

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear
within the text. Whenever possible, these have
been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
 - Pages damaged/
Pages endommagées
 - Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
 - Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
 - Pages detached/
Pages détachées
 - Showthrough/
Transparence
 - Quality of print varies/
Qualité inégale de l'impression
 - Continuous pagination/
Pagination continue
 - Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
 - Caption of issue/
Titre de départ de la livraison
 - Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								✓			



Published under direction of the Board of Agriculture of Nova Scotia.

VOL. I.

HALIFAX, N. S., NOVEMBER, 1866.

No. 21.

CONTENTS:

	PAGE.		PAGE.
THE FIELD AND FARM YARD.—		Doings at Chester182	
The Common Field Bean.....	177	Paradise Agricultural Society.....	183
Agricultural Education.....	180	To Correspondents.....	183
Short Woolled Sheep.....	181	MISCELLANEOUS.—	
Farming is fashionable.....	181	Acadian Botany, No. 3—Senecio Jacobæa—Veronica montana...183	
Wonderful yield of Potatoes.....	182	Bulbs, plant now for Spring Flowers.....	184
Sale of Canadian Cattle and Sheep at Richmond Depot.....	182	Chalk Ferments.....	184
COMMUNICATIONS.—		Native Sulphur.....	184
Lavendar is Hardy in Nova Scotia.....	183	Small Talk.....	184
Durham Cattle in Stewiac'e.....	182		

The Field and Farm Yard.

THE COMMON FIELD BEAN.

The Hon. Mr. MACFARLANE, President of the Board of Agriculture, has called our attention to a field crop that is of great value in Britain, but which has hitherto been neglected in Nova Scotia, and is we may say, practically unknown on the American continent. The Common Field Bean of England is a totally different plant from our common American "Beans", (which are in England called Kidney Beans or French Beans), and is in fact nearly related to the Broad Windsor and Long-pod Beans of the gardens.

As it is not improbable that the Board of Agriculture may import a quantity of Beans this season, should any of our farmers indicate a disposition to give the crop a fair trial, we beg to call attention to some of the leading facts in the history of the crop, and to the methods of culture adopted in those countries where it is a mainstay of the farmer.

In the dry hot summer of Upper Canada and the Western States, the Bean cannot be cultivated with success, but in Halifax County it was tried long ago,

and is found to be well suited to our soil and climate.

HISTORY.

The Bean is an important agricultural crop; but has received comparatively little attention from agricultural writers. The gorgeous appearance which the crop presents when in full blossom, and the delicious perfume which it emits, has however arrested the attention of even the most unobserving of Englishmen, and the Poet of the Seasons has expressed his admiration of the bean fields in unequivocal terms:—

"Long let us walk
Where the breeze blows from yon extended field,
Of blossom'd beans. Arabia cannot boast
A fuller gale of joy than liberal thence
Breathes through the sense, and takes the ravished soul."

The Bean has been long in cultivation; even in East Lothian, the old chronicles tell us that in 1296, the invading army of Edward I subsisted on the beans they gathered in its fields. Prof. Rogers, of Oxford, in his new work on Medieval Agriculture, describes the process of women dibbling beans in the thirteenth century, in England. Various opinions have in different ages been entertained respecting the applicability of the bean as an article of human food. Modern chemists tell us that it is very rich in

gluten, and therefore highly valuable for its feeding properties; in this however, they have made no advance on the practical knowledge of the Romans, who considered it a strong food; but thought it apt to dull the senses and understanding, and to cause troublesome dreams, on account of all which it was seldom used, except when bruised and mixed with other corn. Some ancient authors believed the use of beans to occasion sterility, whilst others read in the dark characters or pencillings of their flowers "signs of heaviness and death." Cicero thought them enemies to tranquility of mind, and another "abstained from them that he might enjoy a clearer divination by his dreams."

It is difficult, however, to trace the early history of the Bean with certainty, as the same name has been applied to several plants quite distinct from each other, particularly the Lotus or Sacred Bean of Egypt (Nelumbium), an aquatic plant of great beauty, which was highly regarded by the ancient Egyptians, and which, like other characteristic plants of the Nile, enters into the ornament of their architecture. There is reason to believe that Phillips (whose usual veracity has led succeeding authors to follow him implicitly in this as in other matters of his-

torical botany), has indiscriminately mixed up the ancient histories of several plants in his treatise on the common Bean (*History of Cultivated Vegetables*, vol. I., pp. 65-74.)

