

Every farmer in his annual experience discovers something of value. Write it and send it to the "Agricultural Editor of the Democrat, Bellefonte, Penn'a," that other farmers may have the benefit of it. Let communications be timely, and be sure that they are brief and well pointed.

TOBACCO CULTURE.

How to Grow the Coming Crop.—No. II.

SOWING THE SEED BED—OPEN AIR BEDS—COVERING WITH CANVAS—AFTER CARE AND TREATMENT—MANURAL APPLICATIONS—CAREFUL WEEDING NECESSARY.

Some disagreement exists among tobacco growers as to the proper quantity of seed to grow on a given surface of ground. We can only say, the danger always is to sow too thick. A heaped tablespoonful to every hundred square yards, and a tablespoonful to every hundred square feet of surface are about the usual proportions, but we regard the quantities as too much. A far better plan would be to increase the area of the seed-beds largely, and sow on the quantities given above.

The seed, having been sufficiently sprouted, should be sown at once. Being so exceedingly minute, this cannot be successfully done unless they are mixed with some fine material, such as sifted wood ashes, plaster or very fine sand. Advantage must be taken of a calm day, so that an even distribution may be secured. To attain this more effectually, the seed-beds should not be more than four feet wide, and they might advantageously be sown one way with half the amount of seed, and then crosswise with the other half. A more even stand of plants results in this way. The beds must not be raked over after the seed has been sown. The latter would find their way too far under the surface to make a rapid growth, and perhaps be smothered entirely. A smooth board laid over the surface of the bed and pressed upon the soil by the weight of a man upon it is about the best plan we know of. Some growers simply walk over their beds, pressing down the entire surface with the foot, and this method when carefully practiced, may give as good results as any other. The former, however, is more rapid and does not pack the surface of the soil so closely. A roller of the proper weight could be used advantageously, and even a spade could be made to answer the purpose. The object of this pressure is to prevent the light seeds from being blown away by the wind, and also to bring them in direct contact with the ground, so that the tender rootlets may at once penetrate it and thus nourish the coming plant.

We have already said the seed cannot be made too rich. In addition to the well rotted barnyard manure that should be plentifully spaded into the ground, a top dressing of some good compost, free from weed-seed, should be placed on top. The plants are advanced much more rapidly in this way. It is not necessary that the site of the seed bed should be changed every year, but when old beds are used a second or third time, it is desirable that their fertility be renewed by a coating of virgin soil several inches thick. The black vegetable mould from woods is excellent for this purpose. It must be carefully worked into the surface soil. In the South, seed beds are nearly all made in cleared places in the forests, as the insect pests are found to be less troublesome. Of course, the seeds must be sown on top of the compost we have just spoken of, and not worked into it—merely pressed down hard.

Lastly, when all this has been done, a final top covering of hog bristles must be added. Several other substances are used in the South, such as brushwoods of various kinds, but all yield the superiority to bristles. They serve not only to attract and retain the moisture, but furnish warmth to the young plants, and appear to act as a manure besides. Unless used, frosts are likely to play havoc with the seed-bed. They absolutely seem to require some protection, and none equal to this has yet been found. They are a most valuable adjunct to the seed-bed, and should never be omitted. Care must be taken to spread them over the bed evenly, so as not to choke the plants, as well as to admit plenty of air and sunlight. Common laths may be laid over them at proper distances to prevent the bristles from being carried away by the wind. With some growers the custom is to replace them after the first weeding, while others do not. Care must, however, be used so that the young plants shall not be injured during the operation. A rake is the best implement for this purpose. With care the same bristles may be used a number of seasons.

OPEN AIR BEDS PREFERABLE.

It will be observed that all the foregoing has reference to the growing of plants in the open air, in beds

exposed to all kinds of weather. In a few cases plants are grown in hot-beds. We have not deemed it necessary to go into the details required to bring forward the plants in that way. In our opinion the practice should be discouraged. The only advantage it offers is that plants are ready for setting out earlier. With ordinary care the open air bed will give you plants early enough to mature before the fall frosts. Besides, the latter has many advantages. We do not mean in regard to cost and trouble only, but in the great superiority of the plants themselves. The plants are always stronger and hardier. They can stand much more cold and grow far more readily after being set in the field. A weak, sickly plant is always to be avoided, if possible. The more capable it is of resisting its enemies of whatever kind, the better your chances for a good crop. Our advice therefore is to Pennsylvania growers to dispense with the hot-bed for tobacco plants.

