were stalwart church members and representative citizens, who used every means in their power to build up such a sentiment and even underwent personal sacrifice to discourage and prevent any conduct or institutions which tended to impair it.

In speaking of this large mining community as Flat River, it is well to explain that Flat River is only the largest of a group, and though St. Francois, River Mines, Deasloe and Esther are geographically a continuation of the city of Flat River, they have separate postoffices and are generally spoken of as distinct towns.