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Last issue of the Agricultural Journal, No. 62, was a double number, for the months of October and November. The present No. is also a double number, being for December and January. The February number will be issued before the end of the month.

HALIFAX, 8th February, 1871.

The Annual Reports of the various Agricultural Societies throughout the Province have been received, and we publish in our present number as many of them as room can be found for. The Warrants enabling Societies to draw their Annual Grants will be mailed to Secretaries during the course of the present week.

A perusal of these Reports will serve to show the present actual condition of Societies in the various Counties. It will be seen that most of them are in a very healthy condition, and actively engaged in doing good work; in fact, many of the district Societies were never more actively or usefully occupied than they are at

the present time. At Truro and Yarmouth very successful Exhibitions have been held.

The Sydney Society has added to the Stock of Alderneys, Ayrshires and Short-horns of its district, the celebrated Devon Bull Theodore, whose pedigree is given in our present number, and the Ayrshire Bull "Johnny," who comes from the best Ayrshire Stock in Canada and Scotland. The Society has under consideration a scheme for Biennial or Triennial Fairs in the Counties of Cape Breton, and we hope neighbouring Societies will be disposed to coöperate with the Sydney Committee. The Boularderie Society introduced to their fertile Island the Norway and Surprise Oats, which they say gave general satisfaction, and they purchased two of the Thorough-bred Bulls imported this season,—Sir Halbert and Ontario Farmer,—which are very much prized, being the finest animals ever seen in that part of the country. The Mabou Society, whose Report, like several others, is deferred to a future

number, diffused in their district a considerable quantity of Fyfe Wheat and Norway and Surprise Oats, but their efforts were chiefly directed to the importation of Live Stock. In September they decided to expend the whole amount of funds on hand in the importation of Heifers from Prince Edward Island, and accordingly, on 13th October, ten Heifers were imported and afterwards sold at Port Hood. They cost \$320.48, and realized \$185.85. The Onslow Society, with a subscription list of 157 members, expended during the year \$700 in the purchase of thorough-bred Stock, besides large sums for Seeds, &c.; and the results of their efforts are already making themselves visible in the surrounding country. They now possess six Bulls, four of them thorough-bred, besides a considerable number of Sheep and White Chester Pigs, which are "not to be beat" in the Province. A sum of three or four hundred dollars was raised to carry out the Exhibition. The Dartmouth Society have secured a young Al-

derney Bull of the Cunard Stock. The Pictou Society has a roll of members larger than for many previous years, the receipts amounting to \$292.95. The funds have been chiefly expended in the purchase of Live Stock; in addition to animals previously held, the Society has obtained during the past season a thorough-bred Alderney Bull, six Rams, and two White Chester Boars. A County Exhibition is contemplated.—The West Cornwallis Society owns three Bulls,—only one of them, a Durham, thorough-bred. They are increasing their Pig Stock. Halifax County has not been so active this year as formerly, but there is a new organization—a County Society—in process of formation, which is likely to work better than some of the scattered Societies that seem to have died out. The Annapolis Society made some effort this year to connect with their Exhibition a Fair for the Sale and Exchange of Agricultural produce and Live Stock. Now that we have so many thorough-bred animals in the Province, there should be some means of getting at them by those who might wish to exchange, and we hope that Societies generally will keep in view the convenience of Local Exhibitions as a means of making desirable exchanges and sales. The Lower Stewiacke Society have taken a step in advance by selling their Durham Bull, which could not have been a very remarkable animal, for \$21, and purchasing a young thorough-bred Ayrshire for \$120. They have still another Durham of superior quality, and a White Chester Boar. The grain crops are reported upon very favourably by this Society, especially Wheat, the Fyfe variety proving very successful. Efforts were made in Paradise to get up a County Exhibition, but obstacles presented themselves, rendering it impracticable to make any further effort in that direction." The Society is devoting its funds to the purchase of Stock, and has introduced a system of monthly meetings for discussions on Agricultural subjects. We should be glad to have an occasional *resumé* of these discussions for our columns. The labours of other Agricultural Societies will be referred to next month, when we hope to publish the remaining Reports, which are not inferior in interest or importance to those contained in the present number.

It will be recollected that the Board of Agriculture offered prizes last summer

for fields of Hemp. In November the following Prizes were awarded:—To John Pratt, Esq., New Ross, Lunenburg Co., \$20. To Rupert Fulton, Esq., Stewiacke, \$15. To Charles Mitchell, Esq., Merigomish, \$15. Detailed Reports on the Hemp Crop of each of these successful competitors will be found in our present number from the pens of D. Matheson, Esq., J. B. Calkin, Esq., and H. A. N. Kaulback, Esq.

The want of Evergreens in our City Gardens has often been referred to in this Journal. We hope the remarks we quote regarding Hardy Rhododendrons will lead to some efforts to encourage the cultivation of these charming plants. An acre or two of Rhododendrons on a warm slope of the North West Arm would make a very paradise in spring time, when all is bleak and bare, and a thousand dollars could not be better spent by an improving proprietor.

At this season of the year we begin to think of what we are going to plant and sow in our gardens. A judicious selection of Seeds is of great importance, and we hope in next number to bring under review some of the principal novelties of the season offered by the Seedsmen and Nurserymen. Meantime we publish three articles, all of a judicious character, and all bearing upon the great points of spring gardening,—how to sow seeds, how to manage hotbeds and cold frames, and how to start plants in the house without a hotbed.

It is seldom that we meet with so sensible a paper on Agricultural Chemistry as one by C. W. Johnson, that appeared some time ago in the *Mark Lane Express*, and was re-printed in the *Journal* of the Agricultural Society of the State of New York. It offers some excellent lessons to our Nova Scotian farmers. We have therefore reprinted it in the present number, and may return to the subject again, with special reference to our own soils and climate, if we find that any of our readers care for such information.

The cry that Nova Scotia is not a Grain country is dying away. "Nova Scotia Oats" are advertised this year again by the American Seedsmen at a dollar a peck, and Barley, it is well known, is a sure and profitable crop. It is chiefly in reference to Wheat Culture, however, that we wish our remark to apply. It will be seen by the Reports of the Agricultural Societies how rapidly the growth of Spring Wheat is extending in many localities. It might be supposed that the extensive importations made by the Board during several years, having been successfully grown and carefully saved for seed, would be sufficient to supply the wants of intending sowers; but during the present month of February fresh orders of an extensive character are being received, and we do not know

how they can be met. Winter Wheat is also receiving attention from some of our most enterprising farmers, and the results so far have been very satisfactory. In this number we publish a detailed account of the successful culture of Winter Wheat at Truro, to which the special attention of farmers is invited.

REPORTS ON HEMP CULTURE.

The following Reports on Hemp Culture were prepared by members of the Board of Agriculture deputed to examine the Hemp fields entered for competition during the past summer:—

On the farm of Mr. Charles Mitchell, Merigomish, 30th July, 1870, viewed and examined lot of Hemp, 9 ridges, 13 perches long and 10 perches wide = 130 perches. An acre, less, 30 perches.—Ground last year, under Potatoes, having been manured with green stable manure; last spring ploughed once and top-dressed with stable manure composted; mussel mud composted; green stable manure placed on different ridges; results as follows:—

Stable Manure Composted.	Mussel Mud.
24 in.	22 in.
25	22
25	24
26	23
22	22
—	—
122	113
Green Stable Manure.	Green Sheep Manure.
21 in.	26 in.
24	27
24	28
22	28
22	28
—	—
113	137 = 1622

Medium height, . . . 25 inches.

The Seed was sown 15th May, and supposed would not be in bloom before middle of September. Situation of soil, high upland, on rather extensive slope, and had evidently suffered from want of draining.

DAVID MATHESON.

Pictou, August 3rd, 1870.

NORMAL SCHOOL, TRURO, }
Sept. 14th, 1870. }

In compliance with your request, I made an inspection of Mr. Rupert Fulton's Hemp Field, and beg to submit the following Report for the information of the Board:—

The area of the field was, according to my measurement, exactly one acre. The soil is a black loam. I was informed by Mr. Fulton that it was originally swamp and bog; that it had been in Hay for the last twenty-five years, without ploughing or top-dressing. The field was ploughed this spring; no manure applied; Hemp sown 17th of May.

At the time of my visit, August 6th, the Hemp was from two to three feet in height. A patch of flax was adjoining on the same kind of soil, about three feet in height. J. B. CALKIN.

LUNENBURG, Sept. 27th, 1870.

Agreeably to your desire, I visited New Ross on the 13th of last month to inspect and report on the Hemp sown by John Pratt, Esq. Hereto annexed is a sketch of the grounds covered with the crop, which I measured, and which you will see covers an acre, from two bushels of seed sown. I will send you by first opportunity some of the stalks then pulled up by me, which are about seven feet in length. About one-third of the whole acre was of that average; the rest was shorter, ranging down to three feet. Mr. Pratt anticipated better promise from the experiment, and attributed the disappointment to the unusual dry weather.

I forget whether Mr. Pratt desired me to send what I gathered as a sample of the crop; but I will do so in order to avoid any mistake.

I would have waited until the meeting of the Board next month to make this Report; but should the Board meet earlier than the 26th, I will be unable to be present, owing to the sittings of our Court here.

I had to travel thirty-seven miles and back—in all, seventy-four miles—for the express purpose of inspecting the crop.

I think I have mentioned everything that is necessary. However, if there is anything more that is required in the matter, and within my knowledge, I will be pleased to communicate it to you, upon your again addressing me on the matter.

Please make report, and present the sample I will send to the Board.

H. A. N. KAULBACK.

HISTORY OF SHORT HORNS.

(From the Canadian Herd Book.)

What are, and whence came, the Short Horns? We do not propose to enter into any lengthened disquisition on this subject. Suffice it to say that, in our view, the Short Horns are a most valuable breed of cattle, which have existed from time immemorial in the northern counties of England, particularly in York and Durham. Their central location may be said to have been on the river Tees, flowing between these two counties, whence they were formerly called the Teeswater breed of cattle. How they got there—how they came to preserve the characteristics they were found to possess about the close of the last century, when the breed began to obtain great celebrity—are questions we do not propose to discuss at length. They doubtless came from the Continent of

Europe at some remote period—possibly many hundreds of years ago; and having gained a footing in the north of England, retained it, in the same way that other local breeds and local customs held their place in other parts of the island. But they were not left to propagate merely by chance. For perhaps a hundred years before the first volume of the English Herd Book appeared, a greater or less number of breeders, amongst whom might be found resident noblemen and wealthy country gentlemen, had been in the habit of bestowing great care and attention upon the selection and breeding of their Short-Horned Cattle, and of preserving their pedigrees in manuscript in a more or less complete shape. About the year 1730, the Messrs. Colling (Chas. and Robert), whose names will be always eminent in Short-Horn History, commenced business as breeders, and gradually obtained a very distinguished place in the profession. Short Horns, about this time, from their well-ascertained superior feeding and milking qualities, began to obtain a high popularity; and when Mr. Charles Colling's sale took place (1810), on his retirement from active life, as a breeder, with an ample fortune, his herd, consisting of forty-eight animals, amongst them the Bull Comet (155), sold for £7,115 17s. sterling, realizing the astonishing average of £148 5s., or about £740 each. This, we believe, is a higher nominal average than had been obtained at any large sale at that date, and shows the demand that had arisen for the breed.—But this was at a period of enormously inflated war prices for every description of agricultural produce; and large sales have since taken place which produced within a fraction of as high a figure, and which, under the different circumstances, may be considered as in reality higher. The Short Horns now began to be distributed far beyond their original centre. A demand arose for them in foreign countries; and early in the present century some importations began to take place to this continent, and have continued, with more or less variability of demand, till the present time, when the number of high-bred animals which have been imported direct from England count up many hundreds. In referring to the Messrs. Colling specially, we must not be understood as ignoring the claims of other eminent breeders, contemporary or nearly contemporary with them, and who occupied in many cases nearly or quite as distinguished a place. Amongst such names may be mentioned Mr. Whitaker, Mr. Wetherell, Sir H. V. Tempest, Earl Spencer, Major Budd, Mr. Mitton, Mr. Mason, Messrs. Jobson, Sir H. C. Ibbetson, Mr. Hutchinson, Mr. Gray, Mr. Chrisp, Messrs. Charge, Mr. Cattley, Mr. C. Champion, the Messrs.

Booth, Mr. T. Bates, Mr. Stephenson, Mr. G. Coates, the Messrs. Culleys, and a long list of others.