Young plants can bear a pretty low temperature before freezing. They are much more easily nipped by the same temperature when about maturing, than when in the seed bed. A grower of our acquaintance neglected to gather the seed from a plant that was left standing in his garden. The winds of autumn scattered it far and wide, and much to his surprise these self-sown seeds developed into hundreds of unusually fine and hardy plants in the early spring, all of which were utilized.

So far as the proper time for sowing the seed is concerned, much of course depends on the season. Most farmers favor the earliest moment possible. From the middle to the end of March is the usual time in this county, which gives the plants ample time in ordinary seasons to attain their perfect development before the period of frosts arrives.

CARE OF THE SEED BED.

The labor of the tobacco grower begins with the seed bed, and no where during the entire season can he less afford to neglect his work. If the season happens to be dry, the warm sun would soon shrivel up such of the sprouted seed as was not fairly in contact with the soil. This must be watched, and when necessary the beds should be carefully watered every evening with slightly tepid water. This should not, however, be applied in large quantities, but only enough to keep up the required moisture. Careful observation will be the best guide of the farmer in this particular. When there are plentiful showers, of course artificial watering must be dispensed with.

Liquid manure is a favorite preparation with which to sprinkle the seed bed, as the plants can much more quickly utilize the fertilizing properties of manures in this shape than any other. Hen manure is most commonly employed for this purpose. Care must be taken, however, not to make the liquid extract too strong, as it will in such cases not only cause the plants to turn yellow and assume a sickly appearance, but it has been known to kill them altogether. The careful grower will, however, note every stage of progress, and modify or altogether abstain from these applications if he sees unfavorable indications. When beds have been burned over, the likelihood of weeds is not so great, but under any circumstances more or less will make their appearance. These must be carefully watched and as carefully removed. No implement except the fingers of the human hand will answer, and care must be taken to disturb the tobacco plants as little as possible during the operation.

When the plants make their appearance, the beds should be examined to see whether they are too crowded. If that is the case the surplus ones ought to be removed at once, to give the remaining ones a better chance. A small iron rake with teeth three inches long, curved and set about half an inch apart, has been found efficacious. The hand is perhaps better for this purpose than anything else.

After the plants begin to show well above the surface a top dressing of manure should be spread over the bed to hasten the development. Almost any kind can be used for this purpose, and various kinds are employed. Nothing better can be applied than a compound consisting of one part hen manure, one part unleached wood ashes and two parts black woods—earth; these thoroughly mixed, the first and last well pulverized, and the whole sown broadcast over the beds, will be found to give excellent results. Perhaps well-rotted stable manure, if rubbed fine enough to do no injury to the growing plants, would be better than anything else.

CANVAS-COVERED BEDS.

While we discourage the use of hot-beds for the growing of tobacco plants, we confess to a strong partiality for covering the ordinary open air beds with canvas. The advantages are so many that we have no room here to go into all the details. If burning the seed bed were practiced by our growers, and the beds afterwards carefully covered with canvas, we believe they would rarely experience any trouble from beetles or bugs. The fire would destroy all in the bed, while the canvas would

prevent the entrance of any from the outside. The custom is becoming very general among the Kentucky and Tennessee growers, and their testimony is unanimously in favor of its many advantages. It is not an expensive operation. Boards six inches high placed around the beds and closely fitted at the corners are sufficient. Over these the canvas—common brown domestic will answer—must be drawn tightly to prevent sagging in the centre, and then tacked closely to the board frame. The keen blasts of spring are also kept out and a more uniform temperature is preserved within. On one side of the frame the covering should be so lightly fastened as to admit of its easy removal when the bed or plants require attention or when it is desirable to expose them more fully to the sun. Further on we will allude to what is said to be a sure protection against fleas and bugs by the use of a plant frame or fence around the seed bed, but where the canvas covering is not necessary. Of course where the precaution of burning the seed bed is not adopted neither boards nor canvas will afford protection against bugs, as they are no doubt in the soil and will make their way to the surface in due time.

INSECT PESTS.

