

## Reaping Machines in Scotland.

On Saturday an extensive trial of reaping machines took place under the auspices of the United Agricultural Society of East Lothian. The competition took place on the farm of Athelstanford, near Drem, where Mr. Douglas, the famed breeder of farm-stock, had provided a field of 65 acres of barley, divided off into lots of about 1½ acres, and a field of oats of 40 acres, divided into lots of nearly an acre each. The weather was extremely favourable for the competition, and the crop cut was in capital condition. The barley was on a nearly level field, and was a full average crop; the oats, which were in a field with a gentle slope, were light in the straw, but fully up to the average oat crop of the season. Upwards of thirty machines were entered for the competition, but several were withdrawn. 18 machines in all took part in the competition, displaying fully the different principles of construction and working of those now in the market. Four were on the self-delivering principle—namely, Samuelson & Co.'s two-horse machine, Brigham & Bickerton's two-horse and one-horse reapers, and McCormick's sheaf-delivering machine, the latter exhibited by Mr. Todd, of Castlemain. The manual delivery reapers were—two by Mr. Halliday, of Haddington, two by Mr. Wallace, Alexandria, Dumbartonshire; two by Pixley, Sims & Co.; one Pixley machine exhibited by Mr. Hume, Coldstream; a two-horse band-delivery reaper by Mr. Gray, of Brownrigg; a two-horse reaper, by Brigham & Bickerton; a "Buckeye" combined reaper and mower, by the same firm; a Gardner & Ainslie machine, shown by Mr. Reid; and a new two-horse reaper, by Messrs. G. and W. Porteous, of Haddington. There were also one of the "Eclipse" one-horse machines of Samuelson, and a one-horse "Excelsior" of Brigham & Bickerton. The extent of the competition brought together a large number of the leading agriculturists of Scotland, and the beauty of the weather brought out a considerable number of ladies and gentlemen to witness the interesting sight. Among those on the ground were the Marquis of Tweeddale, the Earl of Wemyss, the Earl of Haddington, Lord Chelmsford, Lord Elcho, M.P. for the county, Lord Walden, Sir Hew Dalrymple, Sir George Grant Suttie, &c. The judges were the Marquis of Tweeddale, Mr. Henderson, Byres; Mr. Smith, Stevenston Mains; Mr. Wyllie, Bolton; and Mr. Russell, Coalstonemains. The reaping began on the firing of a gun shortly after 11 o'clock, and concluded about 5 in the afternoon, an interval taking place between the cutting of the barley and the oats, during which time a large party of gentlemen dined in the tent, when the chair was taken by the Marquis of Tweeddale. After the allotted spaces in the two fields had been cut, the judges went minutely over the work, and also inspected the mechanism of most of the machines. They then selected a few for a further trial under their own immediate view, and after consideration gave the following awards.—For manual delivery machines—First prize, Halliday, Haddington; second ditto, Brigham & Bickerton's "Buckeye"; third ditto, Halliday, Haddington; fourth ditto, Wallace, Dumbartonshire, fifth ditto, Humes, Pixley; sixth ditto, Wallace, Dumbartonshire. For self-delivering machines—First prize Samuelson & Co.; second ditto, Brigham & Bickerton's two-horse. For the best reaper in the field, Mr. Halliday, Haddington. The machine placed first is the same as that with which Mr. Halliday took the first prize at the competition at Yester in the same district in 1861, but with considerable improvement. It differs from the machine placed third in having a compound acting guiding wheel, by which the machine is easily turned, and which has the merit—of considerable importance on a grass bottom—of not cutting up the soil however sharply it may be turned. Both Halliday's machines are provided with a very simple arrangement, by which one lever throws the machine out of gear and at the same time lifts the knives out of the ground. This is by many deemed an advantage, though it has been objected that, as the knives cannot be lifted without stopping the cutting, there is not the same facility for clearing obstructions, such as stones, as is given in reapers where the actions are not conjoined. The beautiful balance arrangement for lifting the knives in Samuelson & Co.'s one-horse machine was much admired. There were, however, no prizes given for one-horse reapers. Brigham & Bickerton's machines, of which there were five on the ground, took both the second prizes. The "Buckeye" is a strong and rapid working machine, and gives great satisfaction. Mr. Wallace's reapers, which stood fourth and sixth, differed from each other in the arrangement of the wheels—one of them having two large wheels, while the other was constructed with one only. The Pixley machine, shown by Mr. Hume, started very late, owing to its detention on the railway, but succeeded in taking its place in the prize-list. The easy draught and excel-