In the year 1822, after the breed of Short Horned Cattle had long established for itself a distinguished reputation, Mr. G. Coates, himself an eminent breeder, published the first volume of his Herd Book. That work, continued in successive volumes to the present time, has tended to perpetuate the characteristics of the breed. The first volumes probably contained the pedigree of but a small proportion of the thorough-bred Short Horns then in existence. Three of the Bulls inserted were probably of such as had attained a local eminence as Sires. Of many of these Bulls, but a brief account is given; in fact, in a large number of cases, nothing but the mere name and number. But it is to be presumed that, in all such cases, Coates possessed such information as to authorize him to consider the animals as true Short Horns. In the absence of a previous systematic record, such a course in many cases became unavoidable. But the case is very different now. The Bulls, whose names and pedigrees are recorded in Coates' first volume, became the ancestors of the modern Short Horns; and no existing animal can be accepted as of pure blood unless its descent can be traced from that source. There may, it is true, be many pure-blood Short Horns in existence, of which no satisfactory pedigree can be given, simply because no record of the breeding has been kept; but in such cases the fact does not admit of proof, and therefore the animal cannot be accepted as of pure descent. The pedigree must be produced, or the point cannot be officially established.

In 1846, Mr. Lewis F. Allen, of Buffalo, N. Y., published the first volume of his American Herd Book, containing the pedigrees of Short-Horned Cattle imported to or bred in the United States. He has also continued the work to the present time, having now published seven volumes; and the important position that Short-Horned Cattle have gained on this Continent may be judged by the fact that these seven volumes contain the pedigrees of more than six thousand Bulls, and probably ten thousand Cows. This work has rendered most important service to the American Short-Horn breeder.

What are the characteristics of the Short Horns? They are noted for beauty of form and color—have a beautifully soft elastic touch in handling—are possessed of admirable feeding and milking qualities—come early to maturity for the shambles, with great weight of carcass in proportion to the apparent size, and are remarkable for proof or inside fat. We are indebted for the following brief description to Mr. Allen:

"The principal points of a thoroughbred Short Horn may be thus enumerated: A yellow skin, with a yellow, cream-colored, or drab nose; this drab may run to a brownish shade, called mottled, but not smoky or black. The colors of the hair, a lively red (the red running down into a deep cherry, or up into a yellowish), or a brilliant white, and these red and white colors either separate in patches or spots by themselves, or intermixed in roan, either color more or less prevailing; the horn waxy, or a cream color, with a little black about it; but what black it has at the tips, it should also be small, short, and slender, either crumpled, gently drooping, or slightly turned up; a general levelness of the back from the shoulders, at the setting on of the neck, to the tail; a fulness and depth of body throughout, with great breadth; short and fine legs; a fine tail—a symmetrical appearance throughout—with a lively, gentle, yet sprightly look of the eye. There are other intermediate points of excellence that may be named to constitute a perfect Short Horn; but those which are named are usually considered indispensable as making up a truly well-bred animal."

INSENSIBLE MOISTURE AND ABSORBENT POWER OF SOILS.

BY C. W. JOHNSON, F. R. S.

[From the Mark Lane Express.]

There are few important questions more interesting to the agriculturist than the moisture of his soil. There are, indeed, hardly any lands in which the supply of their watery portion may not be so altered as to materially increase their produce. Take, for instance, our grass lands—compare the lands of the grass growing counties of the west of England with a yearly average rainfall of 40 inches (equal to 4,000 tons per acre), with similar soils of our far drier eastern counties, where grass lands are found only in a very limited proportion, and where the annual rainfall is only about 20 inches, or 2,000 tons of water per acre; and then ask if there is any reason for this difference in the proportion of grass lands, except the widely different supply of moisture? And again, why do the great irrigators, who hold their farms on our great chalk formation, so carefully avail themselves of the brilliant springs which arise in that well farmed district? The water they employ on their noble water meads is free from organic matter, its chief constituent is carbonate of lime (about 20 grains in the gallon); but on a chalk soil this we can hardly consider to be a manure; and yet these springs, as soon as they arise from the earth, are found to spread fertility over large districts of, otherwise,

inferior pastures. Then again, why do we in Croydon in our sewage irrigated meads find that our Italian ryegrass will not yield its maximum amount of grass (say about 30 tons, or more, per annum) without we keep the land in a certain degree of moisture—viz: by yearly applying from 3,000 to 6,000 tons of sewage, equal to a rainfall of from 30 to 60 inches per acre? They would hardly need so copious a supply of liquid manure for the sake of its organic matters, in fact, hardly any amount of the richest manure would induce such a growth of grass as is here raised by the sewage,

The question, so important to all landholders, has not escaped the attention of the Royal Agricultural Society of England. This great association (we may proudly feel the greatest agricultural society in existence), has directed its attention to one of the most important branches of the inquiry, viz: "The retention of moisture in the soil of arable soils in dry climates," and for a valuable essay on this subject they have awarded a prize to Mr. Robert Vallentine, of Burcott (*Jour. Roy. Ag. Soc.*, 2nd series, vol. v., p. 336). The question on which our author has so well and so practically written, is, I opine, hardly exhausted by the conditions of the Society. It might well, I incline to think, be extended to include the absorption as well as the retention of the atmospheric moisture. Nature (ever in a good humour to instruct the farmer) here again lends her aid. She shows him, that the insensible watery vapour of the atmosphere is not deposited on all his lands alike—for instance, the dew, so valuable to his crops on dry soils and counties, is not found on all portions of his farm in equal amount; near the sea for instance, or adjoining rivers, the insensible moisture in the atmosphere is more considerable, and the deposit of dew in their neighbourhood more extensive than on fields not very far removed. Even in the broiling climate of India, where at certain times dew is almost unknown, even there, during every night, dew is found near to running waters. We may here pause to remind ourselves, that in our dry eastern corn-growing counties the farmer notices that, near the sea and near to certain rivers, his crops of wheat are in general, of rather superior value.

Now, it is the insensible moisture to which it may be useful to direct our inquiry. And it may chance that the result will suggest some experimental examinations not unlikely to produce profitable results. First, let us briefly pause to remember the proportion of the water always present in the air we breathe. On the very threshold of our inquiry a startling fact presents itself, the varying amount of this insensible watery vapour, and (what looks very little

indeed like a chance arrangement) the extent of that moisture is by far the greatest when other sources of supply to vegetation are not present, and our crops need it the most. Let us carefully note the result of the examinations of the atmospheric vapour, made at the Royal Observatory, at Greenwich, by Mr. J. H. Belville (*Manual of Thermometer*, p. 19).

The mean amount of insensible moisture in a cubic foot of the atmosphere at 9 A. M. and 3 P. M. is given in the following table in grains; it is the result of observations during seven years:

	9 A. M.	3 P. M.
January.....	2.70	2.84
February.....	2.58	2.72
March.....	2.77	2.85
April.....	3.26	3.37
May.....	4.02	4.06
June.....	4.71	4.78
July.....	5.07	5.26
August.....	5.00	5.07
September.....	4.65	4.77
October.....	3.96	4.01
November.....	3.27	3.42
December.....	2.78	2.89

The reader will here remark how, by Creative beneficence, the amount of the insensible moisture of the air, of which our crops so copiously avail themselves, is about twice as much in June, July and August as in the winter months; so that in summer, when the other sources of supply of moisture to plants are commonly withheld, this is increased.

And again, not only is there this insensible moisture placed in the atmosphere, but there is contained in all soils, however poor and however apparently devoid of any moisture, the power of absorbing moisture from the air. And what Davy long since proved (*Elem. Ag. Chem.*, p. 183), this power increases with the value of the soil. He remarked truly enough that, after having examined many soils, he had found that the extent of atmospheric moisture they absorbed was ever the greatest in the richest lands; so that he thought it was one good method of judging the productiveness of a soil. Thus he found that 1,000 parts of a celebrated soil from East Lothian, when first dried in a temperature of 212 deg., and then placed in an atmosphere saturated with moisture at a temperature of 62 deg., gained 18 grains.

1,000 parts of a fertile soil from the valley of the Parret gained 16 grains.
1,000 grains of a soil from Mersea, in Essex, worth 15s. an acre, gained 13 grains.
1,000 grains of a coarse sand, worth 15s. an acre, gained only 8 grains.
1,000 grains of the soil of Bagshot Heath gained only 3 grains.

This absorbent power of our soils is apparently ever in action; for I never found any soil (after even the longest absence of rain) but what contained a certain amount of moisture. To give the result of only some experiments: It was on the 6th of August in 1864, that, having noticed how well the crops, the

timber-trees, and the shrubs seemed to withstand the very dry weather, I made the following experiments, to ascertain the amount of water present in the dry soils around my house at Croydon. When these specimens were taken, there had been scarcely any rain for several weeks, only 0.43 of an inch of rain having fallen at Croydon in the previous July, and not any in August till the specimens of different soils were collected; and it is remarkable that during five or six weeks, from July 1 to August 6, there were not more than four or five nights that any dew fell. The eight specimens I examined were as follows: No. 1 was a black, gravelly soil, from immediately under the turf of an old park. This soil is about 5 inches in depth, resting upon a bed of coarse gravel about 4 feet thick. No. 2 was from a bank of the Isle of Thanet sand, planted with young timber-trees. No. 3 was from the chalk soil of an old pasture, immediately below the turf. No. 4 was from a kitchen garden whose soil is the Isle of Thanet sand. This specimen was taken from the surface of a bed on which Regent potatoes were growing. No. 5 was from the soil of the same bed, taken 9 inches from the surface. No. 6 was blowing sand, taken from some excavations near the East Croydon station. No. 7 was from a field of the London basin clay. No. 8 was from a bed of black sandy gravel, copiously dressed with cocoa-nut fibre. Equal weights of these soils were carefully pulverized, and exposed for some hours to a heat of 212 deg. Upon again being weighed, they had all lost weight; and calculating that the weight of an acre of soil 10 inches deep is equal to 1,000 tons, then the amount of water contained in these soils (all in appearance quite devoid of moisture) was equal, in these experiments—No. 1 soil under turf, to about 20 tons of water per acre; No. 2, Thanet sand, 10 tons; No. 3, chalk soil, 5 tons; No. 4, potato soil from surface, 5 tons; No. 5, same soil, nine inches from the surface, 30 tons; No. 6, blowing sand, 7½ tons; No. 7, London clay, pulverized, 40 tons; No. 8, cocoa-nut fibre and soil, 41 tons. At the time these experiments were made there had hardly been any rain for forty days. From the 29th of June till the 6th of August it only rained on eight days; and the total amount of rain-water during that time was only fifty-five tons per acre, or on an average about seven tons of water each day that any rain fell. These showers merely moistened the surface of the ground, and were speedily dried off. The water, therefore, which remained in the soils when I examined them would apparently only have been maintained by their absorption of the watery vapour of the atmosphere.

And as I have in another place had

occasion to remark, when speaking of the absorption of the watery vapour by our soils, we must not forget that this deposition of water is not confined to the surface of the soil. Wherever the atmospheric air can freely penetrate, there the deposition of the dew, under favorable circumstances, takes place. This also often occurs in the interior of the soil, when evaporation is taking place from the surface. The amount of dew deposited upon the soil has been estimated by Dr. Dalton to be equal to five inches per annum, or about 500 tons of water per acre. Less dew is usually formed during the first than in the second portion of the night. The amount of water deposited in dew varies at different seasons and localities. Autumn, as Mr. Steinmitz observes, is remarkable for its heavy dews, owing to the depression of the temperature during the night. These are sometimes so abundant as to admit of measurement in the rain-gauge. In one night towards the end of September, Luke Howard got one hundredth of an inch of water from the dew, and in the last six days of October eleven-hundredth from copious dews and mists. We must not then forget that dew is only one form in which the aqueous vapour of the atmosphere is deposited on the earth for the service of vegetation. We have seen that when soils are dried in a temperature of 212 deg., and exposed on their surfaces to air saturated with moisture, they absorb very considerable portions of water. Suppose a soil weighing about 1,000 tons per acre is pulverized so as to be freely permeable by the atmosphere, and that such a soil, after being thoroughly dried, is exposed to the air, then we find from the experiments of Schubler that it will absorb water, in 24 hours (being a still greater amount than in the trials of Davy)—

If a sandy clay, equal to	26 tons.
If a loamy clay	30 "
If a stiff clay,	36 "
If a garden mould,	45 "

We may conclude, then, that the more deeply a soil is pulverized, the more copious will, in certain states of the atmosphere, be the supply of moisture from the air; and let us not forget that this deposition is commonly in warm weather greater under the surface than on the surface of the land, simply because it is the cooler portion of the soil. To give an instance, when (at Croydon) at 9 o'clock in the morning of the 7th of June, 1869, the temperature of the air in the shade, on a northern aspect, was 78 deg., at a depth of 12 inches the earth was only 53 degs. At Chiswick, when the air was 78 degs., the earth was 68 degs. On the 5th of July, when at Croydon the thermometer indicated 78 degs. in the air, it was only 55 degs. 12 inches in the earth. On the same day at Chiswick, when the temper-

ature of the air was 80 degs., that of the earth at 12 inches was 63 degs.