The Bean is an annual plant, a native of Egypt, to which the botanical name of *Faba vulgaris* has been applied. It belongs to the natural order *Leguminosæ*, the distinguishing character of which is the legume or pod, which forms the fruit of all plants of the order, and is familiarly exemplified in the common pea and bean. In all European species of *Leguminosæ*, another peculiarity prevails, viz., the papilionaceous or butterfly shaped flower, all plants having such flowers being leguminous; but many of the tropical *Leguminosæ* want the papilionaceous flower, as the Acacias and Cassias, for example.

Some of our most eminent botanists regard the whole order as having decidedly poisonous properties, apparently following up the idea of Pythagoras, whose genuine "Bean" was a very different plant; he expressly forbade beans to be eaten by his disciples, because he supposed them to have been produced from the same putrid matter from which, at the creation of the world, man was formed!"

The poisonous character of the *Leguminosæ* is, however, ill supported by the fact that many of the most important economical plants of all (except arctic) countries belong to it; we have for example the pea, the vetch, the lentil, the bean, the kidney bean, clover, medick, lucern, trefoil, and saintfoin, all of greater or less importance in agriculture, while in warm countries the tamarind, the locust, (a delicious fruit understood to be the "locust" of scripture, which ignorant people have erroneously supposed to be the insect so called), the chickpea, and a long list of medicinal species, point out the important and wholesome character of many members of the order.

In the present day field beans are cultivated in England exclusively as food for horses and cattle, although in some districts the peasantry use them in various ways as an article of food. The prevailing opinion is that they are a flatulent and coarse food, better suited to the laborious than the sedentary class of society, but not very wholesome even to the farmer. However we have the authority of the earliest scientific botanist that appeared in England (John Ray, the devout author of the "Wisdom of God in Creation") that this is "not true," though he "frequently fed upon beans in the summer." "Nor do we (adds he) approve of the opinion of Dodonæus, who preferred the old and dry beans before the green ones, because he thinks them less flatulent; but, with Tragus, leave them to our horses; nor do I see why they should not fatten men as well as swine and other animals."

Professor Johnston tells us that Beans in common with other kinds of Pulse, contain, as a distinguishing character of the whole class, a large per-centage of gluten, mixed with a comparatively small per-centage of fat. "On an average the proportion of gluten is about twenty-four, and of fat about two in every hundred. The gluten of these kinds of grain resembles that of the oat, and does not therefore, fit bean or peas meal for being converted into a spongy bread. The large proportion in which this ingredient is present in them, however, renders all kinds of pulse very nutritious. Eaten alone they have a constipating or costive quality; but a proper admixture of them with other kinds of food, especially with such as contain a large proportion of oil or fat, is found to give both strength and endurance to animals which are subjected to hard labour. It is in this way that a certain quantity of beans given to horses among their oats is found so serviceable. It is because also of the same large per-centage of gluten that the chick-pea, the *gram* of the East, is considered, when roasted, to be more capable of sustaining life, weight for weight, than any other kind of food.—For this reason it is selected by travellers about to cross the deserts where heavy and bulky food would be inconvenient;" and, in like manner, the lentil (recently introduced to British agriculture) has been employed for ages in Southern Europe, and in Egypt, as the most suitable food for those who undertake long journeys.

The analysis of beans shows the following constituents:—

Legumino	27.5
Starch	38.5
Fatty Matters	2.0
Sugar (glucose?)	2.0
Gum	11.5
Woody Fibre, Pectic Acid	10.0
Salts, Phosphates, &c.	3.0
Water and Loss	12.5
	100.0

CULTIVATION.

Boussingault, the French agriculturist, observes with reference to beans and allied legumes, that although they scarcely ever open rotations they very often wind them up, and they may follow any crop. Haricots and beans, he thinks, might be advantageously intercalated with Indian corn. His meteorological observations lead to the conclusion that, to succeed, our leguminous plants require a temperature which in the mean does not fall below from 27° to 50° Fah. Hot climates agree with them perfectly. In respect to this statement our experience differs from that of the French chemist farmer. Boussingault says he has followed them from the sea-board of the Equatorial Andes to a height of 8200 to 9800 feet above the level of the sea. The following statement of the comparative produce of the different leguminous plants

generally cultivated is on the authority of Schwertz:—

Plants.	Weight per bush. in lbs.	Produce per acre in bush.	Weight of dry straw or haulm per acre.			
			Tons.	Cwts.	Qrs.	Lbs.
Beans,	70.4	27.6	1	2	2	15
Haricots	52.0	27.8				
Peas,	63.2	16.0	1	4	2	6
Lentils,	68.0	18.4				
Vetches,	68.0	17.6	1	4	2	6

The varieties of Bean have not been multiplied to such an extent as most other grains. In fact almost the only sort cultivated in Scotland is that known as the Common Horse Bean, which is so familiar that no description is required. The sample is however not always clean, other varieties being more or less mixed with the common sort, and even the character of the season exercises a considerable influence on the appearance of the sample. When a field of beans is in blossom the diversity of colour in the flowers is such as to attract general attention.

