

POISONOUS PLANTS OF THE UNITED STATES.

GUY ELLIOTT MITCHELL.

Farmers from time to time send in complaints to the Department of Agriculture that not only their stock, but even farm hands, have been sickened and killed through the presence of some poisonous plant on their farms. So frequently have these complaints arrived at the department that officials of the Bureau of Plant Industry, under the direction of Mr. Frederick V. Coville, the chief botanist, are now making extensive experiments to ascertain the exact elements causing this damage.

In order to aid farmers in the detection of the most common plants found on their farms, the department has issued a farmers' bulletin, No. 86, entitled "Thirty Poisonous Plants of the United States." This gives in detail full descriptions of the plants, the symptoms of the poisoning, and in many cases antidotes for the relief of men or animals taking in the poison. It would be well for all agriculturists to keep a copy of this pamphlet among their ready reference books. The officials of the Bureau of Plant Industry are only too glad to furnish this most valuable farmers' bulletin to all who may apply.

Destructive to Live Stock.

Probably the most destructive poisonous weed in the United States is the loco; the damage is so extensive that during the period between 1881 and 1885 the State of Colorado paid out over \$200,000 in an endeavor to exterminate the weed.

The foliage of the loco weed is not the agent which imparts the poison to live stock grazing upon land impregnated with it, it is the roots and stalk which contain the poison. Animals under the influence of the stimulant go through antics as though they were intoxicated, their eyes become glassy, they sprawl around in maudlin fashion until, with sheer exhaustion, they fall to the ground in a stupor. The effect of the poison is not acute, but in its slow progress simulates diseases caused by bacteria, worms or other parasites. The stages of a locoed animal are recognized by officials of the



WHITE LOCO WEED.

Department; the first, lasting several months, is a period of hallucination with defective eyesight, during which the animal may cut all sorts of capers. Once acquiring a taste for the loco plant the stock refuse every other kind of food until the second stage is ushered in. This second stage is a lingering period of emaciation characterized by sunken eye-balls, lusterless hair and feeble movements. The animal dies, as if from starvation, in periods ranging from a few months to one or two years.

Various States have attempted to adopt measures for the eradication of the loco weed, but so far these attempts have not met with much success. Colorado, a number of years ago, offered a reward of so much per ton for quantities of the loco weed brought in for extermination. The Mexican greasers, with great thrift, started in to farm and raise loco weeds. One of the prime reasons for failure to eradicate this weed by State action has been the inability to properly identify the loco plant. In some States it has been one weed which has caused the poison, and in others an entirely different species has resulted in live stock destruction.

Experiments in Poisoning.

However, the Department of Agriculture is now making experiments with various poisonous plants of the West, injecting the subtle poisons into sheep, cattle and guinea pigs, and studying every symptom, until it is hoped that some measures may be adopted by stockmen to prevent loss through eating of the loco.

But it is not only the West that is complaining to the Department of Agriculture on account of the presence of poisonous plants, for there is no section of the country which does not abound with some form of plant life which is either an irritant or poisonous character. New Jersey recently reported a few cases where children were poisoned by water hemlock. Oregon loses cattle every year through one species of cicuta. Familiar to us all is the action of poison ivy. While it is irritable to human beings, it has no apparent effect upon animals, horses, mules and goats eating its leaves with impunity. A number of people are immune to its action, but some lose their resistant power in middle life; others have been known to attain immunity only through considerable exposure to the poison ivy.

Deadly Mushrooms.

The meadows and pastures of many



HILLSIDE NURSERY, SOMERVILLE, MASS.



ARNICA.

homesteads teem with mushroom growths, some of them edible and others deadly poison. Among the latter class the farmer has to contend with two species, the fly amanita, or, as some call it, the fly killer, and the death cup. The former has been used in Europe for hundreds of years as a fly poison, and in Asia it was formerly used as an intoxicant. Cattle are poisoned by this species as well as men, and it is supposed that the flesh of live stock so poisoned is rendered unwholesome. The death cup is not quite so large as the fly amanita and is not so attractive in appearance to the inexperienced and experimenting epicure. A large number of cases of poisoning have been attributed to this fungus; in most of them it was supposed to be edible, and in a few instances the mere handling of the plant caused serious trouble.