We may then well concur with Mr. Vallentine when at the commencement of his essay he remarks:

"The most essential step towards causing the retention of moisture in arable land is to obtain a good depth of well-cultivated soil. All clay soils, and all such as rest upon clay or have a hard impervious pan or subsoil within a few inches of the surface, require, in the first place, *draining*, which must be followed by deep cultivation of some sort when the ground is sufficiently dry to crumble into pieces.

"It certainly at first sight appears paradoxical to speak of draining land as a means of enabling it to retain moisture; but when the various effects which drainage has upon land are duly considered, there is no real absurdity in the matter. Without considering it necessary to enter fully into the theory and practice of drainage, I must mention a few leading points on the advantages of draining all impervious subsoils.

"The great object of draining is to relieve the soil of an excess of moisture, so as to allow rain water to filter through the land instead of standing too long, or running over the surface. A good deal of land when being drained is found to have a comparatively dry subsoil to what the surface has, and so dense as to prevent water readily passing through it. After draining, however, air passages are formed, and water follows at once, when there is any pressure from the surface. Thoroughly drained, well cultivated land allows any excess of moisture to pass away during wet periods, whilst it also has the power of retaining a store of moisture for periods of drought.

"All ordinary root crops thrive best with a good supply of moisture, and even oats and barley not unfrequently suffer from drought. The best naturally fertile soils are of such a texture that they require no artificial draining, and seldom become either too wet or too dry. Light sandy soils, on the other hand, have too much natural drainage, and are chiefly a trouble from retaining too little moisture. Clay loams by drainage and superior cultivation are rendered well adapted for root crops, though such soils at one time were considered quite unsuitable for them.

"After the drainage of such land as require it, the next most important step for retaining moisture is *deep-cultivation*. Whether this may be accomplished by steam or horse power is immaterial, so that the operations are carried on at the proper time, when the soil is dry, or comparatively so. To manage this always is next to impossible; but to be able to do so generally requires no more than a full strength of horses or steam properly

applied. The labor of the farm must always be well kept forward."

"Presuming," Mr. Vallentine adds, "that a farm is in such a state of cleanliness that there is no real mass of couch anywhere, autumn ploughing should be as deep as the nature of the soil will admit of. If the subsoil is very poor or stubborn, subsoil ploughing, or stirring, is preferable to a very deep furrow, which would bring too much inferior soil to the surface. Subsoiling always does much good if the land is quite dry, or at least dry enough to crumble to pieces as the plough works through it. Like every other operation, however, subsoiling may be attempted at a wrong time, and mischief naturally follows. I have erred in this way more than once, and have seen frequent instances of failure resulting from subsoiling when the land was too wet, and after being cut up by the share, fall closely down again and made a mess of by the horses' feet. Land can seldom be suited for subsoiling after the middle of November, and not often so late in the season as this. Yet how many have continued this work during the whole winter?"

"With a good strength upon a farm, one field might be subsoil-plowed every autumn, until the whole of the arable land has been stirred to a depth of at least a foot. After this the depth of the surface furrow should be increased gradually at every rotation for green cropping. It is quite an exception for land to be ploughed deeper than from four to five inches. Now, instead of this, if the soil be deepened to eight inches by degrees, the increased power it will have for retaining moisture will be very great, and the chance of obtaining heavy crops of all kinds increased in like proportion. It must, however, be assumed that the due manuring of the land must also be attended to.

"Autumn dunging for green crops on all clay soils or stiff loams is also much to be recommended. All soils dunged in autumn or winter retain moisture better for use in dry weather than such as are undunged. Indeed, there are some soils so very retentive of moisture, after winter manuring, that it would be better avoided, especially if the land contains any couch which requires getting out in the spring. Any good system may be abused at times, and there is nothing much worse than dunging foul land at any time. There are many good plans carried out systematically, such as subsoil ploughing, deep ordinary ploughing, dunging in autumn, &c., when every circumstance is suitable; but on the other hand, any of these operations may be carried on improperly, loss, coupled with disappointment, being the natural result.

"Light sandy soils, and all such as are usually known by the name of light

soils, should not, I think, be dunged in winter. I have seen better crops of roots grown after dunging in June than after autumn dunged land, the weight of dung applied in both cases being the same."

The cultivation of turnips on the flat and on the ridge systems, in their relation to the moisture of the soil, did not escape Mr. Vallentine's attention. He remarks: "It has frequently been a matter of discussion whether turnips should be grown on ridges or on the flat surface. I think it would be useless to attempt to enter largely upon this subject. On dry sandy soils, in dry climates, moisture is certainly retained better by sowing on flat than on high ridges. A great deal depends upon how the various operations are conducted. By slovenly, or at least by dilatory turnip-growers, more moisture is allowed to escape during the preparation and sowing of turnips upon the flat, than is lost by a better course of management when the cultivation is on the ridge system. The ridges may generally be so rolled down as to be nearly meeting, with a depression between them of only a few inches. In such case there is little more chance for moisture to escape than by the flat system. The ridge system allows the manure to be placed more directly under the seed than by the broad-cast method. It also allows of a much cheaper and more efficient system of cultivation. However important a root crop may be, it is not more so than that the land should be thoroughly cleaned, well stirred, and completely cultivated during the growth of the crop which is to be the foundation, and, by good cultivation, the very ground-work of three or four crops afterwards. When roots are grown on the flat, no deep cultivation can take place. A mere surface-scratching is about all that can be done, or at least all that is generally done. Where the flat system of growing roots is adopted, the land is seldom kept so clean through a rotation of crops, as where ridging prevails. Many people contend that heavier crops may be grown on the flat than on the ridges; still, it is well known that heavier crops have generally been grown on ridges, when the system has been properly carried out."

I am not aware of any extensive experiments that have hitherto been made, as to the effect produced on the absorbing or retaining power of a soil for moisture, by dressing it with certain deliquescent salts. Every gardener is aware that if he dresses the surface of his asparagus or cabbage beds with common salt (especially if with that made from sea water), then the surface of the soil is, for a considerable time, more moist than the adjoining unsalted beds. Whether the spray of the sea carried on to the lands adjoining the shore may not produce some portion of the beneficial influence to which

I have before alluded, in the case of sea shore farms, is worthy of our serious attention. It is very certain that other saline matters, such as nitrate of lime and the chloride of calcium, possess far more powerful deliquescent properties than common salt; and the chloride of calcium must be attainable in the waste of the calico bleacher to a very large extent and at a very reasonable rate.

Some years have now elapsed since I found that when 1,000 parts of the rich soil of a field in Essex, 12 miles from the sea, previously dried in a temperature of 212 degs., when exposed to air saturated with moisture gained in three hours 27 parts; 1,000 parts of the soil of an adjoining portion of the field, which had been dressed with 12 bushels of salt per acre, gained 27 parts. In the same period

1,000 parts of some refuse marine salt gained	49 1/2 parts.
1,000 parts soil	39 "
1,000 of horse-dung (dried at 100 degs.)	145 "
1,000 of cow-dung	130 "
1,000 of pig-dung	120 "
1,000 of sheep-dung	31 "

These examinations, imperfect as they are, may lead to other and far more valuable researches. We have been reminded as we have travelled together through this little paper, what great things have been accomplished in the regulation of the supply of moisture to our grass and other lands. Such successes may well prompt us to believe that not only is the addition to and the preservation of that moisture in our arable soils far more within our power than we are generally inclined to believe, but that such additions to their fertility will in all reasonable probability be at no distant day profitably accomplished.

RHODODENDRONS FOR CANADA.

We desire to call attention to the Rhododendron. Those who have seen this most beautiful shrub when covered with its profusion of flowers, will be deeply interested in what we have to say about its culture, and those who have never seen it will surely be grateful for having their attention directed to it, if they shall be thereby induced to plant it about their dwellings.

The Rhododendron Catawbiense is a native of North America, and may be found growing wild in this Province. Seedlings grown from this variety are perfectly hardy. Mr. Parsons, of Flushing, N. Y., writing last year to *Tilton's Journal of Horticulture*, gives the names of twelve varieties as hardy beyond question, growing as surely and freely as a willow, wherever a lilac will, requiring no shade, and no extra preparation beyond good garden soil. They need no special culture, no peat nor other special soil, and require only to be planted where they will have plenty of sun, in good garden soil. For the first year or two after planting, they should not be allowed

to flower freely; it weakens the plant too much, and thereby renders it liable to injury from extremes of temperature. Until fully established then, the flower buds should be freely removed; after that it may be left to its own way. But the European varieties are not hardy here, and it is of no use to plant these.

The varieties named by Mr. Parsons as perfectly hardy, enduring a cold at least of *fourteen degrees below zero*, are Album elegans, Album grandiflorum, Bicolor, Celestinum, Candidissimum, Ernestianum, Grandiflorum, Bertie Parsons, Purpureum elegans, Purpureum crispum, Roseum superbum and Roseum elegans.

[We copy the above from the *Toronto Globe*. A few Rhododendrons are successfully grown in the gardens about Halifax, where they resist our winter frosts with slight protection. It is a botanical mistake to suppose that *R. Catawbiense* will be found growing wild in any Province of British America; but that is nevertheless a hardy compact growing species, with fine foliage and beautiful flowers, and deserving of more extended cultivation. R maximum is a larger, hardier, and more northern species.—Ed. J. A.]

COLD FRAME AND HOT BED.

In the vicinity of large cities a great proportion of the early produce is either started or raised under glass. For a novice there is no more impressive and pleasing sight than to see extensive hot-beds in February, stretching away for hundreds of feet, in which tens of thousands of the green heads of early lettuce are growing in full vigor under low glasses, within a foot or less of the outer air, while the snow and bleakness of winter is all around. It suggests a magical power, and you feel that you are as near to realizing a chapter in the Arabian Nights' Entertainments, as ever will be possible in this matter of fact world of ours. To carry on hot-beds on a large scale successfully is almost an art in itself,—requiring great skill in their structure and planting and in the use of mats and shutters.

Early Tomato plants in a small way may be raised in flower pots or boxes in a warm kitchen window; so also may egg plants and peppers. When raising them in the house, the pot or box containing the seed, should be placed quite near the stove and the soil be kept well moistened until the plants begin to break ground, when they may be removed to a warm window. It is best, if practicable, to have but one plant in each pot that they may grow short and stocky. If the seeds are not planted earlier than the middle of April, for out of door cultivation a cold frame will answer. Select the locality in the fall, choosing a warm

location on a southern slope, protected by a fence or building on the north and north-west. Set posts in the ground, nail two boards to these parallel to each other, one about a foot in height and the other towards the south about four inches narrower; this will give the sashes resting on them the right slope to shed the rain and receive as much heat as possible from the sun. Have these boards at a distance apart equal to the length of the sash, which may be any common window sash for a small bed, or the length of a usual gardener's sash. If common window sash is used, cut channels in the cross bars to let the water run off. Dig the ground thoroughly (it is best to cover it in the fall with litter to keep the frost out) and rake out all stones or clods; then slide in the sash and let it remain closed three or four days that the soil may be warmed by the sun's rays. The two end boards and the bottom boards should rise as high as the sash to prevent the heat escaping, and the bottom board of a small frame should have a slip nailed inside to rest the sash on. Next rake thoroughly in guano or phosphate or finely pulverized hen manure, and plant in rows four to six inches apart. Thin out the tomato plants when quite small, but allow peppers to remain rather thick at first by reason of danger from depredations of the cut worm. As the season advances raise the sashes an inch or two in the middle of the day and water freely at evening with water that is nearly of the temperature of the earth in the frame. As the heat of the season increases, whitewash the glass and keep them more and more open until at about the close of May, just before plants are set in open ground, then allow the glass to remain entirely off both day and night, unless there should be a cold rain. This will harden them so that they will not be apt to be injured by the cabbage beetle, as well as chilled and put back by the change. Should the plants be getting too large before the season for transplanting, they should be checked by drawing a sharp knife within a couple of inches of the stalk. If it is desirable to dwarf the tomatoes and thus force them into a compact growth, transplant into another cold frame, allowing each plant double the distance it before occupied.

The structure and management of a Hot-Bed is much the same as that of a Cold Frame, with the exception that being started earlier the requisite temperature has to be kept up by artificial means, fermenting manure being relied upon for the purpose, and the loss of this heat has to be checked more carefully by straw matting, and in the far North by shutters also.

Horse manure with plenty of litter and about quarter its bulk in leaves, if attainable, all having been well mixed

together, is thrown into a pile, and left for a few days until steam escapes, when the mass is again thrown over and left for two or three days more, after which it is thrown into the pit (or it may be placed directly on the surface) from eighteen inches to two feet in depth, when it is beaten down with a fork and trodden well together. The sashes are now put on and kept there until heat is developed. The first intense heat must be allowed to pass off, which will be in about three days after the high temperature is reached. Now throw on six inches of fine soil in which mix a very liberal supply of well rotted manure free from all straw, or rake in thoroughly Superphosphate or Guano at the rate of 2,000 lbs. to the acre and plant the seed as in cold frame.—From *Gregory's Circular*.

