Agricultural Department.

RAPID TREE PLANTING IN KANSAS.

Professor Sargent, Director of the Arboretum at Harvard University, sends an extract from a letter written by Mr. Robert Douglas, the noted forest-tree grower, of Waukegan, Illinois. Mr. Douglas has recently completed a plantation of trees of the new hardy Catalpa (*Catalpa speciosa*), for one of the railways of Eastern Kansas, and his method of planting, the result of years of practice and experience, will be of service to other prairie tree-planters, or indeed to any one elsewhere planting seedling forest trees on a large scale. He says:—

"I wish you could have seen those raw men after we had worked them a few days. They boasted about planting 300 trees per man when they worked there last spring. When I told them that, after two days, I would make them average 1,500 trees per man, you should have seen the the look they gave me. But they did it the second day, and kept it up to the end. The trees were as well planted as they possibly could be, the roots being carefully spread out by the fingers, and every tree planted firmly. Every one of those eighteen or twenty-four men, averaging ten hours per day, planted two and a half trees for every minute of that time. As this mode of planting is my own, arrived at after some study and experience, and reduced to the very fewest motions that can be used in planting a tree, or, rather, a plantation of trees, I trust that a description of the operation may be of interest. We call this the 'three-motion system' of planting. The land is marked off four by four feet, with a corn marker. The men are in 'gangs' of three each, two with spades and the other with 100 trees tied up neatly in a parcel with a willow. The spaders stand facing each other, taking each a row, the tree holder standing between them. The spader makes a downward stroke with the back of the spade facing outwards, and then takes out a spadeful of earth. This leaves a straight side on the back of the hole, against which No. 3 places the tree; the digger then replaces the spadeful of earth, having made just three motions of the spade. The tree holder takes a tree from his bundle, and with a quick motion, which is hard to describe, but easy to learn, places the tree in the hole in such a manner as to spread out the roots perfectly. In this way he tends two men, putting in the trees just as the spader raises the earth. As the spader steps forward to the next check made by the marker, he brings down the heel of his left foot close to the just planted tree, and this leaves it firmly tightened in the soil and ready to grow."—*American Agriculturist.*

SETTING AN ORCHARD.

I ask one favor of the nurserymen, that is to have the roots all dug out as long as convenient, and with as little mutilation as possible—better have a crooked tree, a bad top or no top at all, than to have bad roots. Handle carefully—do not let the roots dry either before setting out or after. See that your orchard land is dry, either naturally or by drainage. If sandy or gravelly, and too dry, it will require the more mulching—the more crops of buckwheat, clover or weeds ploughed in. Leached ashes, or the lees of unleached ashes on sandy land is a good thing. We in the west recommend the distance about twenty-five feet apart, the rows in the square form. The hexagon form is some advantage, but the disadvantage in ploughing and drawing the crop is greater. If the ground is very rich, as with much of our prairie soil, dig deep enough to mix the subsoil with the surface soil. Subsoil ploughing on such soil is best. Set the trees in moist, compact soil, not too muddy, not too dry. Remember the roots must have both water and air. A good mulching of stringy manure, straw, hay, or anything to prevent the sun from drying the ground that the tree is set in, ought to be applied when the trees are set. Place the dirt up slightly to keep the mice and borers out, and it serves to keep the rabbits and sun off also. Plough the orchard, and plant with corn. Do not sow it with grain or grass. The trees should grow in spring and early summer, so does the grain and grass; but corn grows later in summer, and checks the growth of the trees at the time when we want them checked, and to harden the new growth ready for winter. I am so much in favor of cultivating the orchard that I am ready to say, don't stop ploughing it every spring and early in summer. But we may let the corn-planting stop when the orchard is too large to raise a crop in, or when the soil is too poor for the growth of the trees. Then manure, or or plough in clover or buckwheat.—*By Suel Foster, in Examiner.*

A CHAPTER ON LEGS.

"A horse has four legs" is the stereotyped beginning of the schoolboy's composition on the horse; and in this the schoolboy manifests a large degree of intelligence. No part of the horse is of greater importance than the leg; and the experienced horseman will begin his examination, preliminary to a purchase, just where the schoolboy commences his composition. He wants to be sure that the horse has four good sound legs before he buys him, for he knows that in nine times out of ten, here is where a horse first fails. The turf horse that is always troubled with "a leg," is a nuisance. Curbs, spavins, ringbones, weakened or sprained tendons, "bucked" knees, and stiffened joints are some of the troubles that affect the legs of the horse, and greatly impair his usefulness.

