

is more palatable than the best Mercer or any other potato. Its taste and flavor are intermediate between the finest potato and arrowroot, of an exceedingly delicate farinaceous character, and like the potato, it is devoid of all insipid sweetness. It is free from any ligneous or fibrous substance, and possesses the peculiar property of not being subject to rot or decay, but will remain perfectly sound and excellent in a dry state for a year, thus rendering it exceedingly valuable for long sea voyages, and for the prevention of scurvy. It is much more nutritious than any other edible vegetable used by man, and more so than wheat or any other grain. It is the only vegetable of all the earth which combines an ample portion of Azote, the grand constituent of animal substances which impart vigor to the muscular power of man and beast; and it is by the possession of this essential equivalent in this esculent that the use of animal food is rendered unnecessary by the Chinese and Japanese nations, whose immense populations comprise nearly one-half the inhabitants of our globe.

The culture of this most estimable and productive of all vegetables, on the sandy soils of the south side of Long Island, and throughout the sandy region of the Atlantic portion of New Jersey, which are of a character precisely adapted and congenial to its growth and development, and where the crops will consequently be much greater than in other locations, must impart a value to those lands which no one has yet anticipated; and they may soon command higher rates than any of the firm soils of the north side of the Island or of the upper section of New Jersey.

PREPARATION OF THE SOIL.—The ground for planting tubers should be rendered mellow and permeable to the depth of fifteen inches, and for roots to the depth of twenty inches. Old decayed stablemanure, or decayed peat or wood mould, should be mixed moderately throughout. Over-manuring is injurious, and pondrette is unsuitable.

PLANTING.—The season for planting is as soon as the freezing has ceased, and the ground has become settled.

Tubers.—These should be planted in a double row—the rows twelve inches apart, and the tubers ten inches apart in the rows.

Roots.—The sections of root should be about one and a half inches in diameter. They should be planted in a double row—the rows fifteen inches apart, and the roots at twelve inches apart in the rows.

There is no plant whose culture is more simple and easy than that of this yam.

Its extensive cultivation promises to our country a vast and inexhaustible resource, derived from such soils as have hitherto been most unproductive and unpromising. It will supersede and far more than replace the failing and uncertain crops of the potato, with the addition of this potent and comprehensive fact, that this esculent will succeed and yield ample and reliable crops throughout all the northern sections of the country, where the potato never has been, and never can be grown with success.

WM. R. PRINCE,
Linnæan Nurseries.

Flushing, New York, May 16, 1868.

NOTE BY ED. C. F.—We publish the foregoing communication, without, of course, endorsing it, having had no experience of the yam in this country, though many years ago our lot was cast where it was a principal article of diet. Our American exchanges speak favorably of it; and experience only can determine its value as a Canadian farm crop. There could be no harm in a cautious experiment next season, the time having passed for trying it during the present year. No Canadian will agree with our correspondent's assertion, that potato-growing has proved a failure in the north.

THE YELLOW ABERDEEN TURNIP has been found one of the most profitable varieties for field cultivation, being more solid and substantial, and containing more nutriment than most of the flat turnip family. W. A. Underhill, of Croton Point, N. Y., who has had much experience and success with root crops generally, has raised his own seed of the Aberdeen for the past fifteen years, continually selecting the best and most compact specimens for this purpose. He informs us that during this period he has improved the variety so much, that they weigh five pounds more to the bushel than at the commencement of his experiments.—*Country Gentleman.*

Hop-Growing

The *Rural New Yorker* cautions its readers against giving way to the rage for hop-growing, and says, very properly, that there is danger of its proving a losing affair with many. At present the demand for hops causes high prices, but before long this state of things may cease, and hop-growers burn their fingers. No one should embark in this or any similar undertaking under circumstances that would render a decline in prices, or total failure, ruinous. Some localities are specially favourable to this business. Good soil, cheap poles, abundant and cheap help, exemption from insects, and proximity to market, form a combination of most advantageous circumstances in certain cases. Still, prudence is wise and commendable. Especially is it of importance that no one should be in such hot haste to go into this business as to attempt to make a hop garden unless the land is in a good, rich, clean, mellow state. We know of some who are attempting to transform poverty-stricken sod ground into a hop-yard. They will find it up-hill work, and accomplish but little for their pains. Land of the very best description, with a deep tilth, and free from weeds, is necessary to success in hop-raising, and it is far better to spend one season in thoroughly preparing the ground, than to plant under circumstances that forbid the hope of satisfactory results. In such cases the maxim is of pertinent application, "make haste slowly."

A Handy and Powerful Lever.