STARTING PLANTS IN THE HOUSE.

Before long many of our readers will be thinking about sowing seeds of tomatoes, egg-plants, and the like, so that they may get them forward early, and have the comfort of them in advance of the general public. Perhaps a few suggestions that may help them to a more full realization of their wishes will be acceptable to most of our readers.

And first a word of caution. In the great eagerness to get the plants forward very early, it is a common mistake to begin too soon. In our climate it is not generally safe to plant our tomato plants in the open ground before the tenth of June, lest they be caught by some late nipping frost, and the care and labour of weeks be cut down in a single night. It will be found, then, to be quite early enough to sow the seed about the twentieth of March, which is some eighty days before they can be planted out, and quite enough to make fine, large, strong plants.

The seed should be sown in light friable soil, and placed in some sunny window. If there be such a window in the kitchen it will be the very best room in the house for the box of seeds, for the reason that the air is more full of moisture than that of any other. In a few days the seeds will begin to grow, and the plants in all probability stand quite too thick together. They should be carefully thinned out, so as to give each plant plenty of room without crowding its neighbor.

The plants may be allowed to remain in the box until the weather will admit of their being removed to a cold frame, where they can be planted out in the soil, or potted off into separate pots, and protected from chilly storms and night frosts by a few boards, and freely exposed to the sun and air in pleasant weather.

A box may be very readily divided into compartments with strips of common

pasteboard, and one plant be set in each separate division. This will be found very convenient in transplanting, as each plant can be taken out with its own ball of earth about the roots, without in the least disturbing its growth.

Water when the soil needs water, but not oftener, and use tepid water. Give plenty of light, and when the weather is mild enough, set the box out for a few hours in the open air on the sunny side of the house, until the plants can be safely placed in the cold frame.

The cold frame is merely a wall of boards, such as is placed on a hotbed to protect the plants, which may be placed in some warm, sunny spot, and be covered with boards when needed to protect the plants from storm or cold.

In our climate the weather is usually mild enough to allow of the plants being placed in such a frame about the first of May, and if they have been freely exposed to light and air, they will be stocky and healthy. Here they will continue to grow, not rapidly, but gradually increasing in size and strength, until the weather will admit of their being placed in the open ground. Treated in this way, any one of them will be worth a hundred long-drawn, puny, sickly things that have been grown in heat and crowd.—*Globe*.

HOW, WHEN, AND WHERE TO SOW SEEDS.

[From Peter Henderson's "Gardening for Profit."]

As the seed-sowing is the starting point of cropping, a thorough knowledge of the conditions necessary for the germination of the different varieties will go far towards putting the tyro in gardening well on the way to success. The very general want of knowledge in this matter is too often the cause of much undeserved censure upon the seedsman, for in nine cases out of ten the failure is not with the seeds but results from the time or manner of planting. When the owner of a garden sends his order for seeds to the seedsman, it is generally a complete list of all he wants for the season. They are received and the interesting operation of sowing is begun; first in a hot-bed, if he has one, often as early as the first week in February (a month too soon by the way), and in go indiscriminately, at the same date, and under the same sash, his seeds of Cabbage, Cauliflower, Lettuce, and Egg Plant, Peppers and Tomatoes. Yet even in the waning heat of this early hot-bed, where a thermometer would possibly not indicate more than fifty degrees, he finds in a week or so his Cabbage, Lettuce, and Cauliflower, "coming through" nicely, but, as yet no Egg Plants, Peppers, or Tomatoes. He impatiently waits another week, makes an examination, and discovers that instead

of his Tomatoes and Egg Plants beginning to vegetate, they are commencing to rot, it is now plain to him that he has been cheated; he has been sold old seed, and if he does nothing worse, he forever after looks upon the seedsman he has patronized as a venial wretch, destitute of principle and honesty. But he must have Tomatoes, Peppers, and Egg Plants, and he buys again from another seedsman, warranted honest. He renews his hot-bed, it is now a month later, and a bright March sun, with milder nights, gives him the proper temperature in his hot-bed—70 or 80 degrees—and his eyes are at last gladdened by the sprouting of the troublesome seed. April comes with warm sunshine, inviting him to begin to "make garden" outside. He has yet the balance of the original lot of seeds that he bought in February. But as he is still entirely befogged about the cause of his failure in the first hot-bed, he begins his open ground operations with little confidence in his seeds, but as he has got them, they may as well be tried; and again he sows in the same day his Peas and Lima Beans, Radishes and Pumpkins, Onions and Sweet Corn. Hardy and tender get the same treatment. The result must of necessity be the same as it was in the hot-bed, the hardy seeds duly vegetate, while the tender are of course rotted. This time he is not surprised, for he is already convinced that seedsman No. 1 is a rascal, and only wonders how any of his seeds grew at all, so he again orders from seedsman No. 2, for the articles that have failed. Here circumstances continue to favor the latter, for by this time the season has advanced in its temperature and the seeds duly vegetate. Every farmer knows that, in this latitude, he can sow Oats or Wheat in March or April, but that if he sows his Corn or Pumpkins at the same time, they will perish: this he knows, but he may not know that what is true of the crops of the farm, is equally true of the garden. Hence the importance of a knowledge of the season when to sow vegetable seeds, or set out plants. The temperature best fitted for the germination of seeds of the leading kinds will be best understood by the tabular form given below.

Vegetable seeds that may be sown in this latitude, from the middle of March to the end of April, Thermometer in the shade, averaging 45 degrees.

Beet,	Lettuce,
Carrot,	Parsley,
Cress,	Parsnip,
Celery,	Onions,
Cabbage,	Peas,
Cauliflower,	Radish,
Endive,	Turnip,
Kale,	Spinach,

Vegetable seeds that may be sown in the open ground, in this latitude, from the

middle of May to the middle of June, Thermometer in the shade, averaging 60 degrees.

Lima Beans,	Water Melon,
Bush Beans,	Squash,
Cranberry Pole Beans,	Pumpkin,
Scarlet Runner Beans,	Tomato,
Sweet Corn,	Nasturtium,
Musk Melon,	Okra,
Cucumber,	

It will be understood that these dates refer only to the latitude of New York: farther south, operations should be begun earlier; farther north, later. [I. Nova Scotia the vegetables enumerated in the first list are sown as soon as the ground can be worked; those of the second list late in May or early in June.—ED. J. A.] So much for the time of sowing; I will now refer to suitable soil and the manner of sowing. The choice of soil, when choice can be made, is of great importance, the best being a light soil, composed of leaf mold sand, and loam, the next substitute for leaf mold being well decayed stable manure, or better yet, decayed refuse hops from the breweries; in short anything of this nature that will tend to lighten the soil, the point to be avoided being a weight of soil, either from the nature or quantity of it.

The nature of the soil is not of so much importance for the germination of large, vigorous seeds, as Peas, Beets, Beans, Corn, etc. But with the delicate, slow-sprouting sorts, as Celery, Parsnip, Egg Plant, or peppers, it is of much importance. Seeds of nearly every garden vegetable should be sown in rows; the distance apart, according to the variety, and the depth proportioned to the size of the seed. No better information can be given in this matter, than the old rule of covering the seed with about its thickness of soil, but this should always be followed up by having the soil pressed closely down. In our market gardens here, we invariably have the ground rolled after sowing, or in frames or hot-beds, where the roller cannot be used, we pat the soil evenly down with a spade after sowing. This may not be of so much consequence in early Spring, when the atmosphere is moist, but as the season advances, it is of great importance. I have seen many acres of Carrots and Parsnips lost for want of this simple attention; the covering of the seeds being loose, the heated air penetrates through, drying the seeds to shrivelling, so that they can never vegetate. My farmer readers no doubt, have had plenty of similar experience with Turnips, where they have been sown broadcast without rolling. Another advantage of rolling after seed sowing is that it leaves the surface smooth and level, thereby lessening greatly the labor of hoeing. Instead of adopting the questionable practice of steeping seeds, preparatory to sowing in dry, hot weather,

we prefer first to thoroughly saturate the bed with water, and after it has dried enough, so that it can be raked without clogging, sow the seed. It is much better to do this than water, after the seed has been sown, as it has a tendency in most soils to bake the surface.

SOWING IN HOT-BEDS.

It would lengthen this chapter too much to give extended directions for sowing seeds in hot-beds. I will briefly say, that after the hot-bed has been formed—say by the first week in March—soil of the kind recommended, be plunged on it six inches deep, into which plunge a thermometer three or four inches, and when the temperature recedes to 75 degrees or 80 degrees, you may then sow, giving air in mild weather as soon as the seeds begin to vegetate, covering up warmly at night with mats, straw, or hay. But many that may read this never saw a hot-bed and are perhaps never likely to have one; to such I would say that there is an excellent substitute on hand in most dwellings, in the kitchen or basement windows, facing South or East, inside of which there is a temperature usually not far from that required for the vegetation of seeds, and where plants from seeds of the early vegetables, or tender plants for the flower border, may be raised nearly as well, and with far less attention than in a hot-bed. Instead of hot-beds, we use our green-houses for the purpose, using shallow boxes in which we sow the seed; these are made from the common soap-box, cut in three pieces, the top and bottom forming two, and the middle piece, bottomed, making the third; these form cheap, convenient boxes. Fill these nearly full with the soil recommended, and after sowing, press nicely down level and make the surface soil moderately firm; keep moist, in a temperature in the window of from 60 to 70 degrees, and your little trouble will soon be rewarded. In this way seeds should be sown thickly, and after they have made the first rough leaf, should be again planted out into the same kind of box, from one to four inches apart, according to the kind, and placed in the window to receive similar treatment as the seeds; but as the season advances, on mild days they should be set out of doors, care being taken that they are brought in at night, and that the soil in the boxes is never allowed to get dry.

I know what is usually the first thing the novice in gardening does if he gets any choice seed or favorite cutting; he has some how got the belief that there is some hidden virtue in a flower pot, and he accordingly sows seeds or plants his cutting in a pot, but in nine cases out of ten they are destroyed, or partially so, by the continued drying of the soil in the porous flower pot. If early in the sea-

son, let delicate seeds be sown in the kitchen or sitting-room window, in the boxes as recommended, or if late, in the open border; but seeds should never be sown in pots, as even in experienced hands they are much more troublesome and uncertain than boxes.

PEDIGREES.

For the information of purchasers at the sale at Richmond, on 16th Nov., we publish the following Pedigrees that had not been received in time for publication in the Sale Catalogue:—

Devon Bull: THEODORE.

Dark red. Calved May 15th, 1868. Bred by Richard Foley, Bowmanville, Ontario.

Sire Young Hero, bred by Dr. Lowe, Bowmanville. G. S., Lord John Russell. (See Stock Register, Toronto.)

Dam, Fairy, by Conqueror, 105.

G. d., Primrose.

G. g. d., Graceful, imported from England. (Signed) R. D. FOLLY.

Theodore took second Prize as a thorough-bred Devon, at Toronto, 1870.

Short-Horn Heifer: MARKHAM BELLE.

Belle of Markham, red and white. Calved Jan. 21st, 1869. Got by Bell Duke of Oxford, [830.]

Dam, got by Prince of Wales [578] 5100.

Gr. dam., got by Nicol [497] 5037.

Gr. gr. dam., got by Captain [104] (11240.)

Gr. gr. gr. dam, got by Nero [491.]

(Signed) JOHN MILLER.

FOR GEORGE MILLER.

Markham, Oct. 11th, 1870.

COLCHESTER COUNTY EXHIBITION.

The following Report of the Exhibition at Truro, on 29th September last, appeared in the *Citizen* at the time, and has been sent to us by J. Longworth, Esq., with a request that we should republish it. We hope some of the other counties will follow the example of Colchester in organizing combined Exhibitions:—

An Agricultural Exhibition, under the auspices of the Onslow Agricultural Society, was held at Truro yesterday (Thursday, 29th Sept.) The day was delightful, and the attendance of spectators was very large. Most of those present were from the County of Colchester, although Halifax, Pictou, and nearly all the intermediate stations contributed a fair share as well. Besides the regular Exhibition itself, which must have amply repaid everyone for the trouble of going to it, there were

OTHER ATTRACTIONS;

for the ladies of the Presbyterian congregation at Onslow had made preparations for a Bazaar to be held at the same time; and the

Methodist congregation at Truro also had prepared a "Dinner and Tea," as large letters on the tower of the new Church informed the thousands assembled. The Managing Committee, in each case, had secured the services of a band for the day; and with music and merry belles, substantial and dainties, and articles of handiwork both useful and ornamental, few could resist the allurements of either. Both seemed to be well patronized, and especially were the refreshment tables in great requisition.