The greatest enemies of the tobacco crop are the hordes of insects that come to ravage it. They make their appearance in the seed bed and cease their depredations only when the tobacco is hung in the barn. How to overcome them and secure the crop in good marketable condition, therefore, become the all-important questions. Last year no less than twenty different insect pests were found preying upon the tobacco crop in Lancaster county. Some of them were such as were never known to attack it before. They succeeded in damaging the crop to the amount of hundreds of thousands of dollars. Their ravages extended into the adjoining counties of Dauphin, Lebanon, York, Berks and Chester, but nowhere were they so bad as within a radius of ten miles around the city of Lancaster itself. Some years they destroy the seed beds almost entirely, but at other times their ravages are not so bad.

The first destroyers that came along last year were the members of what entomologists call the *Halticidae* family, or "Flea Beetle." The principal ones were the "Cucumber Flea Beetle"—*Haltica Cucumeris*, "The Downy Flea Beetle," *Haltica Pubescens*, and the "Snow Fleas" or "Spring Tails." It was the second brood of the "Downy Flea Beetle" that ravaged the crop so badly a few weeks before maturity. The question that concerns our tobacco growers is how the ravages of these insects shall be prevented. They did immense damage in some seed beds, destroying thousands of plants. They seem to be the first insects that attack vegetation in the spring. Several intelligent farmers have, in conversation with us, expressed the hope that the severe winter may have killed off these invaders and that we shall not be troubled with them this spring. If they do not come, it will not be because of the low temperature. One species is often to be observed in large numbers on the surface of the snow, hence its common name "snow flea." No amount of cold weather will destroy them, and other means must be sought to attain that end. Their size is so minute that they cannot be caught with the hand. Besides, the largest of them are not more than the sixteenth of an inch long, while others are not larger than coarse grains of powder. They are, besides, able to take long leaps, and when disturbed at once find refuge and safety under the surface of the ground. The small clods especially afford them hiding places.

HOW TO KILL THEM.

As both they and their larva are to be found in the ground the first thing is to kill those already in the seed bed. To do this it has been recommended to drench the seed bed copiously with hot water several days before sowing. This should be done on a warm sunny day, when they no doubt are near the surface. This plan would no doubt kill all it could be made to reach. To keep out the rest, a board or plank 14 or 15 inches high, placed close around the beds, with the earth pressed tightly against it on the outside, has been found effectual.

If neither of these precautions has been taken and the flea beetle makes its appearance in the beds, a different course must be pursued. Drenching the beds with a solution of lime has been found effectual. Paris green in water will also do the work. Persian insect powder kills them, if it reaches them, which, however, it cannot always be made to do. A gentleman reports that an application of sulphur and asafetida relieved him of the annoyances. Carbolic acid and kerosene have been recommended and tried, but with unsatisfactory results. One of the largest and most successful growers informs us that he has always obtained relief by the following method: he extracts one gallon of lye from half a bushel of hen manure; to one part of this fluid, four parts of rain water are added, and with this compound the beds are sprinkled every evening. This remedy deserves to be tried by all grow-

ers, and it is cheap and easy of application. The fluid is besides highly beneficial to the plants, and occasional applications of it are highly desirable even though there are no fleas to be killed. A partial preventive is to plant the outer borders of the plant thickly into black mustard. It comes up quickly and the flea beetle is very partial to it, as it is to cabbages, turnips, radishes and many other plants and vegetables. Lastly, we give the plan mostly in vogue in Tennessee, which is to set several hens with broods of chicks from six to fourteen days old near or in the bed, of course securing the mothers. The chicks are said to make clean work with every species of insect life to be found in the beds, and, at that age, can of course do no harm to the plants. A species of centipede or spider, that frequently girdles and kills the plants, would of course succumb to the various remedies given above. We do not give these remedies as infallible. They have proved successful with some growers, and will no doubt do so wherever they are fairly tried. If one is found not to answer, the farmer should try another. The end in view is worth all the trouble and expense he may go to.

GROW ENOUGH PLANTS.

Go not forget that you cannot well sow the seed too thickly; the danger always is your plants will come up too thick. When they stand close together they grow up thin and spindling, neither the roots nor leaves having room for development. When not crowded they grow a stronger and more vigorous stalk, which will not only have better roots, but bear transplanting better and stand a fairer chance of resisting the insect enemies and the season, to say nothing of maturing earlier. In fact, too much stress can not be laid upon the great importance of having a stand of strong, healthy plants. They will stand drouth much better and pass beyond danger from the cut worm much sooner. Last year the early tobacco escaped the ravages of the flea beetle; a period of ten days' time may make or mar a crop.

