THE CULTURE OF HOPS.

Mr. James Ferris, of Otsego County, New York, in answer to a correspondent of the *Cultivator and Country Gentleman*, furnishes the following admirable and comprehensive article on hop culture :—

"Hops are now raised with varying success in nearly every Northern State and Territory, and quite well south also, but I believe there are very few sections which are truly adapted to their culture. Chief among these sections which may be peculiarly adapted to the growth of that plant, stands Central New York, whose four counties, all right here together—Otsego, 'Oneida, Schoharie and Madison—now produce 60 per cent. of all American hops grown, and have always been the main supply of hops in this country. Likewise, the county of Kent for 100 years has been the producer of three-fifths of all the hops grown in England. A variety of causes have worked to produce this, but I believe certain physical conditions especially fit these sections for the culture of the hop.

"LOCATION -SOIL-PLANTING.

"The hop does not require too warm weather, for the quality is not good when it is forced too rapidly. It rather requires a section where the summers are cool. Viewing the map, we find Bavaria situated at the head waters of the Danube and Rhine in Central Europe, cool in its high elevation; Kent tempered from excessive warmth by its proximity to the ocean; Central New York, a water shed dividing the rivers flowing in one direction from those flowing in another, elevated, and consequently cool; and may this not be the very reason why hops from Washington Territory are worth two cents more a pound than those from Culifornia, as Emmett Wells states ?

"J. W. F. asks if much experience is required in raising hops. I would answer yes, more than for most any other crop; but with proper directions in the business, I know no reason why a green hand should not succeed. A good treatise on hop culture would be an invaluable aid.

"The soil on which hops most delight is a rich loam or calcareous sand, and when these are situated on a calcareous bed, the plants will continue to flourish much longer than they would otherwise. A deep soil is preferable, for in this the roots of the hop will extend in some instances to a depth of eight or ten feet, and heavy manuring may be done. Manures which contain potash and lime are best suited. In autumn, growers usually place on each hill from one to three shovelfuls of barnyard manure, which serves not only to enrich the soil, but as a mulch, protecting the plants during winter. This is removed in spring. "In securing the location for a hop yard, choose

"In securing the location for a hop yard, choose one not situated low, nor near buildings, hedges or bushes, or woods, for so sheltered, there is liability to lice and mould. Nor is it best to have the location too much exposed, heavy winds being very damaging. Judging from my experience, the best of all locations in this section, owing to our prevailing winds, is a hillside facing the east.

In planting a hop yard, there are three important things to be considered : First, the soil should be well prepared, made mellow and rich to a good depth. Second, sets of a good variety-as there are always lots of inferior varieties or of regular male hops upon the market-should be chosen. These are cuttings from the heavy root-stocks; they should be trimmed off in autumn or early spring, and cut a week or two before planting into pieces containing two eyes each, all portions which are poor being closely rejected. Third, planting should be done as early as the season will permit, to be attended with the best results. Three of these pieces of the root, or root-stock, should be placed in each hill, covered two inches deep, and the hills in straight rows about eight or nine feet apart each way. The cultivation the first year should be | are often grown.

perfect to ensure a good growth of the plants. No hops are expected the first year, and potatoes or com may be planted between the rows. But I have an objection to corn, and would prefer potatoes, as the former may injure the hops by its excessive shade.

"As the hop starts with the first shoot of vege tation in the spring, as soon as the frost is out of the ground the work should begin on the hop yard, with full force. Poles should be set, or what other means are employed for training, should be arranged immediately. The hops should be ploughed and grubbed at once, so that the ground may warm up to hasten the growth.

"TRAINING AND HARVESTING.

"Various devices are employed in Central New York for training hops. Formerly two poles to a hill were almost exclusively used, but since poles have become more scarce, various substitutes have been used. One arrangement uses stakes about 7 feet long, over the top of which strings are run each way of the row. This plan has not been received very favorably, as the hop vine prefers climbing up, instead of climbing horizontally, Various and complex methods of using twine have been gotten up and patented, but they have pretty generally proved inefficient. The simple system of using one poll to the hill, and twine running obliquely from the bottom of one pole to the top of the next, down to the next, and so on, by the test of time, seems to standahead, and is, I believe, the cheapest, most practical, and best way to grow hops to-day. "A new method of training hops employs large

poles and wire, and does away with the common hop pole entirely. These large poles are to stay in the ground the year round. They are placed at about every fifth hill, and for good results should be 20, or at least 18 feet above ground; but they are often used less. A wire is stretched on the top of these poles over each row, to which twine is fastened from each hill. Stakes are driven in the ground at each hill to tie the twine to. It is better when these stakes are about 4 feet long, but they may be only long enough to tie to. The wire rests in a hook, and when the hops are harvested it is let down. There is no patent on this, and it is rather cheaper than poles. However, some serious objections are urged against it. The strings are liable to break from the wire, and the vines killed by whipping in the wind. But I believe if good, strong twine is used, the wire is stretched tight, and stakes 4 feet long are used at the bottom, there will be little trouble. J. W. F. speaks of fence stakes to run the wire over. These would not answer at all, as the wire must be up high to give the hop plenty of run-way, or the yield will be materially reduced.