THE EXHIBITION

was open to the competition of the whole Province; but there were few exhibitors, except from Colchester County. As a whole, it was a good show, though in many respects there were marked deficiencies. The swine, oxen, colts, and vegetables were particularly good; but the sheep and farming implements were unworthy of the fine country in which the Exhibition was held.

HORSES.

First on the list were the horses. Of these there were some fine specimens of the Clydesdale and Suffolk Punch. There were also some average driving horses of lighter limb and active gait; but the colts were fine. One three-year old had attained the astounding weight of 1,300 pounds, and others younger in years, and one but a few months old, were proportionately large. Some of those under three years old combined beauty with uncommon size, and gave promise of a better class of roadsters and draft horses than those of their immediately preceding generation of equines.

THOROUGH-BREDS.

There were some of the old thorough-bred cattle present, but almost an entire absence of anything new in this class. There were but two or three of these that had not "won money before;" and, there were, beyond a single Ayrshire calf, call for no particular notice now. In

GRADE CATTLE.

there were some fine specimens. Beginning with the largest, Mr. George Phillips, North River, Onslow, had a yoke of fat oxen six years old, girting nearly eight feet each, and of two tons live weight, together. Mr. Wm. Blake, Shubenacadie, a yoke five years old, over seven feet in girth, and weighing nearly 3,500 lbs. Mr. James Norie, North River, had a yoke of three-year old steers, large, fat, and extremely handsome; and Mr. Wilson Lyons exhibited a yoke, the same age that formed a fine second to them. Mr. Norie won the first prize on steers two years old also; but the yearlings of Mr. Wilson Lyons were perhaps the finest cattle for their age on the ground. Mr. John McCurdy, of Onslow, exhibited a Grade heifer about two years and two months old, with calf three months old by her side. He declined \$50 for this beautiful specimen of the milky tribe.

THE PIGS,

as we have already indicated, were uncommonly good. The White Chesters were the favourites; and of these, there were many representatives, varying in age from three days to three years, and in weight from a few pounds to several hundreds of pounds; and yet all such perfect specimens of their genus as almost to baffle the skill of the judges. From the sheep pens, which were simply a disgrace to the show, we turn to the

MANUFACTURES OF WOOD.

and find two washing machines; two "hand" churns (one of which is worked by a rocking chair attached to the side—no doubt handy for a farmer's wife with a baby but no servant); a pump; an ox yoke; four or five ploughs; four carriages, and an Express wagon.

IN THE DRILL SHED,

were the grains and seeds, all very good; though not very numerous represented; potatoes in great variety and of fine size; carrots fair; turnips fine for the season; mangold wurtzel and beets, uncommonly good; parsnips, onions, cabbage, squash and pumpkins, rather below the standard; apples good, both in variety and size; pears and plums medium; butter, with a few exceptions, below what it should be; cheese, fair; woollen goods, a fine show, especially in shawls, hearth-rugs, &c.; harness, two single sets, average; boots and shoes, from the Truro factory, good. These, with a single trunk, half-a-dozen pictures, and a few flowers, were the principal articles inside. They were for the most part neatly arranged. In short, we may state that the arrangement throughout was very satisfactory to both the exhibitors and the spectators, and reflects much credit on the Committee and the promoters, as well as upon the county and province.

THE BREEDING AND MANAGEMENT OF PIGS.

At a recent monthly meeting of the Stowmarket Club, [*Agricult. Gazette, Lon'on, Jan. 7, 1871*], Mr. Stearn read a paper on the breeding and management of pigs. Formerly large breeders and graziers thought the pig beneath their notice; but the thing was changing, for he supplied gentlemen in Australia, America, and almost all parts of the world. Still he was often both disgusted and surprised to see what a disgraceful lot of pigs was still kept by many large agriculturists as well as small ones, such as, if kept to any extent, would ruin any one, for they ate an enormous quantity of food, and would neither grow nor fatten upon it. He had studied the management of pigs for the last 30 years, and had found that the better the attention paid to them the greater the profit, and if a person wishes to make a pig pay, it must be kept well when young, and not allowed to run 12 months in almost a starving condition.

Speaking of piggeries, he must say he seldom saw a good one. Some were badly ventilated, others low and damp, nine-tenths too small, some too confined, with no means of altering them between summer and winter, and many had the cisterns to receive the wash, &c., from the house inside them, which was very bad, the constant stench injuring the health of the animals, and was most unpleasant to those who had to attend to them. But the worst sties were those with wooden floors laid over a pit, which became full of unwholesome rubbish. He had said he was surprised at the pigs kept by many persons; but he did not know if he ought to wonder so very much, when he took into consideration the general construction of places in which they were kept. If there were one corner on the premises worse than another, there the pigstye was placed, and people almost wanted marsh boots to get to it. There was no question that it would be a great boon to the

tenant-farmers if landlords would take more interest in providing better buildings for the pigs. It was not the most expensive place that was the best, but what was required was a simple, economical, well-situated, and well-planned piggery. Some built expensive brick and stone buildings, which he had proved were not so healthy as a boarded building, tiled and slated, it should be reeded and plastered underneath to prevent the heat of the sun penetrating in summer and the cold in winter, with a ventilator at the top made to open and shut. There should be half-doors. The farrowing pen ought to be large, to give the sow plenty of room, and to admit of rails being placed round the side, so fixed as to prevent the sow lying on the little ones. These rails should be made to shift according to the size of the sow, from 8 to 12 inches high, and extending about 9 inches from the wall, having the supports carried out sloping from the rail to the wall, instead of straight from the floor, so as to leave plenty of space for the pigs to pass between the sow and the wall. Since he had used these farrowing rails he had hundreds of pigs, and had lost scarcely any from being crushed, whilst taking an average of the country nearly half were lost from that cause. Each pen should be 8 feet by 10 feet, and the best floor was asphalt or concrete. Boards could not be healthy, for if placed close the moisture stands, and the floor becomes saturated, and if a space be left the refuse litter goes between, so that it will become a mass of putrid matter, likely to bring on all kinds of diseases. In cold weather asphalt or concrete was too cold for very young pigs, and he had false lattice floors to lay down. These were taken up when required, and everything swept from underneath. He had the beds attended to, and fresh littered every morning, for the cleaner a place was kept the better the pigs drove. The floors were washed down occasionally, and everything ran off, the asphalt or concrete soon drying. Another advantage of such floors was, that they did not take more than two-thirds of the straw required for any other floor, for the moisture seemed to run under the litter without wetting it so much, the floor being laid a little on the slope. The litter from the pens served for the pounds outside, which ought to be paved in some way, to prevent the pigs rooting. A tank should be placed just outside to receive the drainage from the pounds, the building being troughed to take off the rain-water. The manure was thus made regular and good. On the hot days such a piggery was cool and pleasant by opening the lower doors. Lattice slips were put to all the lower doors to prevent the pigs getting out. While pigs were perfectly cool in this model piggery, the herdsmen had to go round several times in the day to all the other places with a watering-pot to keep them alive.

In selecting pigs for breeding, great attention should be given to choosing a good breed that would come to early maturity, for that was where the profit was gained, and the better the quality of the breed the less food was required to bring them to that maturity. He considered no other breed so well adapted for most localities as the black and white Suffolks. The improvement took place not before it was wanted, for a worse animal could not be found than the old Suffolk pig, with its long thin snout, large lap ears, arched back, long legs, thin body, coarse, bristly

hair, thick, long, straight tail—in fact, with everything to make it a disgusting-looking brute. When he read a paper on "Swine," a few years since he said he did not like black pigs so well as white, but by judicious crossing they have become equal to the white, and he now had scarcely a preference. They were similar in form and symmetry, and both came to early maturity, and fattened to a great weight with a small quantity of food in proportion to that weight. In choosing the boar and sow of the Suffolk breed, the chief points were a rather small head, with wide, heavy chaps, short snout, broad deep chest, ears rather small and thin, with the ends sharp and pendulous, pointing a little forward, roundness of rib, shortness of leg, and small feet, long body, the hugh well dropped close to the back, shoulders and hams thick, the neck rising well behind the ears, small bones in proportion to the flesh, broad or straight, or slightly rising back, tail small and curved and placed high, hair thin, long, fine, and silky. As much or more attention ought to be given to the boar as the sow. He preferred sows for breeding to be rather larger than the boar, and good sized animals, they being more likely to have a large number of pigs. He considered 10 or 12 sufficient in the general way to bring up. A sow for breeding should have 10 or 12 pups. He did not recommend breeding very young. The proper time for the sow to begin was from 10 to 12 months old, the boar being from eight to 12 months. It was well to cross as far distant as possible, occasionally, so as to strengthen the constitution. Some time back he purchased sows from two gentlemen, one of whom had bred in, for more than 30 years, and the other for 60. The first farrows they produced with him came out full of ulcers, the legs of most were crooked, with large spavins, and many turned out good for nothing. When wishing to make a cross, his plan was to buy a sow of a different blood, and then to fall back on his original stock, retaining, by this means, the same character without injuring the breed. The time of gestation averaged about 113 days, but old sows were rather longer than young ones. A sow in pig should have full liberty to roam about, and feed on grass in the summer, whilst in winter she should have roots of various kinds, and about three-quarters of a pint of beans per day. At the time of farrowing, the proper plan was to have a man with the sow to attend to her, as it was not wise to lose half, or perhaps the whole of the pigs, for want of a little attention at the most critical time. He also gave only a very small quantity of litter cut short, and he had a hamper placed in the pen with a little straw in the bottom, and lined with an old blanket. A partition about 2½ feet high was put across the pen to prevent the sow getting at the hamper as the pigs came out. The pigs were placed in the hamper and kept there till the sow had done farrowing. After that they were put to the sow to suck, and then put back to the hamper. The sow had then a little warm milk and bran given her, and the bed was attended to while she ate this, and the pigs were allowed to go to her again after she had finished her meal. He found that it was the cheapest and best plan to give the herdsmen 6d. each for all pigs he could bring up to a month old. As to a sow eating her young, the cause was that in some litters the side teeth were much longer and sharper than in others, so that when the pigs began

to suck they bit, and scratched the paps, and caused irritation, which sent the sow mad with rage; she threw one one way, and one another, and if she drew blood would eat the pigs, and a sow that once did this was of no further use for breeding. His plan to prevent this was to take away the pigs in the hamper, so that the sow could not hear them, and nip off the long teeth with a pair of pincers. When they were put back the sow would be found to be kind to them, and perfectly docile. With his model piggery, he preferred breeding in the winter, as the building could be easily kept to the proper heat, and after proper care for the first day and night, the cold did not appear to affect them.

Pigs, which were farrowed in January or February, would grow and thrive in spring and summer, after being kept eight or nine weeks with the sow before being weaned. They were then fit for either breeding, feeding, bullock yard, or anything for which they might be required in the autumn. By this means they could have another litter of pigs in August, instead of October, for when farrowed too late in autumn young pigs would not thrive through the severe weather in winter, and if they were turned as usual into cold yards or open piggeries, they would be worth very little more for their two or three months' keep. Eight weeks in summer and nine in winter will be found a good time for weaning pigs, and he liked to have those which were not saved for breeding operated upon a short time previously. Boars, for stock, he kept confined in a shed with a roomy yard, allowed them plenty of water, and fed them on any food which was most convenient, such as Vetches or Mangel Wurzel.

As to feeding, when the pigs were about three days old, and whilst the sow was feeding, he gave them some new milk, warm from the cow, sweetened with a little sugar. In three or four days he mixed half-skimmed milk and some oatmeal or sharps, leaving out the new milk by degrees, as well as the sugar, replacing them by Indian Corn or Barley, whole. The sow should be fed on mild food for a few days, such as bran mixed with warm milk. After a few days add barley or bean meal, and increase the quantity of these as the pigs grow. For a few weeks after the pigs are taken off the sow they cannot be fed too well or too frequently, but care should be taken not to give them too much food at a time. He gave them a variety of meals, as were most convenient, wetted them with cold and scalded with boiling water, and sprinkled it with a little salt. The food was mixed a day in advance, which gave time for slight fermentation. In summer the food was mixed entirely with cold water, and given cold. Between meals he gave the pigs whole Maize, Mangel, and Swedes, cut small, with a little coal or soil occasionally, and he allowed them plenty of clean water. For sitting he gave Wheat, Barley, and Maize meal mixed together into slops, water always kept by them, and a little Mangel cut for them occasionally. Washing and brushing was very beneficial. The difference between this and the common method of treatment was most surprising. Store pigs should have their liberty as far as convenient, and have the range of large yards in winter and of a piece of pasture in summer. Well-bred pigs, properly fed, would always consume the refuse of the farm and dairy. He gave in detail his experiments, made with a view to test the generally-

received theories regarding the loss of the tail of young pigs, and said, "I have quite made up my mind it is neither breeding, feeding, hot weather, cold weather, nor easterly wind which is the cause, nor does it signify whether the pigs are black or white, therefore I must leave it to some one with a wiser head than I have to solve this mysterious affair."