Another thing we especially commend to the attention of tobacco growers: Always sow twice as much seed as you are likely to require. It is not enough to have just as many plants as you need, but it is well to have a good many more. In the first place, you have a much larger field for selection. By this plan you are enabled to secure plants more alike in size; this will not only make your tobacco field present a much finer appearance, but it will ripen more evenly, and as the buyers make their usual inspecting tours, they will make notes of what they see, which may put a good many dollars in your pocket. No matter if you have more plants than you need. There are nearly always some who have been careless in this matter and must buy their plants. If your first planting is badly eaten, as it perhaps will be, you have a second supply of vigorous plants to replace them. Last year the cut worms were so numerous hereabouts that a third replanting was required, and the unlucky growers were often compelled to ride weary miles at much expense to obtain the required plants. Every consideration of prudence therefore should induce the tobacco grower to take the necessary steps to provide himself with an ample supply of plants.

Another Method of Raising Calves.

Mr. O. S. Bliss, of Vermont, who has tried all ways of raising calves, prefers uncooked food, and especially a mixture of ground oats and barley, to any other addition to the skim milk; he begins with a small quantity, fed dry, and gradually increases it after a week or two; when the calf is four to six weeks old it is allowed to have all it will eat of this meal, given just after it has taken its milk, with, afterward, all the pure water it will drink.

WHEREAS sheep are kept for the double purpose of direct income in wool, mutton, etc., and the manure they make, it is important that the extra food, or that outside of what the pasture furnishes, should be chosen with care. It would be wise for the American farmer to become better acquainted with cotton seed cake, linseed oil cake, and like concentrated foods. By feeding, and feeding liberally of such foods, the sheep not only grow rapidly, but the manure they make is rich in nitrogenous matters and valuable fertilizing salts. The growth of animals is a means to an end, and when the most money is made from the flock, and the land enriched, the most rapidly the end is gained. The profit of sheep as fertilizers depends largely upon the kind of food that is used.

Mr. Towne experimented by drawing half his manure for a cornfield in the fall, and spreading it, and leaving the other half of the field to be manured in the spring just before planting. The result was decidedly in favor of the fall-manured portion.

Mr. Law adopted the practice of carting manure to the field and spreading it as fast as made, and has better results than formerly.

It is hard to persuade the man nearest the stove that the weather has not moderated much.

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Farm for Sale. HAVING determined to "Farm" low land, and farm it better, the subscriber offers for sale one of the two farms he now occupies IN HOWARD TOWNSHIP. This farm is located on the north side of the Bald Eagle creek, nearly opposite the Borough of Howard. It has a frontage of 30 rods on the creek, with a high bank which never overflows. It contains 200 acres of land, more or less, about 140 of which is cleared. The remainder is woodland. It is well watered, having besides the creek frontage, a well at the house, a spring run traversing the whole length of the place, and several springs in the field, at least two of which are very fine ones, and so situated as to be easily piped to the buildings. The buildings are beautifully located upon a roll of land, a few rods from the creek, upon the public road leading up and down the creek, and within ten minutes walk of the post office, depot, stores and churches of Howard Borough. The house is frame, and nearly new. It is 26x30 ft. in size, two full stories high, containing eight large rooms, with hall both up and down, beside a first-class cellar and attic, both of which are the full size of the house. Conveniently near this is a good bank barn, also nearly new. It is 45 ft. by 80 feet, containing two excellently finished threshing floors, a good granary, first rate stable, and has attached to it a large corn crib, and a wagon shed, 10x45 feet, with a mow overhead. A portion of the land is well adapted to timothy, and has yielded, for its present owner, as high as three tons first-class hay per acre. A good P. K. Dederick hay baling machine, and Fairbank's scales for weighing the bales are now in the barn, and will be sold with the farm, if desired. Other parts of the land are well suited to tobacco culture, and yielded a number one crop last season. Farms with so many advantages as this are rarely offered for sale. It will be sold at a fair price, and on reasonable terms. If not sold soon it will be.

For Rent to a Good Tenant for the coming year. J. A. WOODWARD, Howard, Pa. 1880-1. 1880-1.

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FOR CHILDREN! THE NURSERY. FIFTEENTH YEAR. NURSERY PUBLISHING CO., 30 BROADFIELD ST., BOSTON, MASS. \$5 to \$20 per day at home. Samples worth \$1.00 free. Address: A. STEINSON & CO., Portland, Maine. Chicago is soon to have another big elevator, which will add greatly to the storage capacity in that city. The Chicago and Pacific Elevator Company has just purchased a lot 100x200 feet on the North Branch, which is to be occupied by an elevator of 1,000,000 bushels capacity. There is a lady residing in Wallace' ton, Clearfield county, who never had any teeth, and consequently never suffered with the toothache. Happy fe male.