The bulletin above mentioned goes on to describe the common poisonous weeds and plants of the country, some of which are thriving in abundance in the East, West, North and South, and it is believed covers the weeds which bring harm to the farmer of every section. The following is the list of plants described in the bulletin:— Fly amanita, mushroom, death cup, fly amanita, mushroom, pokeweed, corn cockle, dwarf larkspur, Wyoming larkspur, purple larkspur, choke cherry, wolly loco weed, stemless loco weed, rattiebox, caper spurge, snow on the mountain, poison ivy, poison oak, poison sumac, red buckeye, water hemlock, Oregon water hemlock, poison hemlock, broad-leaf laurel, narrow-leaf laurel, great laurel, staggerbush, branch ivy, jimson weed, black nightshade, bitterweed, sneezeweed.

To Shorten Moulting.

The various state experiment stations have been devoting considerable time and attention to one feature of poultry raising, which has been a stumbling block in the way of obtaining the greatest amount of profit out



SHOWY MILKWEED

of the business. When a hen moults she stops laying eggs and no amount of persuasion can induce her to again commence doing business until she is ready. The California Experiment Station has been making tests with the object of shortening the moulting season of laying fowls. Hens usually commence moulting in the early fall and the plan of the California Station is to hasten this time into early summer. This is accomplished by a method of light feeding, followed with heavy feeding. The egg-laying is stopped and moulting is brought on by a one-half reduction of the supply of nitrogenous food, meat, middlings, and the like. The hens, under this plan, stop egg-laying and go to moulting. In about a month, it is claimed, the moulting process is all finished and then the ordinary feeding is resumed; the hen then begins to lay eggs early in the fall. The experiments of the station have not been concluded, so that it is still unsafe to say whether or not the new method will prove practically successful.

Came as a Shock.

Flosie—"Mamma, were you at home when I was born?"
Mamma—"No, dear, I was at grandma's, in the country."
Flosie—"Wasn't you awfully surprised when you heard about it?"

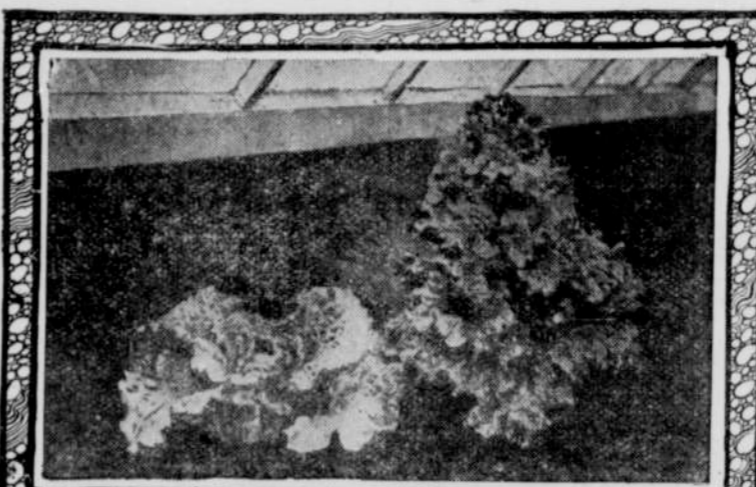
Why is a ragged boy like a minister near the end of his sermon? He's tore'd his close.

"My ancestors came over in the Mayflower," boasted Blueblood, "but it isn't generally known."
"That's all right old man," said his friend. "I'll never tell. You can't help what your ancestors did!"

Breeding Sturdy Lettuce.