DISCUSSION.

In answer to questions, Mr. Stearn said he had seen the pen of pigs at the Islington Show, sent by the Rev. Mr. Baily, of Swindon, a great breeder of Berkshire pigs. There were three of them, and very fine specimens. They had been sent to the Birmingham Show, where they took the first prize, but at Islington they had been put on one side as of 'Not sufficient merit.' They were not fat enough, and that was the cause of their being rejected.—He made the milk of young pigs pretty sweet, to a pint of milk putting a dessert-spoonful of sugar. He did not like Acorns as pig food at all. He had tried them, and believed he had suffered this summer from the use of Acorns. He had lost several valuable pigs, only from eating Acorns. He thought he lost them from that cause, because those that ate Acorns died, and those that did not eat them did not die.

Mr. Woodward said that he considered size and length of great importance in breeding sows. He gave the preference, too, to long animals before short ones. Was that Mr. Stearn's practice?

Mr. Stearn: Yes.

Mr. Woodward: How about the condition of your breeding sows? I don't care about keeping them too high at the time of farrowing.

Mr. Stearn: No; keep them as low as you can. Bean slops a few days previous to farrowing, and after you take the pigs to her give her better food. A neighbour of his had tried a lot of old Suffolk pigs, and found, amongst other evils, that they were so wild as almost to destroy the place they were kept in. He then put into the place some that he considered well bred, and they were quiet enough.

Mr. H. A. Oakes asked Mr. Stearn the cost of his piggery as shown in the model.

Mr. Stearn said that with Poplar boards it would cost about £25.

Mr. Oakes: Then you don't advocate the use of brick and mortar? Wood is more generally the tenant's work. If the landlord builds, he expects it to last 30 or 40 years.

Mr. Stearn: This will last 30 years. (No, no.) My Poplar board building is now ten years old, and I believe it will last that time. It is as good now as when first built.

Mr. Oakes: I believe if all landlords would supply good buildings it would save the tenants great expense. Good lodgings save food, for warmth is equal to food. The better the buildings the easier it is to fatten the stock.

Mr. Stearn said that he employed his own men to put the piggery up, instead of tradesmen. It was only asphalted inside. If they went to the timber yard and bought the boards, he did not think it would cost above £30. The aspect of his building was south, and the doors were so arranged that a thorough draught could always be secured. As to feeding pigs when very young, the sweetened milk was put into shallow troughs. Of course the young pigs were frightened at

first and cut off, but they would soon return and begin to nibble at the edge of the trough, and from that they soon began the milk.

Mr. Woodward: Then you don't begin by giving them Maize.

Mr. Stearn: No, not till they are four days old. Then we begin to give it soaked, as, of course, they cannot eat it without soaking.

Mr. Woodward: Will young pigs begin to eat Maize at four days old?

Mr. S. Scott: I was about to ask the same question.

Mr. Stearn: Yes.

Mr. Hatten asked how much salt was given with the meal.

Mr. Stearn said he could not say. He merely threw a handful in the cistern now and then, as the meal was mixed. The pigs seemed to like the food the better for it.

Mr. Lingwood said he knew of a case where too much salt had been given, and the pigs died. Salt for pigs was all very well after they were dead.

Mr. S. Scott asked if Mr. Stearn really thought that there was any profit in the rearing pigs for cups. Of course it was very nice, but was there any real profit in it?

Mr. Stearn: I must say I think there is more profit in the breeding and rearing pigs than there is in any other animals. As Mr. Page knew, he had tried almost everything, and he found that nothing paid like pigs. He had a lot of bullocks once, which paid him 10s. 6d. a week, at a cost of 13s.

Mr. Page said no doubt the pig was the most profitable animal they could put on the room, but unfortunately they had not the attention they ought to have. They had not from himself he knew, and he thought he might answer for almost every one in the room except Mr. Stearn.

Mr. Stearn said it was very important to have a good herdsman.

The Chairman: Generally the pigs are left too much to boys.

Mr. Stearn: Generally the master does not look at them once a month.

Mr. Page said he did not; he confessed that he liked sheep better, because there was some wool. He must say, however, that he had never seen a pig eat whole Maize at four days old. Sometimes he had given them a few Oats, but they could hardly manage them. He should like to see them crack Indian Corn, for he was quite an advocate for feeding young pigs, but never could get them to eat under ten days.

Mr. Fraser said it was doubtless of the greatest importance that pigs should be kept clean. Mr. Page appeared to question some of Mr. Stearn's propositions, but he could hardly do so, when he said he did not see his pigs once a month.

A vote of thanks was passed to Mr. Stearn.

CUT FLOWERS AND FLORAL DECORATIONS.

Of late years the use of Floral Decorations at Christmas-time and in seasons of joy and sorrow, has much increased in our Province, as in other civilized countries. The love of flowers is a rapidly growing one everywhere, and we are glad to know that the Nurse men and Gardeners of Halifax are doing their best to meet the public wants. The following

article by a correspondent of the English *Gardener's Chronicle* gives a good idea of the flower trade in the United States :

In England all classes of the people are fond of flowers; Lilies, and other border plants which spring up around the cottages of the poor, are as much admired by them as are the rarest exotics by the wealthy. But it is flowers in pots as well as in a cut state of which I am about to speak. In England the uses to which these are applied are certainly on the increase. Button-hole flowers form a prominent feature of our day; in Covent Garden alone ladies' bouquets, consisting of materials "rich and rare," are manufactured by thousands; wreaths of white Camellias and crosses of Immortelles ornament even at this season the last resting-places of the departed; yet for all that, I doubt whether flowers are as extensively employed by us for decorative purposes as they are in America, and especially in New York. There care-worn city merchants prize these "stars of earth," and the dust-covered weary mechanic takes "a world of interest in flowers." Weddings and funerals monopolise the bulk of the flower trade in that Transatlantic city, and the amount expended annually in floral decorations for these joyous and sad occasions is almost incredible. In New York, New Year's Day and Easter Monday are looked anxiously forward to by vendors and producers of flowers. The business is mainly done by the sale of plants in the floral markets during the months of April and May, but the demand for flowers for table decorations even at other seasons is constantly increasing. The kind of flowers usually to be found in the markets are Carnations, Chrysanthemums, Correas, Dahlias, Tuberoses, Fuchsias, Pelargoniums, of all kinds, Gladioli, Heliotropes, Lantanas, Pæonies, Pansies, Daisies, Petunias, both single and double, Roses, Verbenas, Camellias, Azaleas, and other flowers of a more miscellaneous character. Of these, as many as 200,000 Tuberoses are sold in one season. To Roses and Camellias it is impossible to assign numbers, and the same may be said in reference to Verbenas, of which the sale is enormous; while some three millions of what may be termed Dutch bulbs annually find their way into the floral market; Violets are also in great demand.

The suburbs of New York abound in green-houses and conservatories. Near what is called Union Hill, New Jersey, is a little German colony of about 30 florists. Mr. Peter Henderson, of Jersey city, has one of the largest establishments in America; and at Astoria, Flushing, and other suburbs, there are also extensive nursery gardens. During Easter time churches are richly decorated with garlands of fragrant flowers; even the popularity of the preacher, like that of a favourite actress with us, is known by the number of bouquets laid on his desk.

Floral "Bohemians" form quite a prominent feature in the American flower trade. They consist chiefly of young girls, who may be seen everywhere—at the opera, or theatre, on Broadway, or loitering around the brilliantly lighted entrance of some palatial mansion, where a wedding or some other kind of merry-making is in progress. They may be called the retail agents of large houses devoted to the sale of flowers; and inside the walls of a theatre they are the *employées* of some florist who has the monopoly in his line in that establishment. At the grand opera-

house the demand for wreaths and baskets of flowers is a matter of astonishment to strangers. As much as 500 dols. have been known to be given for "a stand of flowers over 7 feet in height" for a favourite actress.

Germans and Englishmen are the principal flower producers in the neighbourhood of New York, and to such great height has the trade of flowers risen, that orders are now being constantly received and executed which in the olden time would have stripped all the conservatories within 10 miles of that city. From 25 glasshouses in Long Island the average yearly cut of flowers is as follows:—Double Primroses, 120,000; white Stocks, 80,000; Carnations, 50,000; Violets, 40,000; Roses, 35,000; Tuberoses, 30,000; Bouvardias, 25,000; "Eupatoriums," 20,000; Begonias, 10,000; Ageratum, 10,000; Geranium leaves (scented Oak-leaf), 35,000; Azaleas, Jasmynes, Pelargoniums, Heliotropes, and other flowers, 50,000; making altogether a total of 495,000 flowers.

From what has just been stated, some idea may be gleaned as to the character and extent of the flower trade in New York, which is increasing with a rapidity equalled by that of no other town with which I am acquainted. Ten years ago it was in its infancy, and now everybody who has a few yards of ground to spare grows flowers either for sale or for home consumption. No more valued gift can be made by one friend to another than a plant in a pot or a bouquet of flowers; voyagers to Europe generally carry with them a basket of these sweet remembrances, which are tended with the greatest care as long as they last. With us, red and white Roses represent illustrious houses; in America, in like manner, flowers are employed to commemorate great events not less than to decorate the garden of the humblest cottager. Their cultivation affords work for thousands. Would that the same peaceful art were now followed on the Continent of Europe, instead of the fearful struggle which is being carried on under the very walls of one of the fairest cities in the world, which, until the last few months, was alike celebrated for its floral ornamentations, and for the noble features in the way of promenades, gardens, and parks, with which it was decorated.

THE CHEESE MILL.

Messrs. Mende's "Hand Cheese" Factory for the manufacture of "German hand cheese," is in reality a great mill, and instead of the cheeses being made by hand, they are turned out by the machine like bricks. The Cheese Mill is worked by Messrs. Mende Brothers of Philadelphia, and the following description from an exchange will be read with some interest:—

Messrs. Mende purchase from the farmers of Chester and Delaware, Bucks and Montgomery counties, curdled milk, commonly known as cottage cheese—"smearcase." It is brought to them twice a week in cans, for which they pay about 20 cents per gallon, and by weight in winter 3 to 3½ cents per pound. They consume in this way the milk of about 2000 cows annually. The curds, on being received at the factory, fresh from the dairy, are placed in bags holding perhaps a couple of bushels, and are allowed to drain entirely dry. They are then emptied into

large wooden troughs, and manipulated with wooden shovels,—a certain amount of salt and some caraway-seed being mixed through the mass. It is then thoroughly ground up by machinery, before passing into their principal machine, which moulds and delivers the cheese on sliding shelves, in three straight rows, automatically pressed in the shape of small cakes, about 2 inches wide by half an inch thick, which is found the most convenient size and shape for sale and shipment. This is done with the regularity of clock-work, and continues six days in every week in the year, at all seasons. The after processes consist simply of these sliding shelves passing and repassing each other, through the hatchways up to the large and well-ventilated drying rooms above, where they are arranged on racks. The temperature of these rooms is accurately regulated; in cold weather, hot air or hot steam conveyed in iron pipes being used, according to circumstances. The whole process of making the "German hand cheese," from the time the curds are received till finally packed in boxes for shipment, occupies about 12 days. The most scrupulous cleanliness and neatness is observed about the establishment in every part, and to secure entirely against danger from dust and flies, the cakes before the final shipment all go the basement, where they are washed in great tubs of water, and again dried. Messrs. Mende Brothers commenced on a small scale six years ago, and the process by which they now manufacture the hand cheese is one of their own invention and improvement, for which they hold several patents. Their factory is a massive brick building, 40 by 100 feet, five storeys high, with basement; and it has a variety of very ingenious machinery, all of which is propelled by steam-power, and is capable of making 50,000 of the hand cheeses per day of 10 hours, or 15,000,000 per year, doing the work of at least 50 hands."

We do not know in what measure this manufacture is suited to our Province, but possibly some reader of our *Journal* may take a hint from the above. Talking of cheese, we should be glad to hear, for the information of our readers, some particulars of the past working of the Cheese Factory system in the Annapolis valley.

Communications.

WINTER WHEAT IN COLCHESTER.

To the Editor of the Journal of Agriculture:

TRURO, Sept. 8th, 1870.

DEAR SIR,—In last month's issue of the "Journal," you inserted a notice of White Bald Winter Wheat, raised by me, with the promise of a further account for publication. As stated, 112 pounds of seed were sown 13th Sept. last, on an acre of ground, by estimation, but which on measurement proves to be 3 roods, 5 poles, 27 yards and 2 feet, or 9.284 square feet short of an acre,—the area being 418 feet by 82. Before sown, the seed was soaked two hours in a strong solution of salt and water, and dried in lime. The crop was fully ripe for the sickle on

Saturday, 6th August, ultimo, on which day a reaper commenced to reap it. It turned out 34 stooks, which were housed the following Friday afternoon. By the next Thursday, had Wheat thrashed, put through fan once, and spread on barn floor to dry, where it remained exposed to action of sun and air, and was turned every day for a week. It was then put through fan again and measured, and the yield was found to be $18\frac{1}{2}$ bushels of clean Wheat, weighing sixty pounds to the bushel, being at the rate of $23\frac{1}{2}$ bushels and one quart to the acre. It escaped weevil, rust and smut, and is said to be a good sample by judges who have seen it. So much for the yield.

