

Agricultural.

Onions from Seed.

Those intending to commence Onion-raising on new ground another season, will do well to make preparation of the soil this fall, and have it ready for operations at the earliest opportunity in spring. It is of great advantage to sow Onion seed early, and the best way to ensure it is to do all that can be done in the fall to make the soil ready, for, if left until spring, it will take longer to dry than if it is left light and loose in the fall, and then there is not only the time required for its preparation, but, very probably, considerable delay by frequent storms at that season. In order to bulb well, Onions should have all the chance possible to make their early growth while the ground is cool; seed sown late, when the mean daily temperature is already high and increasing, may vegetate promptly, but the young plants make a very spindling growth and never produce as good bottoms. Old Onion growers understand all this, and do not need to be reminded of the importance of the early preliminary work.

Good Onion crops can be produced on a variety of soils, from sandy loams to clayey loams, and alluvial bottom lands containing a large amount of carbonaceous substance of vegetable mold. Soils of the latter character are probably best, but the land must be well drained; this last remark is true of all land on which Onion culture is to be undertaken, but it is not so frequently necessary on rolling uplands to underdrain as on the lower lying bottom lands. Good crops are often secured on such lands by a system of draining with open ditches; generally, it may be considered that this method is more expensive ultimately than substantial underdraining, but there are localities where it can be adopted to advantage. On most clayey loams underdraining may be considered absolutely essential to secure the best crops of Onions, and this preparation should be made with full confidence that the expense will soon be made in extra crops. A good, sandy loam is very desirable soil for Onions, and good crops may be raised on quite sandy soils with proper management and manuring. Level ground is more desirable than that having much slope, as on the latter the washings by heavy rains would be injurious. Land should be selected if possible that has just been in some hoed crop and that has, thereby, been left free from weeds.

Deep plowing and harrowing the surface until fine are operations essential to a good crop. It is well to delay the fall plowing as late as possible, but it should be done when the ground is dry, and can be left in rough furrows all winter. Old or well-rotted stable manure should be used at the rate of twenty cords to the acre on most soils. Fresh manure should be carefully avoided, as it contains many weed seeds which would immediately germinate and, consequently, cause much extra work in weeding after the crop is up.

When barn-yard manure of sufficient quantity or of proper quality cannot be procured, artificial fertilizers may be used; of these, Peruvian guano and bone-dust can probably be used to best advantage, and should be applied in the spring and worked in during the course of pulverization. Ashes are sometimes used at the rate of one hundred to two hundred bushels to the acre. It is generally agreed by experienced Onion growers that mellowing the soil deeply is a disadvantage rather than a benefit, as in that case the roots strike deep and the Onions do not form good bulbs, many of them being what are called bull-necks, or Scallions; consequently, if the cultivator is used in working the soil it should be set so as not to run more than about five inches deep, and on light soils the use of the harrow will be all that is necessary. This work should be done as early in spring as the ground is dry enough to work. It requires about three weeks for Onion seed to germinate, and it should be got in with the least delay possible. Having the soil in proper condition, fine and mellow, the seed can be sown very rapidly with a good seed-drill. It should be in rows about twelve inches apart. If the seed is to be sowed by hand a line should be used to keep the rows straight; draw a drill by the side of the line, about half an inch deep, and drop the seed as evenly as possible, about a quarter to a half inch apart, and then cover by drawing a little soil over, or by spreading sand along the drill. Another way of sowing is sometimes practiced, and is thought to facilitate weeding and hoeing the crop; this is by

distributing the seed in little clusters or circles about six inches in diameter, keeping the centres twelve inches apart each way; however, drilling in continuous rows is the generally accepted method. If all the work of cleaning and cultivating were to be done by hand and hoe, the cluster or hill method might present advantages, but with wheel-hoes and hand cultivators there is none. The implements referred to are now offered in forms so improved and perfected, and are such valuable aids in cultivation, that no one having much work to perform, of the kind to which they are adapted, can afford to be without them.

Onion seed is a crop of considerable uncertainty to raise, and the amount of it produced from year to year is quite variable; as it is poor seed to keep, retaining its vitality but a short time, the price of it is subject to great fluctuations. It may be offered one season at a dollar or a dollar and a half a pound, and the very next spring be worth from four to five dollars. A little reflection will enable our readers to perceive that there is no safety in turning aside, in time of scarcity, from respectable dealers who have a reputation to maintain, in order to buy Onion seed at a low price. No one can afford to carry his stock over at any time on account of its poor keeping qualities, and if it is unusually valuable the more necessity is there for him to sell; to fix an exorbitant price, therefore, and to maintain it, would be practically impossible. On the other hand, the temptation is very great at such times for irresponsible parties to pour into the market old seed at a comparatively low price. One cannot afford to take any risks in purchasing Onion seed, as the expense of propagation and the value of the prospective crop are too great to admit of any avoidable chances.

The staple varieties for general crops are the Wethersfield Red and the Danvers Yellow. Particular markets may demand white varieties to some extent, when White Globe can be raised for the main crop, and the Silver-skinned for very early use.