Is working in soft ground, whether at pulling stumps or moving stones, the great want is a firm place to set the lever. We exhibit in the accompanying engraving a lever, which requires a very simple base, and if rigged with a pulley or "block and tackle," as shown, may exert a great lifting power. For such lifts a crooked lever has many advantages. We witnessed a short time since, the operation of such an one, and were struck with its utility. The ring to which the powerful inch-iron



Look is attached should perhaps pass through the bar closer to the inner angle than is represented. It might equally well be made so as to slip over the bar and hold in a notch on the inner side. Such a lever may be seven to nine feet long, and made of oak or hickory. It may be operated by hand, by attaching the upper end of the rope to a stump and pulling down upon the lower end; or by horses or cattle, by fixing the lower end and carrying the upper one off to where the team may be conveniently and efficiently used.—*American Agriculturist.*

LIMING HAY.—Liming hay that is put into barns in a partially cured state has been recommended by numerous agricultural writers within the past three years. A contributor of the *Prairie Farmer*, Chicago, gives corroborative testimony in favor of air-slacked lime for preserving clover hay which had been imperfectly cured. He says he applied a peck of lime to the ton—sprinkling each layer as it was put into the mow. The result was, it came out bright and green—all stock eating it greedily, and thriving well upon it. Clover and some other grasses lose much of their nutritive properties by being cured in a mow, or if left in the field too long, exposed to sun, rain, and dew.

Haymaking.

Grass and clover, when ready to be cut down, contain a considerable quantity of sugar, gum, mucilage, albuminous and other soluble compounds, which are all liable to be washed away by heavy showers of rain. As long as grass is still quite fresh, rain falling upon it has little or no injurious effect, for fortunately a coating of waxy or fatty matter covers the epidermis, and wraps, so to speak, the whole vegetable matter in a waterproof mantle. Rain, for this reason, may fall for days on newly cut grass without doing any injury to it; but the case is very different if, by repeated turnings, the crop has become more or less bruised and rain then descends upon the half-made hay; not only are sugar, gum and other soluble matters then liable to be washed out, but the bruised state of the plants, admitting at least a partial diffusion of the various constituents through the lacerated cell-walls, induces fermentation, which, if not checked at once, causes further loss. During the fermentation soluble albumen and sugar are destroyed—two of the most valuable elements of nutrition. In showery weather, grass recently cut should, for this reason, not be turned over more than is absolutely necessary, and under all circumstances it is desirable to handle the crop as lightly as possible, in order that it may not get much bruised.

I have seen farmers spending labour in turning hay on overcast days, on which a dew-point hygrometer showed the air to be nearly saturated with moisture, proving that evaporation could not possibly take place at the time, and rain might be expected at any moment.

As long as grass and clover are still quite fresh, the proportions of water to sugar in the green plant are too large to encourage fermentation; the nitrogenous constituents in newly-cut grass, moreover, only become ferments after the vitality of the plant has been destroyed, and the vegetable cells and vessels have become ruptured by partial drying, and their contents have been mingled together. With the evaporation of water, and the more or less complete destruction of the living organization of the plant, the conditions become more favourable for active fermentation. Should the weather unfortunately turn showery at that stage of the haymaking process, and the air become saturated for many days and weeks together, the half-made hay often begins to ferment already in the field. When this takes place, the hay loses in quality, and becomes much more liable to heat afterwards in the stack. If, on the contrary, fine and warm weather sets in, and evaporation sets in with rapidity, the percentage of moisture soon sinks sufficiently low to prevent altogether, or greatly to retard, fermentation. The hay remains sweet and shows far less tendency to heat in the stack, even if it actually contains more moisture than hay made in unfavourable weather. The more quickly the hay can be made in the field, and the less it gets bruised, or loses colour there, the less likely it is to heat in the stack. Much hay is injured, however, when it is quickly made and in a fine season; it looks to be ready before it is so.

If dried ever so much and ever so carefully in the field, hay nevertheless heats to some extent in the stack. A slight fermentation, so far from being injurious, may be useful, for, as is well known, peculiar aromatic principles are thus generated, which certainly renders hay more palatable, and, it may be, more nutritious. As long as the green colour is retained, there is no danger of the hay losing in quality, but if the heat in the stack becomes so intense and continuous as to turn the hay decidedly brown, I have no hesitation in saying that considerable loss in feeding matter is incurred.—*Dr. Voelcker in Journal of Royal Agricultural Society of England.*

Ditching Machine.

A DITCHING machine has recently been brought out and patented in the United States by an American inventor, which is well spoken of by parties who have seen it in operation. It is known by the name of the Sawyer and Barber Ditching Machine, and is manufactured by A. D. Rickett, Arlington, Ohio. It can be worked, we understand, with one horse, and is said to be adapted for almost any ordinary soil. Farmers in Northern Ohio, we are told, are using them extensively. In that section of country it is customary for the owners of this machine to execute ditching at the rate of ten cents a rod. The machines are made of different sizes, the smaller, to cut from one to three and a-half feet in depth, and the larger to cut from one to four feet deep, and eight or nine inches wide. There are many places in this country where such a machine is much needed.