The indications of a good leg are firmness, hardness, and smoothness to touch, showing an entire absence of adipose tissue; large, well defined joints, entirely free from abnormal appendages; firm, but elastic, cords; a short pastern, short from knee and hock to pastern joint. The shape of the bone should be broad and flat, and the legs should stand squarely and firmly under the horse, the toes turning neither in nor out. The bone should be of good size just below the knee, and flat; but large-sized cannon-bones, with strong, clean back sinews and suspensory ligament, are of great importance. "Curby hocks," "cow hocks," "bowed legs," "calf knees," and "over on the knees," are indications that are always unfavorable.

All these points are to be examined mainly when the horse is not in motion; and when fully satisfied in these particulars, it is very essential to see that, having four good legs, the horse has the ability to use them properly; that he steps with a firm, free, and elastic tread; that the legs and feet do not get in the way of each other when he is in motion, but move freely, without interference, and yet without any paddling or straddling motion. Stiffness of the joints will be most readily detected by causing the horse to step backwards, and by seeing him in motion when first taken from the stall, before he has been warmed up.—*National Live-Stock Journal, Chicago.*

BOTTS.

BY J. H. WILSON, LONDON, ONT., PRESIDENT ONTARIO VETERINARY COLLEGE.

Botts are the larva of various species of the gadfly that pester and annoy the horse in the summer and autumn months by depositing their eggs on the long hairs underneath the jaws, on the breast, shoulders and fore limbs of the animal, thus placing the eggs in a proper position when matured to either drop into the animal's food, or be taken by the mouth into the stomach by the horse biting at his sides or limbs when the fly is about to deposit the egg. It is in this way that the fly or bott is perserved from one season to another, the stomach of the horse being provided by nature to protect them during the winter months. After hatching they are supplied with two sharp fangs or hooks, by which they attach themselves securely to the various coats of the stomach, more particularly in the right or pyloric region. The duodenum also is not unfrequently the seat of the bott. In this position they are nourished and fed by the various secretions of the stomach and fluid portions of the food until they become matured, which generally occurs in the months of May and June, when they suddenly let go their hold and pass off with the feces, where they again undergo another change, and once more assume the parent fly. Great diversity of opinion exists as to whether botts do any harm or not. Some even go as far as to assert that they assist materially in digestion by their stimulating action on the secreting portion of the stomach. But in my opinion they frequently do much harm and mischief, that is, when they accumulate in large numbers and partially fill or block up the pyloric orifice, thereby preventing the food from passing out of the stomach into the duodenum.

Symptoms—Botts are seldom recognized by any distinct signs, except that the animal is weak and easily fatigued. His coat is long and staring. The bowels are sometimes loose, and at other times constipated, but the surest sign of their presence is when they are found in the manure, which generally happens in the spring season. The reason attributed for their appearance at this particular time is that the time has arrived for them to quit their winter quarters and to be once more transformed from a grub to a fly.

Treatment—The irritation caused by the presence of botts is not easily distinguished from other forms of indigestion; sometimes we have flatulency and at other times attacks of spasmodic colic. There is one thing certain, that we cannot kill the botts in the horse's stomach, as they will resist the strongest acids and alkalies, the most potent narcotics and mineral poisons, but if their presence should be suspected it would be well to feed the animal on soft, nutritious diet; also, a mild purgative, given occasionally, might do much in removing the mucous that is generally present in the bowels when the animal is troubled with parasites of any order whatever.

GLAZED POTS FOR PLANTS.—Glazed pots are condemned by most writers. The majority of these writers are greenhouse men, or those with but little experience with growing plants in the dry air of our parlors and living-rooms; and, in watering, those in glazed pots would naturally receive the same supply as those in common porous pots along-side. The evaporation from the porous pots would take place much more rapidly than from the glazed, and the one would be comparatively dry while the other would be still wet. The next watering repeats this process, and the result is plainly seen. The plant in the glazed pot perishes at once, or drags out a sickly, miserable existence. Glazed pots can be used with good results in the parlor or living-room. If the drainage is good, so that the surplus water can pass off, there are many plants that will grow well in them. To this may be added that many people are very irregular in watering-house plants. They forget to attend to it until the dry and parched appearance of the earth admonishes them of their neglect. Of course, the plants in the unglazed pots suffer worst under this treatment, for the earth gets dry from top to bottom; while in the glazed pot the great bulk of the earth, being protected from rapid evaporation, may remain comparatively moist, though the top is dry.—*Journal of Chemistry.*

THE PRODUCTION OF A SINGLE BEAN.—The history of a single bean, accidentally planted in a garden at Southbridge, Mass., is traced by a newspaper correspondent, who figured out its produce of three years. The bean was planted in a rich, loamy soil, and when gathered in the autumn its yield, as counted, "was 1,515 perfectly developed beans from a single stalk. Now, if a single bean produces 1,515 beans, and each bean produces 1,515 more, the sum total of the second year's product would be 2,295,225, equal to 1,195 pounds, 597 quarts, or 2,390 army rations, equal to $18\frac{5}{8}$ bushels. This would be the product of the second year. Now, if we plant this product and the yield is the same, we have a product of 5,268,058,800,625 beans, equal to 1,371,890 tons, or 42,871,572 bushels, or 548,756,068 soldiers' rations. The third planting would give the steamship "Great Eastern" 92 full freights." Few beans, however, start so well as this one did.