It may interest those of your readers who are farmers to know something of the soil and culture. The ground selected was level, but free from hollows—a piece of gravelly upland in grass, in poor heart, which did not cut over a ton of brown top to acre last season. It was so dry and hide-bound, that it was found impossible to plough deep, which operated against seed being well covered by harrow, when sown. The ridges were made narrow—about twelve feet wide—and the separating furrows as deep as possible. After ploughing, twenty one-horse cart loads of well-rotted compost, consisting of scrapings from gutters, barn-yard and chip manure, among which 18 bushels of air-slacked lime were mixed, was spread over the ground. The seed was then sown and harrowed lightly once or twice, the lengthways of the ridges, but not across them. A double mould plough was then run two or three times up and down the furrows, between ridges, to enlarge them, and form trenches to receive rain and snow water, which otherwise would lie upon the surface to the injury of the Grain in hard weather. With exception of rolling the ground after Wheat came up, nothing more was done till spring. The wheat grew about five inches before frost arrested vegetation. As soon as ground was fit to cart over in the spring, a top dressing, consisting of two barrels of Plaster Paris and one of sand, mixed among two cartloads of wood and coal ashes, was applied, and a bag of salt sown broadcast, after which land was well rolled and left till reaping time. Before harvest, the grain covered all the ground—no spot or spots being winter killed,—but did not stand nearly as thick as it might have done, which I attribute to light covering, which occasioned many scattering blades of Grain to be killed out. Had the seed been sown on deeper soil, with same culture, and some attention given to covering, instead of the result being ordinary, I believe it would have been extraordinary, and greatly surprised many, who do not consider Nova Scotia a wheat-growing country.

For next year's crop, I have ploughed $1\frac{1}{4}$ acres of deeper soil and richer ground, better calculated for Winter Wheat—turning down clover after-feed a foot high. Will sow three bushels of seed to-morrow, and treat pretty much as first crop, with exception of applying all compost, top-dressing, &c., as a covering as well as a manure, immediately after the Grain is harrowed in, which I consider will have a better effect, and cause to germinate innumerable seeds the harrow fails to cover, and be some protection against a rigorous winter.

From the fair return attending my first trial at raising Winter Wheat, a number of persons have purchased a few bushels to try their luck. I wish them every success, and hope that other farmers may buy from them next autumn, and that annually this system may be adopted by husbandmen, until Winter Wheat becomes what it is one day destined to be, one of the staple products of the Province.

Yours, &c., J. L.

Reports of Agri. Societies.

ONSLAW AGRICULTURAL SOCIETY.

Report for the year ending Dec. 6th, 1870.

The officers, in making their Annual Report, are pleased, as on former occasions, to be able to inform the members that the Society is in a very prosperous condition.—the roll of membership having increased in the last four years from 68 to 135; and there is a petition now before you, signed by twenty-two of the farmers of Lower Village and Clifton, asking to be admitted into the Society, which will swell the roll to 157,—the whole extending over an area of thirty miles of country, and comprising some of the best farming districts in the county.

The Directors have made the following importations this year, viz. :—

Seven bbls. "Early Rose" potatoes, from Avery, Brown & Co., Halifax, which were sold to members at cost and charges. Also, one Chester-White Boar, from Pennsylvania, which is being kept by the Society for service. They have also raised a superior Boar, which is being kept for service. They also imported fifteen superior Leicester and South-Down Lambs, from Prince Edward Island, which were sold at auction, on their arrival, to the members. They also purchased, at the sale of thorough-bred Stock, at Richmond, two Bulls—a Durham and a Devon—making, in all, six superior Bulls now owned by the Society (four being thorough-breds), all of which are here to-day, to be located for the next year.

The Directors have also made the following sales during the year, viz. :—

Two litters of Chester-White Pigs, at auction, and, if we were to judge by the lively competition and high prices given, they are certainly highly prized by the farmers of Colchester. The old Boar, having become too heavy and clumsy for service, was also disposed of, and, in view of the Society having four Chester-White Boars for service,

and the breed being pretty well exhausted, it was thought advisable to sell the old Sow imported two years ago from Pennsylvania. She was purchased by Wm. N. Dickson, who is keeping her for breeding purposes; so her Stock can yet be obtained.

An Exhibition was held in Truro, Sept. 29th, under the auspices of the Society, and although it was open to the whole of the Province, yet very few entries were made outside of the county. However, it proved a great success;—over 600 entries of different kinds of Stock and articles were made. The Exhibition of Cattle surpassed anything of the kind ever held in this county. The Show of Swine could not, we think, be surpassed in this Province; thereby proving, beyond a doubt, the great benefits being derived from the introduction by this Society of superior breeds of Cattle and Swine. The Horses were not so good;—some fine specimens from Picton and Londonderry. The Sheep, as a whole, were inferior; but we trust the importation made this fall will commence an improvement in the department.

Roots, Vegetables, Grain, and Seeds made a capital display, pronounced by strangers and others to surpass anything of the kind they had ever witnessed. The celebrated Surprise Oats, imported two years ago from Pennsylvania, carried the palm in their class. Those taking 1st and 2nd prizes weighed 59 and 51 lbs. per bushel each.

The departments of Fruit and the Dairy were limited, but some fine specimens of each were exhibited. The prize-list embraced a great many articles, yet the prizes were comparatively small, owing to the difficulty in raising funds. Between three and four hundred dollars were raised by subscription, and eighty granted by the Central Board of Agriculture, which amount enabled the Committee of Management to pay the prizes and necessary expenses, and leave a small sum in their hands for a like purpose at a future day.

The ploughing match, which the Directors were authorized at the last Annual Meeting to carry into effect, was, for unavoidable reasons, postponed for one year.

The returns have been duly certified and sent to the Secretary of the Central Board, as required by law.

[The Onslow Society is obviously in an active and thriving condition. We have not room to print the Financial Statement in detail, but may mention the creditable fact, that the disbursements of the Society during the year amounted to \$854.23, of which the sum of \$700 was paid for the purchase of thorough-bred Bulls, Sheep, and Pigs, and expenses connected therewith, and \$13 for Early Rose Potatoes. There is no good reason why every Society in the Province should not do as much every year as the Onslow Society has done in 1870.—Ed. J. A.]

DARTMOUTH AGRICULTURAL SOCIETY.

The Society met at Mr. Kuhn's residence on 15th April, 1870,—M. Tobin, Esq., presiding. Fourteen members present. Colonel Hornsby and Charles Bissett were permitted to become subscribing members. Arrangements were made for the purchase and distribution to members of Norway Oats. Judges of Potatoes, Turnips, Grain, and Draining were appointed. The Society decided to

hold a ploughing match about 1st October, and a sum of \$10 was set aside for this purpose.

9th November, 1870.

Society met at residence of Mr. Peter Farquharson.

The President stated this Special Meeting was held for the purpose of taking into consideration the necessity of purchasing some of the Stock imported by the Central Board. Moved by Mr. Khun, and seconded by Mr. J. Settle, that \$130 be placed at the disposal of a Committee consisting of Messrs. Khun, Ross, and Rutherford, for the purpose of purchasing Alderney Stock, at the sale of the Central Board of Agriculture, on Thursday, the 16th inst. Passed unanimously.

5th December, 1870.

Read Circular from the Secretary of the Central Board relative to the nomination of members in room of Messrs. Cunard and Northup. Those gentlemen were unanimously again named.

The following members were unanimously elected as office-bearers:—*Pres't.*, M. Tobin; *Vice do.*, A. Kuhn; *Sec'y.*, T. Short; *Treas.*, P. Farquharson; *Directors*, D. Donovan, A. Giles, J. Hoskins, E. Crosse

The Committee appointed to purchase Stock, state that they purchased from Mr. Cunard's herd a Bull Calf, Alderney breed, aged about five months, for the sum of thirty-three dollars.

Moved and seconded that five dollars per month be paid to Mr. Ross for taking care of the animal. Passed unanimously.

T. SHORT, *Sec'y.*

[The President and Secretary sent us a carefully prepared Report of the proceedings of the Society for the past year; but at present we cannot find room for more than the above Abstract.—ED. J. A.]

ANNUAL REPORT OF THE PICTOU AGRICULTURAL SOCIETY.

The Directors of the Pictou Agricultural Society, at the close of their term of office, beg leave to submit this their Annual Report for the year 1869.

Your Directors have much pleasure in reporting that your Society is now in a most prosperous condition; that the roll of membership is larger than for many years, numbering seventy-nine,—a list of whose names is hereto attached.

The receipts of the Society for the past year have amounted to the sum of \$103.84; while the expenditure for the same time has been \$175.87, leaving against the Society a sum amounting to \$72.03.

In compliance with a resolution of your Society, an Agricultural and Industrial Exhibition was held at Durham on Tuesday, the 19th day of October last, which was one of the most successful Exhibitions ever held by this Society. There were 350 entries of Stock and articles in the several departments for Exhibition, and the sum of \$133.75 was paid in prizes. A list of prizes, and to whom paid, is hereto annexed.

As regards the crops, your Directors have much pleasure in reporting an abundant harvest in all kinds of Grain and Roots, while Hay is above an average crop.

Your Directors take this opportunity of acknowledging the liberality of Jas. Hudson, Esq., of Albion Mines, in presenting your

Society with five bushels of Seed Wheat, and would recommend that it be distributed among the members for cultivation.

Officers for the year 1870, viz.:—*Pres't.*, David Matheson, Esq.; *Vice do.*, Donald Fraser, Esq.; *Treas.*, James Ives, Esq.; *Sec'y.*, John McKenzie; *Directors*, John Robley, John T. Matheson, Alex. McKay, Robert McLean, Thomas Cameron.

DAVID MATHESON, *Pres't.*

JOHN MCKENZIE, *Sec'y.*

Pictou, March 2nd, 1870.

THIRTY-FOURTH ANNUAL REPORT OF THE PICTOU AGRICULTURAL SOCIETY.

The Directors of the Pictou Agricultural Society, in presenting their Annual Report, have much pleasure in offering their congratulations on the satisfactory position occupied by your Society at the close of the present year.

Your Subscription List is larger than it has ever been before, numbering ninety-one members—a list of whose names is hereto annexed.

Your financial affairs are in a correspondingly flourishing condition, as will be seen by the Treasurer's account, which shows the receipts of the past year to have amounted to the sum of \$292.95; while the expenditure for the same time has been \$229.15, leaving a balance in the hands of the Treasurer, in favour of the Society, amounting to \$63.80.

A considerable amount of your funds have been expended in the purchase of Stock for the use of members:—your Directors having purchased during the past year, in addition to that purchased in former years, one thorough-bred Alderney Bull and six Rams, imported from P. E. Island, and two Chester Boars, of the Stock purchased in Canada by the Board of Agriculture.

As regards the crops, your committee have much pleasure in reporting an abundant harvest—the only deficiency being a slight failure in the Hay.

Wheat is a good crop, and more sown than for many years. Oats, a large crop; Potatoes and other Roots, an abundant crop.

Your Directors would recommend that measures be adopted to endeavour to secure the co-operation of the several Agricultural Societies in this County in holding a County Agricultural and Industrial Exhibition next fall; and failing in securing such co-operation, that an Exhibition be held by this Society.

DAVID MATHESON, *Pres't.*

JOHN MCKENZIE, *Sec'y.*

Pictou, 6th Dec., 1870.

REPORT OF SYDNEY AGRICULTURAL SOCIETY FOR 1870.

The President and the Directors have to report that, during the year, forty-one members have subscribed to the Society's funds in time to qualify for a portion of the Provincial grant; and although this number is but one-third of some former years,—perhaps indicative of non-appreciation of the interest the Provincial Legislature takes in fostering Agriculture by liberal grants,—it will be found more efficient in working the Society, because a larger body of subscribers cannot be obtained without including stray members from distant settlements who cannot have the

use of the Prize Stock, whenever a use is found for it, which creates dissatisfaction and disunion.

The season, on the whole, has been favourable; the crops, except of Hay and Turnips, a fair average. Of previous years, Hay has not yielded more than one-half the crop of 1870. Turnips, suffering from fly and the early drought, are very inferior; Potatoes, the heaviest crop for many years; but owing to heavy fall rains, are rotting in the cellars, where stored from wet lands. Wheat has done remarkably well, although not extensively cultivated; and amongst the best samples is the Fyfe, obtained from the Central Board. Oats are a heavy crop, both in grain and straw, and very extensively sown; the Norway, very good. Barley is very good, but little is sown. Vegetables of all kinds about the same as last year. Fruits, about the same as last season; but owing to the very high winds throughout the autumn, a good deal of damage was done.