In addition to the common kind, we may notice the following varieties, which more or less deserve the farmer's attention

Alexandrian.—Later in ripening than the common sort, and generally not so well filled.

Annfield.—One of the largest class of field beans, of medium earliness and rather productive, but likes a superior early soil.

Heligoland.—An early and hardy sort, well filled, but small-headed, on which account the produce is not very heavy.

New Large Red or Scarlet.—Very prolific, beans large red.

Pigeon.—Early and prolific, and the beans darker than any other sort, but small (hence its name from being used instead of peas to feed pigeons.)

Prolific Purple.—Culture discontinued from a prejudice among dealers against its sample.

Purple.—Resembles the winter bean, but inferior.

Common Tick.—In England and France this is the common bean in use for feeding. It is shorter in straw and more prolific than the common Scotch sort, but prefers a light soil.

Harrow Tick.—Smaller even than the preceding in all its parts, and like it suited to light soils. There are a number of sub-varieties, such as *French Tick*, *Flat Tick*, and *Essex Tick*.

Winter.—Remarkably hardy and prolific, but not as yet, we believe, fairly tried in Scotland; in France and England it has stood well severe winters.

Beans may be sown by hand broadcast, on one furrow of tilth, or by the dibbling machine. They like a strong good soil. Winter beans are sown in October and November, in England; common beans in February and March.—With respect to quantity of seed, three

bushels are usually allowed to an acre, but this varies from two to five bushels. When stable manure is applied to the beans, it is usually laid on in Autumn and ploughed in.

The after treatment of the crop depends upon the system of culture pursued, drilled, or broadcast. When drilled it is horse and hand hoed, these operations beginning so soon as weeds make their appearance, and continuing until the height of the plants point out the propriety of stopping. In strong clay soils, the rows should be wide apart to allow freedom in horse hoeing.

A very good way of sowing beans in wide intervals, consists in drilling the land with one furrow of the common plough, sowing the beans by hand, which fall into the hollows, and then reversing the drills, or harrowing the field across. In any method of spring sowing, the land must have an early winter furrow. In the wide drilling system two more furrows will be required in the Spring, as soon as the state of the weather will permit. When the seed is dibbled at narrow intervals, the winter furrows must be well harrowed. (Donaldson).

In the culture of beans artificial manures have been found of great value. They naturally delight in a calcareous soil, and where the soil is not naturally calcareous, lime ought to be freely supplied. Mr. Huxtable has suggested as an excellent artificial preparation for beans, a manure containing 10 bushels of lime, 2 cwt. of superphosphate of lime, and 5 bushels of salt and ashes. Where lime already exists abundantly in the soil guano may be applied with the best effect.

The Irish method of bean culture, as detailed by Mr. Carroll, is as follows: The land designed for beans is that in which there had been previously a grain crop; and sometimes the land selected in meadow or pasture land "ploughed out the lea," in September, or October or November, into beds from 4 or 5 feet wide, on which is laid from 10 to 40 tons of farm-yard dung or compost of sea-weed, road-scrapings, &c., to the Irish acre. When this is spread on the ploughed land (it sometimes is on the unploughed land), it is then either lightly covered, with a couple of inches of earth, either from the furrow or other beds according to convenience, or it may remain uncovered; the seed is then, in November or December, sown broadcast at about 20 stones per Irish acre, and covered from the furrows like the planting of potatoes in "lazy-beds," and generally left so till the crop is fit to cut in August or September following.—The produce varies from "5 to 20 barrels per acre," according to the goodness of soil and favourableness of season. The kind thus grown in Wexford (where alone beans are grown to perfection in Ireland) is called the Wexford Bean; in character

it is something like the Russian or Winter Bean of late introduced into Ireland.

The Baron de Lafontaine has given an interesting detail of the introduction of the drill system of bean growing to Belgium, in which he not only illustrates its benefits, but gives valuable hints as to the practical details of the system.