An Extraordinary Inheritance. A NEEDLE TRANSMITTED FROM A MOTHER TO HER CHILD. From the Louisville Courier-Journal. A most extraordinary natural accident, and one for the discussion of physicians, came to light a few days ago, in which a needle taken into the foot of a lady one year ago, worked out of the thigh of her third child, a baby of one year. The lady in question is the wife of Mr. Harry Isaacs, the cigar maker, who lives on Market street near Wenzel. At the time of the accident Mrs. Isaacs was unmarried, and was then Miss Pauline Coblenz. The needle was encountered in a carpet and penetrated her foot the full length. A physician was called in immediately, but the needle could not be found, although it was known to be in the foot. She suffered great pain, and for four months was unable to leave her bed. During that period three physicians made frequent attempts to extract the needle, and the knife was used extensively, however, without success. Miss Coblenz was quite fleshy before the accident but fell off greatly from her long confinement. At length she was able to get about with the aid of crutches, but she continued to suffer from the needle. The pain decreased gradually from the time she was able to go about, and she regained her former fleshiness. Finally she felt the needle only at periods, when there was a change in the weather. The movement of the needle seemed to be upward, and the point was not stationary but moved with the needle. About five years ago she was married to Mr. Harry Isaacs. Three children are the fruit of that union, the youngest of which is a boy named Arthur, who is about a year old. The pain which troubled the mother left her even before the birth of her child, and the total disappearance of the pain she was wont to feel was a subject of remark and pleasure to her. On Monday a week ago her baby, who had since its birth manifested a kindly disposition, was very restless and cried unceasingly all night. The cause of the child's ailment was not discovered until the following morning, when in giving it a bath the mother discovered something black protruding through the skin of the child's thigh. She caught hold of it and was frightened when she found the thing of a resisting substance. She, however, used a little force, and soon extracted the dark object. Imagine her surprise when she found it was a needle, black and corroded. The eye broke off in her hand while examining it. The recollection of the needle, which had caused her much pain, came vividly before her mother, and she felt keenly for her child. The remembrance of her relief from the pain also forced itself on the mother, and the connection of the two served as a clue as to how the needle came to be in the child's thigh. The mother says it would be almost impossible for the child to have taken up the needle without her finding it out, as the child would have made it known in piteous cries as it did when the needle worked out.

A Murderer's Effects. PHOTOGRAPHS OF HIS SHOES, VEST AND OTHER ARTICLES. PHILADELPHIA, March 23.—John L. Cope, of Norristown, is engaged in making a large number of photographs of the articles left behind by the Valley Forge murderer in his flight. There are six different negatives, among them a copy of the little girl's picture found in the burglar's coat-pocket. The latter copy will be sent to each of the forty-two Baltimore photographers, in the hope that by this plan the little girl's name may be discovered. A photograph has been taken of the Congress gaiters the murderer left. One of them has five slits in the leather above the heel and the other has a large piece cut off the end of the sole. The third negative is a picture of the card containing the name of Edward A. Johnson, and the fourth contains the name, "Ella Shipp." A fac simile of the writing on the paper in which the picture of the girl was wrapped is also shown, bearing the address, "Mrs. Jones, West Lafayette street, 29." A picture of the murderer's vest has also been taken.

Since Peter the Great died in 1725 no less than five of his successors have been put out of the way by violence. In 1725 Peter II, his grandson, was deposed and afterwards killed. Ivan IV, a grand nephew of Peter, was proclaimed emperor when an infant in 1740, but he was immured in a dungeon for eighteen years and Elizabeth, daughter of Peter, reigned during his captivity. He was murdered in 1764 lest he might prove a dangerous rival to the ambition of Catharine II. In 1762, Peter III, drunken Peter, husband of Catharine, was deposed and died mysteriously soon after, but his death is believed to have been no mystery to his amiable spouse, Crazy Paul, the son of Catharine, was found dead in his chamber in 1796, the victim of a conspiracy of the palace. Last in this list in a government of despotism limited by assassination is Alexander II, the grandson of Paul. It is truly a dynasty of blood and crime.