Through the process of "forcing," owners of greenhouses are able to produce crops, weeks and months before they could arrive at maturity through natural courses. In addition the crop is made to develop far more rapidly and to attain proportions such as nature could not accomplish. From \$2,500,000 to \$3,000,000 worth of lettuce alone is "forced" in the United States each winter. Greenhouse gardeners in an endeavor to "get rich quick" have failed to note that this forcing was weakening their stock until now the weak lettuce often becomes so diseased in the hothouse that it is by no means rare for a gardener to lose an entire crop of greenhouse lettuce by a disease to which these overstrained plants are particularly liable.

Dr. B. T. Galloway, chief of the Bureau of Plant Industry, in order to correct this evil, has been working for two seasons on this subject and has at last succeeded in obtaining a crop of winter lettuce plants immune to the lettuce disease. At the same time the plants are of large size and capable of developing as early as the most specialized of winter lettuce. This work has involved much time and the sacrifice of thousands of plants. Seed of healthy winter lettuce was planted, and at the proper time the plants were crossed with wild lettuce—a species free from disease. Millions of seeds of these cross-bred plants were sown in beds—a thousand in each—and out of each thousand two or three of the largest and best were taken, while the rest were destroyed. From these extra



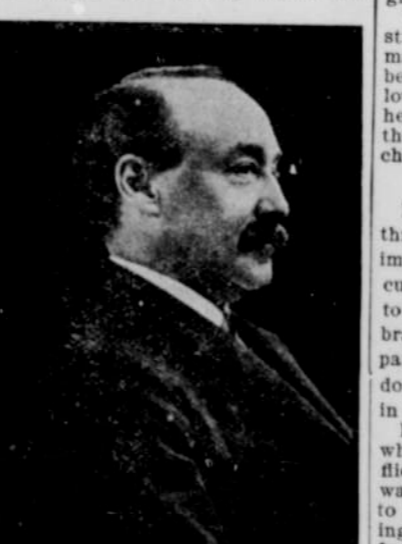
Eight Weeks Growth From Seed of New Hybrid and Standard Variety.

The New Lettuce Grows Very Rank.

large early and fine heads another crop was raised, and it is from these that seed will be furnished to the greenhouse men of the great cities. It is believed that through this work will be saved from ruin the winter lettuce industry, which for the last three years has been threatened with extinction.

Secretary Bonaparte, Farmer.

About 15 miles from Baltimore is the farm of Secretary Charles J. Bonaparte of the Navy. Before he became the head of the Navy Department, Secretary Bonaparte used to spend six months of the year on his farm. He arose daily at 5.30 and always took a look over the place before breakfast. After breakfast he would drive into the city, arriving usually about the time people were getting out of bed.



HON. CHARLES J. BONAPARTE, Secretary of the Navy.

Secretary Bonaparte has never expected to make a fortune out of his farm, but simply supports it as a means of recreation.

Smile, a sign of happiness; miss, the cause of much happiness. Hence the expression, a miss is as good as s-mile.

The temperature in the Sahara Desert often rises to 150 degrees in the daytime and sinks below freezing point at night.

"A little learning is a dangerous thing. Drink deep, or taste not of the Pierian Spring."—Bacon.
"And he that does one fault at first And lies to hide, makes two."

MOOSE IN NATIVE WILDS.

ANTLERED KING OF AMERICAN FOREST ABOUNDS IN REMOTE NORTHWEST REGIONS.

Senses Developed to Remarkable Degree—Feed Partly Under Water in Summer—Many Bulls Killed in Fratricidal Battles.

Few people have any conception of the astuteness of the moose, said a successful hunter who is exceptionally well acquainted with the habits of this splendid game animal, in speaking of a recent trip. They possess a keenness of scent and hearing that is almost beyond belief, and an intelligence that is seldom credited to them by any one except those who have devoted considerable time to studying them and their ways.

In the section of the country where we were the larger part of our stay moose were exceedingly plentiful, and we had the finest opportunity to observe their actions. We followed them from one place to another, endeavoring not to frighten them and all the while noticing them very closely.