lent working of Samuelson's self-delivery machine won it the first place in that class. Its light draught is materially assisted by the action of the teeth, which pass through two fingers at each revolution, thus lessening the number of revolutions necessary to give speed to the cutters. The same arrangement is used in the "Eclipse" machine. The band-delivery machine of Mr. Gray excited considerable attention by its novelty. In it a girl follows the machine, placing a "whippie," or binding-straw, on the tilt-board after each sheaf is delivered. The band is thus found lying beneath each sheaf on the ground. In every respect the competition went off well, and the work done was throughout good. So much was this the case that the opinion was freely expressed that with any of the machines on the ground a farm would be well served.—*Scottish paper.*

## Keeping Potatoes Through the Winter.

FARMERS sometimes sustain considerable loss through inattention to the manner in which their potatoes are stored in the fall. So far as our experience goes, the chief things to be attended to are to see that the potatoes are dry, all sound and sufficiently covered, if "holed" out of doors, to prevent freezing. We have seen potatoes kept in most excellent condition by being placed in a conical heap on the top of the ground, covering the heap with plenty of straw and afterwards with dirt, to the depth of twelve or fifteen inches, according to the climate and exposure; and we have, likewise, had them come out in fine order in the spring from pits dug in a dry place, the potatoes filling the pit to the surface of the ground, and then covered with boards or planks, and dry mould. Of course potatoes cannot be thus pitted underground on soil that fills with water. We find in an exchange, without credit, some suggestions about storing potatoes that seem to us new and original, but whether valuable or not we cannot say. We never had potatoes injured either for seed or table, put up in the manner indicated above. But there may be something in the "ventilation" theory, and we give our readers a chance to try it. The writer says:—

When potatoes are to be put away in pit, care should be taken to keep them as dry as possible and to ventilate the pile so that no confined air shall remain. The best method is to select a high, dry ridge, and when the pile is formed give it a covering of straw, grass or stalks, with a sufficient thickness of earth to render them secure from frost, and then cover the whole with plank so as to turn off the water into trenches, which should surround the heaps. In forming the pile a tube, or several of them, according to the length of the pit, should be extended into the body of the heap and reach to the top of the earth, for the escape of heated air. These may be five or ten inches square, and in very cold weather the opening should be closed with a bundle of straw or hay. Without this precaution, potatoes that are designed for seed, are as much injured as if they were intended for the table. Before planting time they are so much grown and their strength and vigor so much exhausted that their second growth is weaker than the first, causing slender, sickly vines and a greatly diminished crop.—*N. Y. World*

TWO-FIFTHS of an acre of ground in Fitzwilliam, N. H., raised ten and three-quarters tons of turnips this year.

SCARCITY OF WOOD.—The *Railroad Record* says that although the railroads in Ohio, when first constructed, passed through a densely wooded country, yet now on the main lines, wood is disappearing at a rate which will soon put it out of the power of the railroad companies to command wood under a very high price. It states that the railroads of Ohio consume twelve thousand acres of wood per annum. Wood is becoming very scarce in all the older settled sections of the country, and it is high time that more attention was paid to setting out trees on waste.

CONCRETE SETTING OF FENCE POSTS.—There is constant inquiry for some means of setting fence posts so that they will not heave by the frost. The following is suggested as offering at an expense of a few cents per post, an effective way. A hole is dug about as large as a flour barrel, but wider at the bottom than at the top, on two sides at least. This post is set upon a stone laid in the bottom and the whole is filled up rapidly with concrete made of good hydraulic cement, mixed with half as much again of sharp sand or gravel as would be used in making builders' mortar; and during the filling, as many clean stones, large and small, are thrown in as can be buried in the mortar. Posts thus set will be firm as rocks, and will not decay below ground.—*Am. Ag.*