As soon as the young plants are fairly up, cultivating and weeding should commence, and be persistently continued until the crop is out of danger. A delay of a few days in weeding may result in the loss of a great portion of the crop. If any appearance of wilting or turning yellow of the plants is noticed, immediate inspection of them must be made, for this indicates the work of the Onion-maggot, which sometimes does considerable damage. The Onion-fly (*Anthomyia ceparum*) lays its eggs on the Onion, and the larvæ when hatched gnaw into the centre of the little Onions and destroy them. All affected plants should be pulled up and burned. Soot is the best substance that can be applied to prevent the work of the insect, and next to this is powdered charcoal; lime, salt and ashes will all do good.

Mixed Farming, as Generally Understood and Practiced, a Snare and a Delusion.

BY HON. HIRAM SMITH.

I am well aware that the opinions I intend to present will come in direct conflict with the opinions and notions long entertained by the great majority of farmers of the present day. Mixed farming has been highly extolled and recommended by most of the politicians and professors who have addressed national and international agricultural associations, and has been echoed, parrot-like, by many young lawyers and doctors who have addressed thousands of agriculturists. We read its praise in hundreds of paragraphs and editorials in the agricultural papers of the day. Therefore it is no wonder that unthinking farmers should believe in and practice the delusion.

Briefly stated, mixed farming consists in raising to sell, a few cows, calves, horses, colts, sheep, beef, pigs and poultry, fruits and roots, hay, butter and cheese, corn, rye, spring and winter wheat. And in the language of the old song:

"Oats, peas, beans and barley, O."

The theory of the advocates of mixed farming is, that by raising a great variety of crops, if one or more crops should fail, there would be others to fall back upon. This plausible but delusive theory is predicated on the notion that farming is not a question of science, but is a question of luck.

There are many farmers in our day more intent on planting in certain stages of the moon than they are in the pulverization of the soil; more confidence in certain breeds for milkers than they have in June-cut hay and ground feed; more faith in boring holes in the horns of sickly cows than in

warm stables. More money is invested in the purchase of new varieties of highly pictured fruit trees than in pruning the vines and trimming the trees. All these past and present errors are the legitimate result of the widespread notion that farming, in all its varied branches, is not a science, and therefore needs no special education and training to insure success, while all admit that if a young man is designed for the law, the medical profession, the clergy or the counting room, he should attend some good school or college, and attend two or three years a special course of lectures, to fit him to commence his life work. He is expected to have time and opportunity afforded him to learn the history and the theory and practice of the lives of the most successful men in the profession he has chosen. A liberal education in the arts and sciences, in the laws of nature, in the history of nations, communities and men, enables him to form quick and correct judgment of the influences that control the action and conduct of men.

But in the case of the farmer the opinion largely prevails that a boy who has drudged in the treadmill of his father's farm can emerge from his teens a full-fledged farmer, fully competent to engage in mixed farming. They say he was brought up on a farm, and knows all about it. He may be and often is ignorant of the difference in soils, knows but little about the nature and properties of the manures he ought to use, or what crops he could most profitably produce in the particular locality in which he lives. He knows but little of the laws of trade, of the actual supply and probable demand for the various crops he is trying to produce; he has had no teaching in the intricate principles involved in successful stock breeding; he has not a superficial knowledge of who his real competitors are, and whether their natural advantages do not greatly outweigh his closest economy and severest industry. The best he can do is, to guess whether it is better to sell his hay, oats and corn, or put it into pork, beef or dairy products. He may spend a quarter of his life in raising wool on high-priced land at a loss, while his real competitor is growing rich raising wool on cheap land. An intelligent understanding of the natural advantages pertaining to his locality, and a thorough training in the proper business adapted to that locality, might have made him rich, contented and happy, instead of his unrequited labor, disappointed hope and financial failure. It is as absurd to suppose that any one man can become a successful horticulturist, a skillful cattle breeder, a proficient in raising grain, and a competent dairyman, as it would be to suppose any one man could be an able lawyer, a skilled physician, and a successful merchant. It takes the best years of man's life to become master of any one of these branches of agriculture, or either one of the so-called professions. Farmers might and ought to learn a lesson from the management of nearly all other kinds of business, and take some one branch of agriculture and make that the main business of life. It matters but little what that branch may be, if pursued with growing intelligence, so as to utilize the natural advantages with which it is surrounded. If raising grain should be the chosen occupation, then all other business should be subordinate to the main object in view; then accumulated knowledge and experience should determine the proper rotation of crops, the manufacture or purchase of fertilizers best adapted to increase the yield, in the purchase of labor-saving machinery, and only such as is best adapted to aid this main object of raising grain. If the occupation of dairy farming should be selected, then all inquiry, observation and experiments should be directed to make all crops raised contribute to the success of the dairy, the proper selection of cows, the most careful treatment, so as to promote health and contentment among them, for in this contentment largely consists much of the profits of the enterprise, the management of the pastures and meadows, the keeping up of a continuous supply of just the right kind of food, in its best possible condition, to produce the cheapest milk, the converting of that milk into butter or cheese in its greatest perfection at the least waste of labor. The care of these products, while held in the manner, time and place for disposing of them, necessitates as close observation, as deep study, as long and patient labor, as it does to become a master mechanic or a D. D. in any of the learned professions. Fifty years ago, "Mixed Farming" was more of a necessity than at present. Exchanges were made of the products, instead of selling and buying for cash. I well remember, when a boy, that a certain manufacturer of hoes came every winter through the country and exchanged his hoes