"When the vines arrive at sufficient length, those which are intended to grow are immediately selected and tied to the pole about which they are to twine. The rest are carefully trimmed off. The vine should always be kept closely twining, as it grows, much faster when it has something to cling to. All the season, up to harvest time, or when the growth becomes so dense as to prevent it, the ground between the rows should be kept mellow, with cultivator or plough; and hoeing usually occurs about three times; first, in early spring, second, when the unnecessary vines are trimmed off, and lastly, just before blossoming, when some growers make a practice of hilling up their hops, which does not accord with my notion, and which is fast going out of practice.

" It is a difficult matter to tell just when the hop is fit to harvest. This should be determined by the smell, quantity of lupuline, moisture, etc. As some ripen sooner than others, it is best that some become slightly red by being over-ripe, before all are picked. Eight hundred pounds to the acre may be considered a fair yield, but on fertile soil, with ordinary management, 1,200 and 1.500 pounds are often grown.

"The picking is done in boxes, at a stated price per box. The hop box of New York State generally holds ten bushels, with the following dimensions: Four and a half feet long, two feet deep, and one and a half feet wide. Two of these are generally built together for convenience in carrying, and two boxes so built are arranged together, to accommodate four pickers, and are tended by one box-tender.

"The curing is done in a kiln. The kiln usually occupies about half of a building devoted to this purpose, the rest serving for storage. This apartment is tightly plastered, though air is admitted freely below, and passes off through large ventilators above. In the first storey large stoves are placed directly on the ground, capable of maintaining a heat of from 140° to 160° without difficulty. At from 15 to 20 feet overhead. a good height being an advantage, is placed the floor which is to receive the hops. This consists of slats, covered with a cloth admissible of heat. In drying, brimstone is used when the hops are yet moist, as it is needed, and no art should be spared to secure just the right color and the right degree of dryness."

MAKE SHELTER FOR YOUR HOGS.

In speaking of the importance of shelter for hogs the National Live Stock Fournal says :---

"We suppose there has been improvement made in feeding places of swine during the last ten years, but we fear there are many farms yet where hogs must dive in several inches of mud for their feed. The price paid for fat hogs is not as remunerative as it has been, and farmers would naturally be expected to avoid all unnecessary losses in the process of fattening. If pigs are exposed to the weather, they must be warmed by extra food; if they sleep in a wet place, they must constantly supply heat to warm up this nest. A dry bed will remain warm when once warmed up, but a wet bcd is constantly carrying off heat, and all this heat is supplied by the food, and this food is all lost for want of a little care. We have known many cases of this kind where one-half of the food was thus thrown away for the want of a little enterprise in giving the hogs shelter and a dry bed. The corn, to warm the pig, is burned as effectively as wood in a stove, and is wholly expended in keeping up heat. The weather is sometimes so cold that it requires all the pigs eat to keep them warm. Can any farmer afford to throw away his food in this style? We have no doubt that, in certain cases, more is thus lost in one year than it would cost to furnish the shelter for ten years.

The feeding place should have a plank floor as it cannot otherwise be kept dry and clean. It should be cleaned as regularly as a cattle stable. There is no more reason for cleaning a cattle stable than a pig-pen. In new places, where lumber is difficult to obtain, a shelter may be made with thatched corn stalks or straw on roof and sides, and a few barbed wires will protect the sides from injury two feet up from the bottom. Such a shelter, well made, will be warm and serviceable for several years.

"It will be found necessary to look closely after all the economies of the business of feeding pigs this year, and where warm shelter is not provided, the fattening should be pushed as rapidly as possible, to fit them for market before severe cold weather comes. More can be done in one month of mild weather in the fall than in three in cold winter weather without protection. In all localities where flax-seed is raised pig feeders should supply themselves with a few bushels, to be given in small quantity, say one-half pint to each pig 1 er week, to keep the digestive organs in good order Flaxseed is both laxative and cooling, and is an antidote to many diseases. It is much better than cathartic medicines. It is both food and medicine."