The Society has added to its Stock two Bulls, purchased at Baddeck, from the Prize Stock imported by the Board of Agriculture, a two-year old Devon—"Theodore"—which obtained the second prize at the Toronto Exhibition in September, and an Ayrshire Spring Calf, "Johnny," of pure breed, from the best Stock in Scotland and Canada. The general complaint of the deterioration in the cattle of this county should now speedily cease; because, within a circuit of less than twenty miles, there are no fewer than eight of the finest Alderney, Ayrshire and Short-Horns ever imported into any country, besides Cross Breeds and Grades.

Although the imported Sheep have been unfortunate from destruction by dogs and accidental misfortunes, the weight and quality of both Lamb and Mutton offered for sale is spoken of as evidence that much good has been effected. Swine are very scarce, and a further import is needed.

The funds are ample, and after paying for the Seed Wheat, and Oats sold to members at a great reduction, there remains in the Treasurer's hands \$74 for appropriation.

Your President has also been requested to assist in an effort to establish Biennial or Triennial Fairs in the Counties of Cape Breton. The want of some arrangement by which buyer and seller may be brought together, at periods when farming products are ready for market and exchange, is an evil more seriously felt, as year by year the "Needle in a bundle of Hay seeking," which has hitherto been practised, is allowed to continue.

You will be asked to assist in both these arrangements.

THOS. LECRAS, *Sec'y.*

Sydney, C. B., Dec. 6th, 1870.

WEST CORNWALLIS AGRICULTURAL SOCIETY.

The official Report of the Society shows a large increase of membership during the past year, which leads to the conclusion that a more prosperous future is opening up before us. The past year we were only able to report sixty-four paid-up members, whereas this year we have the unprecedentedly large number of ninety. These indications of prosperity have already resulted in substantial good to the Society, inasmuch as the increase of funds have enabled your Executive Com-

mittee to purchase more largely of the improved Stock of the Province.

The nett income from the Central Board this year amounted to sixty-eight dollars fifty cents, after deducting three dollars fifty cents in payment for seven copies of the *Agricultural Journal*, which, added to the payment for membership, amounts to the sum of one hundred and fifty-eight dollars and fifty cents; and from all other sources we have derived forty-four dollars twenty-five cents income,—making the total income since our last Annual Meeting amount to two hundred and two dollars. As regards the expenditure for the year, we briefly state that we have bought one Short-Horned Durham Bull—"Major Roland"—and also a yearling Bull—"Young William,"—about three-quarters Durham, sired by Sir William—a very choice animal—in the possession of the East Cornwallis Agricultural Society. We have, therefore, on hand, three good Bulls, of the Durham—only one pure blood. We have also secured the services of one White Chester Boar for the season, and are expecting another. We have to report upon the Agricultural circumstances of the surrounding country, that the crops of Hay are about average. Potatoes, above average growth, but largely injured by dry rot; Oats and Barley, a little above average; Wheat, quite above average growth, and but little injured by the midge or weevil; Buckwheat below average, but not largely cultivated.

The thanks of this Society are due Sir William Young for the gift of his father's book on Agriculture.

In concluding our report, we must say that the present season is one of Agricultural prosperity.

Somerset, Dec. 6th, 1870.

ANNAPOLIS AGRICULTURAL SOCIETY.

The Annual Meeting of the Society was held at the Court House in Annapolis on the first Tuesday in December, 1870, when the accounts of the Secretary and Treasurer were examined and passed.

The General Committee report that, in accordance with a resolution passed at a General Meeting of the Society in March last, held at the Court House, a Premium List was prepared and published, and a copy sent to each of the members.

The Committee obtained from Mr. Lawrence Hall the use of the Garrison Field at Annapolis for the exhibition of Stock, and were desirous to connect with it a Fair, for the sale of such things as the public might think proper to bring; but, in consequence of some delay in getting the notices posted, were unable to do much with the Fair this year. The Stock exhibited by the Society were pronounced by the judges, who were the same as last year, to be better than that exhibited in 1869.

The Show of Fruit, Roots, &c. in the Court House, although not what might be desired, was considered fair for the season in Annapolis West. Most crops were injured by the drought in the early part of the season.

The following officers were elected for the ensuing year:—*Pres't.*, George Whitman; *Vice-President*, John M. Harris; *Sec'y.*, Geo. Wells; *Treas.*, Alexander Harris; *Directors*, Charles Whitman, James F. Hoyt, Dimock

Whitman, Frederick W. Sanders, and E. C. Cowling.

It was then moved by Rev. J. J. Ritchie, seconded by Mr. Frederick W. Sanders, and *Resolved*.—That the funds of the Society be devoted for this year to the improvement of Live Stock, and that the General Committee be requested to make enquiry where Breeding Stock may be had within the Province, and report at the next meeting of the Society in February; provided the approval of the Board of Agriculture be obtained for such appropriation, as provided in Act. 35, Chap. 96, of "The Encouragement of Agriculture."

GEO. WHITMAN, *Pres't.*
GEO. WELLS, *Sec'y.*

BRIDGETOWN AGRICULTURAL SOCIETY.

The Officers and Directors of the Bridgetown Agricultural Society beg leave to submit their Report as follows:—

During the year just past we have to state that not so much improvement has been accomplished in the way of Agriculture as might be desired.

The Society find much difficulty in increasing the number of subscribers, which is a matter of regret. Even many of such subscribers as are procured give trouble in coming forward to support the Society, until the time has nearly expired for preparing the annual certificate to the honourable Board, to entitle the Society to the county grant.

In conformity with suggestions made at the last Annual Meeting, a Durham Bull has been purchased by the Society, which is a very fine animal, and will likely bring good Stock.

Two Boars and four Sows of the Chester White breed have also been purchased. The Society numbers forty-two paying members for the past year, at one dollar each.

The following are the officers for the ensuing year:—*Pres't.*, Oliver Foster; *Vice-Pres't.*, Charles B. Whitman; *Treas.*, W. Y. Foster; *Sec'y.*, Eugene P. Troop; *Directors*, Stephen E. Bent, James E. Fellows, Delaney Harris, Robert Parker, Joseph Fellows.

E. P. TROOP, *Sec'y.*

Bridgetown, Jan'y. 13th, 1871.

BOULARDERIE AGRICULTURAL SOCIETY.

At the Annual Meeting held Dec. 6th, the following office-bearers were elected:—*Pres't.*, Henry McKimmon; *Vice-Pres't.*, Alexander Moore; *Sec'y.*, Wm. McKay; *Treas.*, John Ross; *Directors*, Solomon Knock, Peter Moffat, John Edwards, John Moffat, Murdoch McLean,—Mr. John Ross, M. P. P., delegate to Central Board.

Since the last Annual Meeting, the Directors have purchased some improved Seeds—principally Norway and Surprise Oats—which gave general satisfaction, also held an Exhibition of Ploughing, Young Cattle, Sheep, Butter, Cheese, and home manufactures of Cloths, Knitting, and Patch-work; also bought two Short-Horn Bulls, imported by the Central Board.—Sir Habbit and Ontario Farmer. The Bulls are the finest animals seen in this part of the country. They are to be wintered at the expense of the Society.

WM. MCKAY, *Sec'y.*

LOWER STEWIACKE AGRICULTURAL SOCIETY.

Special Meeting of the Society held April 4th, for the purpose of deciding how the funds of the Society should be expended for the ensuing year. Resolutions were passed authorizing the Directors to purchase two Bulls and a White Chester Boar, and provide for their keeping. It was also decided to obtain a quantity of Fife Wheat and Norway Oats from the Board of Agriculture—provided they could be got—and distribute to members at cost. The Bulls were purchased by the Directors: one Durham for \$25; the other, a superior animal, for \$50; and the Boar, price and expense of getting, \$18.—Seed Wheat ordered from the Board was obtained—10½ bushels—divided into twelve lots, and sold to members at cost.

Special Meeting held Oct. 27th.

The Directors were ordered to sell the Durham Bull and attend the sale of imported Stock at Richmond, for the purpose of obtaining a thorough-bred Ayrshire Bull. The Durham Bull sold for \$21. Thorough-bred Ayrshire B. U. Young Prince of Wales, purchased for \$150.

Annual Meeting held Dec. 6th. Minutes of previous meeting read and approved. Officers' report received. Treasurer's statement adopted.

The following officers were elected for the ensuing year:—*Pres't.*, James A. Tays; *Vice-Pres't.*, Wm. H. Hogge; *Sec'y. and Treas.*, Wm. W. Pickering; *Directors*, Wm. M. Hiltz, J. B. Banks, G. W. Daniell, Wm. Ramsay, and Daniel Wright.

Arrangements were made for the keeping of the Stock animals; fees for services to pay for keeping for one year,—the Ayrshire Bull, Young Prince of Wales, to be kept exclusively for the benefit of the Society.

Mr. Robert Kent, feeling himself aggrieved by being required to pay for the Ram lost last year in his care, and proving to the satisfaction of the Society that the Sheep had not been lost through his neglect, it was

Resolved. That the Society bear the loss and return him the money.

Hon. Alex. Macfarlane nominated as a member of the Central Board. Meeting adjourned.

STOCK OWNED BY THE SOCIETY.

Thorough-bred Ayrshire Bull, Young Prince of Wales; one superior Durham and Ayrshire Bull; one White Chester Boar.

GENERAL REMARKS.

Crops in this section of the country (South Colchester) generally good. Hay, owing to the dryness of the season, rather below an average yield. Wheat—a greater breadth sown than last year, and in most cases with very satisfactory results. Oats—an abundant yield, both of straw and grain. Barley—an excellent crop. Buckwheat, in some localities, somewhat injured by blast. Potatoes—abundant yield, and remarkably free from disease. Turnips, Carrots, and other Roots, on heavy moist land, good returns; but on dry soil, injured materially by the drought.

We are happy to be able to report that the Society is in a prosperous condition, working harmoniously, with encouraging prospects for the future.

PARADISE AGRICULTURAL SOCIETY.

The Society is advancing favourably, and our prospects for the future are encouraging. Our meetings during the past year have been well attended.

At a Special Meeting called by the President on March 7th, it was resolved that the Secretary should correspond with the Secretaries of the different Societies in the county, urging the advisability of holding a meeting on the 29th inst., to discuss the practicability of holding a County Exhibition, encouraged by the Central Board of Agriculture; at which meeting, from the obstacles which presented themselves, it was considered impracticable to make any further effort in that direction.

At the half-yearly meeting of the Society, held April 5th, it was resolved that the Secretary should correspond with the Secretary of the Central Board of Agriculture, requesting him to send us four bushels of Norway Oats, and ten bushels of Wheat, which order was filled by receipt of ten and a half bushels of Canadian Fife Wheat and two bushels of Oats, which were equally distributed to the members of the Society gratuitously, and have given general satisfaction,—some members having raised one hundred and twenty-eight pounds from one and a half pounds of the Oats sown.

At the quarterly meeting held Sept. 6th, a Committee was appointed to make necessary arrangements for an Exhibition of the Society; but at a Special Meeting called for that purpose, it was deemed advisable to postpone the Exhibition and appropriate our funds to the purchase of Stock;—and it was resolved that Avar Longley and W. C. Starratt be appointed a Committee to purchase Stock advertised for sale at Richmond by the Central Board of Agriculture; and at the yearly meeting held Dec. 16th, said Committee reports that owing to the high prices which the Stock commanded, they could not purchase.

Regarding crops, the Society is able to report favourably. Hay, good average; Wheat, good, and more generally sown; Barley, good; Oats, average; Corn, very good; Potatoes, not so good as last year; Turnips, very poor; Beets, Carrots, and Beans, good, and Apples very abundant.

Our Annual Meeting was held on the first Tuesday in December, and the following are the officers elected for the ensuing year.—Pres't., Avar Longley, Esq.; Vice-Pres't., Robert Marshall; Sec'y., W. H. Balcolm; Treas., J. S. Leonard; Council, W. R. Dodge, Wellington Daniels, Edmond Bent, W. H. Bishop, W. L. Leonard.

On motion of A. Longley.

Resolved, That we hold monthly meetings of this Society, beginning the first Thursday in January next, with the view of having discussions upon Agriculture, &c.

ISRAEL LONGLEY, Pres't.
W. L. LEONARD, Sec'y.

ADVERTISEMENTS!

WANTED!

By the Onslow Agricultural Society, a Thorough-Bred AYRSHIRE BULL. Any party having one or two to dispose of will please correspond with the Secretary.
W. M. BLAIR,
Jan'y, 1871. Sec'y O. A. Society.

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JAMES STANFORD

Halifax, N.S., June, 1868.

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JAMES J. H. GREGORY,
Feb. 1870. Marblehead, Mass.

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