FRANCE HAS agricultural schools for girls. One of the chief is near Rouen, which is said to have been begun with a capital of one franc by a sister of charity and two little discharged prisoner girls, and to be now worth $160,000. This establishment has 300 girls from 6 to 18. The farm, entirely cultivated by them, is over 400 acres in extent. Twenty-five sisters form the staff of teachers. More than one medal of the French Agricultural Society has been awarded to this establishment at Darnetel, and the pupils are in great demand all over Normandy on account of their skill. They go out as stewards, gardeners, farm managers, dairy women, and laundresses. Each girl has on leaving an outfit and a small sum of money, earned in spare hours. If they want a home they can always return to Darnetel, which they are taught to regard as home.—*Methodist.*

DOMESTIC.

TO LARD POULTRY.

Poultry may be either cooked with a little butter to baste it, or it may be larded or "barded"—although the latter are the modes of preparing adopted by all good European cooks. To many Americans the flavor of bacon is objectionable, yet even where it is approved, larding is often supposed to be so difficult as to require a professed cook to do it; but it is actually so simply that any lady wishing to indulge in dainty dishes will take the small trouble of learning it, to teach her inexperienced cook. Two larding needles are required—to be procured at any good house-furnishing store—one large-sized for veal, beef *a la mode*, &c.; the other, small, for poultry, cutlets, and sweetbreads. In larding poultry, hold the breast over a clear fire for a minute, or dip it in boiling water to make the flesh firm. Cut some strips of firm, fat bacon, two inches long, and the eighth of an inch wide, and make four parallel marks on the breast, put one of these strips of bacon fat, called *lardoons*, into the split end of the small needle, securely, and insert it in the first mark, bringing it out at the second, leaving an equal length of fat protruding at each end; insert these lardoons at intervals of half an inch or less down the two lines first commenced, and then do the same with the two others.

All white-flesh birds are improved by larding, as is veal and sweetbread. Yet small ones, quails, for instance, may have a barde—*i. e.*, a slice of bacon fat—tied round them. This may also be done with fowls, or veal, where bacon is liked and larding inconvenient.

Game requires nothing but good butter to baste it. Any sort of stuffing is ruinous to the flavor, except in the case of pigeons, where a little chopped parsley may be mixed with butter, and placed inside.

Wild duck, if fishy, and the flavor is disliked, should be scalded for a few minutes in salt and water before roasting. If the flavor is very strong the duck may be skinned, as the oil in the skin is the objectionable part. After skinning, spread with butter, and thickly dredge with flour before putting in a very quick oven.—*Catherine Owen, in Scribner's Monthly.*

AN ENGLISH writer describes the making of "sea-weeds doyleys" as follows: "I put the pieces of sea-weed into a large basin of water, so that they spread out in full beauty. I then slipped a piece of net on paper underneath and lifted it gradually out of the water. I placed the whole between blotting-paper between weights and left it for a day or two. When quite dry I removed the paper underneath the net, cut the net into a circular shape, and added an edge of very fine lace with a needle and thread. No gum is required. The sea-weed looks well on pink or blue net."

OLD CORKS may be put to some quaint ornamental uses. Cork baskets are made by breaking up corks, threading the pieces on wire, and winding them round boxes and strawberry baskets. To make rustic cork boxes, cut old wine corks into thin rounds, and each round into six pieces. Thread them, and plait eight for the outside and six for the inside, and when varnished this resembles leather. An ingenious walking-stick may be made by stringing corks on a stiff wire and carving them with a sharp knife.

MOUNTAIN DEW PUDDING.—Three crackers rolled fine, a pint of milk, yolks of two eggs, bake half an hour. Beat the whites of the eggs to a stiff froth, add one cup of sugar and a pinch of salt. Flavor with lemon, pour over the pudding, and set in the oven till delicately brown.

BIRD'S-NEST PUDDING.—Peel and core as many apples as will stand in a dish, and fill the holes with sugar. Make a custard of a quart of milk, four eggs, and a quarter of a pound of sugar. Pour it over the apples, grate a nutmeg over the top, and bake one hour.