SCANDINAVIAN FENCES.—The sort of fence in general use along the roadsides is of a peculiar kind, differing from what is generally in use for that purpose in middle Europe. It consists of spruce fir trees, split up roughly into triangular pieces, which are placed at about an angle of 45°, with one end sunk slightly in the ground, and so close as to prevent hogs or lambs from getting through them. The whole is then bound with two or three lines of withes, of twisted spruce fir, birch, or willows, at certain heights from the ground; and, in this way a formidable fence is constructed, difficult to get over, as well as sufficiently open to permit the snow to blow through it.—*D. Moore, in Proceedings of Royal Dublin Society.*

THE FIBRE OF THE HOP VINE.—A correspondent of the *Scientific American* says:—"I discovered, some two years ago, that the common hop vine, the *Humulus Lupulus*, contains in the inner bark, like the hemp, very tough fibres, which in our days of high prices of cotton and rags might be turned to useful purposes. No doubt it will answer as a good substitute for rags in the manufacture of paper. It is not so singular that this plant should possess this fibre, when we remember that it belongs to the hemp family, and I would not be surprised if, by looking among the species in the genera of the nettle family (*Urticaceae*), of which the above is a sub-order, we should find some more fibre-bearing plants."

TIMBER SHOULD BE CUT IN SUMMER.—A correspondent of the *Ohio Cultivator* says:—"Recently I had the pleasure of visiting Elder Bradley, of Portage county, who showed me a field which he cut and cleared off in June and July, 1822. Many of the stumps are yet standing and quite sound; the rails made at the same time quite sound and good. Another field cut and fenced in the winter of 1837-8, no stumps standing, rails nearly all rotten or gone. Barn built in June, 1834, chestnut shingles, all sound but much worn; oak sills six inches from the ground—not covered, perfect, & sound; stakes made in June, set top down, stand good, nine years old. Nearly all the sills of the barns exposed, that were cut in the winter season, only last good ten or fifteen years; so says the Deacon. He also says he easily kills all elders and briars by cutting them off to the ground in January; they will only stand one or two cuttings."

WHEAT AND BARLEY GROWN FROM OATS.—The following letter, signed "William Cowper," and dated Wappenhams, near Towcester, Northamptonshire, appears in the *Berkshire Chronicle*:—"It is a positive fact that I grew both wheat and barley from oats. The wheat I continued to grow up to last year, but in consequence of the crop going off, I was obliged to fill it up with spring wheat. The wheat I grew from the Dutch oat was a beautiful quality, small seed, weight 6½ lbs. per bushel, light coloured chaff, fine straw and blade. The wheat I grew for about ten years, and sold lots of it to my neighbours for seed. Now I am growing a coarser wheat that a neighbour of mine grew from the Poland oat. That is a much stronger straw and larger ear, but it is very apt to mildew the last few seasons. The way I adopted was to plant it thin, under a sheltered wall, the middle of June; it then will require to be cut off about one inch from the ground before coming into bell three times the first season; the following year it produces the wheat I spoke of. Many people saw it when growing, it was a very thin berry the first year. The difficulty is in keeping the root to stand the winter. At the Towcester union their produce barley and mine was the same from a coarse oat. Black oats will produce rye the same way."

A NEW CEREAL.—A few days ago a somewhat peculiar specimen of the cereal crop was handed to us for inspection. The ear had a good deal of the appearance of rye in its shape and form, but the pickles bore a much closer resemblance to the best chevalier barley both in size and outline. The most particular thing about it, however, was that the ear had six rows of pickles. There were seventeen pickles in each row, and consequently 102 upon the head. A return of more than a hundredfold is certainly a very heavy one, and it needs scarcely be said that at the present time, when prices are so low, and quantity must in a great measure be looked after as well as quality, agriculturists would be warranted in cultivating a better acquaintance with such a cereal. Our best barley seldom exceeds thirty-four or thirty-six pickles on the head, and the great proportion of it may be quoted at thirty-fold. A cereal which will triple this return is worth looking after, more especially as the pickles on the head which was submitted to us were plump and well coloured, and seemingly little if anything inferior to barley. It may be added that the head was got on the farm of Amisfield Mains, near Haddington, and, we understand, the seed had been sent from England.—*Scottish Farmer.*