In the mating season, which commences around September 20 and ends about the middle of October, the bulls are exceedingly vicious, while the cows are timid and seek the deepest forests, being easily frightened. It is my opinion that the males kill many of their mates at this time. The cows soon betake themselves to some island, in order that they may not be disturbed by wolves or other wild animals. The moose calves are about as homely and unsightly as anything I have ever seen. Their heads are nearly as long as their bodies, and when they are three or four weeks old they weigh about 100 pounds.



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Tropical Fruits.

There is something fascinating in the development of tropical fruits, those things which we can not grow in the temperate and colder climates, where Jack Frost is sure to reap his annual harvest. There is the Department of Agriculture is growing in Porto Rico, and the alligator pear, a most delicious tropical vegetable-fruit, the pepino, and a score of others which will stand little or no frost. To most persons there is a glamor and a fascination about the tropics and its products. We have in the United States no tropical section. Frosts or chills of atmosphere are likely to visit us at all points. In Porto Rico and the Philippines, however, are found the genuine tropical conditions where nothing worse occurs than the hurricane which sweeps away every vestige of vegetation, house and occupants; but there is no frost.

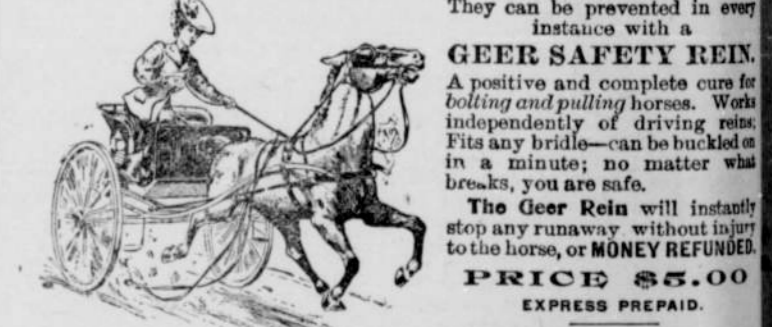
While we have taken control of Porto Rico and the Philippines, nevertheless, it is the constant endeavor of the home government to cross and hybridize tropical with hardy fruits so that they will stand the cold and frost of northern climes. The artificial evolution of the hardy orange is an example of this.

By selection and cross breeding, plants can become wonderfully well acclimated and as a result the northern varieties and species are gradually invading the southern fields, while the northern orchards are constantly being augmented by new species hitherto exclusively southern in temperament.

To Keep Egg Records.

The Maine Experiment Station has published a description of a nest box which is claimed to be simple and inexpensive, and certain in its action, for use where it is desired to keep a record of how hens are laying, in order to weed out the poor ones of the flock. The station has used these nests in experiments undertaken to establish breeds of hens that shall excel as egg producers. A description of this box, and how to make it can be found in farmers' bulletin No. 114, of the Department of Agriculture.

NO MORE RUNAWAYS

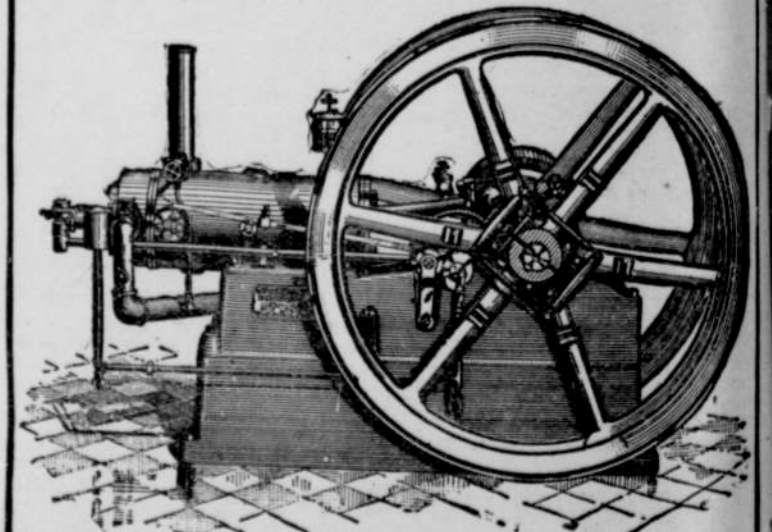


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