"It is a question (say he) whether the drill culture of beans, as producing the greatest amount of seed, would not be preferable to the broadcast system, so long pursued in Belgium, and it is to this point that we wish particularly to direct attention. Sir John Sinclair reports, in his treatise on practical agriculture, an experiment made on three-fifths of an English acre, of which one-half was sown broadcast, and the other half in drills. It was found that, independently of the economy of the seed sown, the produce of the crop was greater in the drilled portion than in the broadcast, in the proportion of 11 to 9. The same field being sown with barley in the following year the crop was still more considerable in the drilled part, in the proportion of 34 to 27. This trial was made about 30 years ago, and from the publicity given to it has much contributed to the establishment of that system in England. The adoption of drill cultivation in general belongs to a period that is fast approaching. If with our neighbours in Great Britain its advantages are no longer disputed, we have the satisfaction also to know that with our progressive farmers in Belgium, a lively prejudice exists at the present time in its favour. It is even probable that in due time the application of this method will become the common rule. Can we indeed doubt that it will be so, when we reflect that broadcast sowing is a simple imitation of the procedure of nature, while the drill system constitutes its perfection.—Amelioration of the soil, destruction of weeds, increase of crops, and diminution of the chances of failure, are the results of this method. Are such, it may be asked, the results of the broadcast system? Assuredly, it produces neither amelioration in the soil, increased amount of crop, nor any of the advantages just specified; neither does it allow, either uniformly or completely, the object generally assigned to bean cultivation, namely that of a cleansing crop. To merit that character it ought to effect the complete destruction of weeds. Now this case never occurs under the broadcast plan of sowing; for a great number of plants, especially the Sow-Thistle, obstruct, and, their reproduction, deteriorate the subsequent crop.

"We may remark, that we are here speaking of circumstances attending bean cultivation, when entirely successful, under the system in question. But what happens when the crop is short, or altogether a failure, a result which occurs at least five times in ten years? In such case we

have to wait for the rotation of a root-crop to repair the evil caused by the practice of a vicious system. If it be asked, whether beans under such condition can be regarded as a cleansing crop, I reply that they cannot, if we persist in the broadcast system of sowing them; but that they may be regarded in that light, if we adopt the drill cultivation. The field selected for trial was deeply ploughed at the end of the year. In Spring it was divided into three parts, on two of which a good supply of manure was lightly ploughed in. At the time of sowing, one of these portions was sown broadcast in the usual manner; the other in drills, in the same manner as in potato planting, namely, by placing the seed in every other furrow, and covering it by means of the plough—a plan it was thought best to adopt as being the simplest that presents itself to the farmer who is not in possession of improved implements. The remaining part of the field on which no manure had been applied, was farmed in high ridges, according to the Scotch method described by Low; and the beans being sown in the hollows between the ridges, at a distance of about 24 English inches, the manure was placed upon the seed, and then covered in by a second plough, which passed through the middle of the ridges; in this manner the formation of the ridges, the sowing of the beans, and the placing and covering in of the manure, were executed at one and the same time. "The sowing of this portion was executed by hand. A few days before the beans came up, the whole of the three divisions of the field were equally harrowed. As soon as the plants were 4 inches out of the ground, hoeing was commenced, and was always executed in the same manner in the two drilled sections of the field. This operation ought to be repeated three or four times, with an interval of a few days between each, and always in a different direction, that is to say taking care to turn the soil back to the stems of the plants, when, by previous hoeing, it had been turned up in the middle of the interval between the rows. The last earthing up, which is effected by a skim-hoe, adapted to this implement, ought to be executed before the first flowers of the bean make their appearance, as the passage of the horse or implement might easily brush them away from the plants. These weeds between the rows which have escaped the hoe may be removed by the hand. The extraordinary development of the stems and shoots soon raises the plant to a foot in height, the ground becoming covered in a short time with a thick shade which maintains it in a state of suitable humidity during the remainder of the season. The reaping should be effected by the sickle in order that the work may proceed row by row; the em-

ployment of the scythe being rendered difficult by the ridges." The following results were obtained:—

	Per English Bush.	Acro. Quarts.
1. Broadcast.....	25	19
2. In rows (as in potato planting) 27	17	
3. Drilled on ridges....	29	30

Thus beans sown on drills or rows have an undisputed superiority in production of seed over those sown broadcast, with an inconsiderable inferiority in the amount of straw.

The average produce of this crop is about thirty bushels per acre, the weight per bushel being sixty-two lb.

In the case of beans an early harvest is desirable, and they should never be allowed to over open. Professor Donaldson, in his excellent little work on the Cultivated Plants of the Farm, tells us that, the shrivelling of the leaves of the haulm, and the black colour of the pod, with the hardened state of the seeds, give notice of the maturity of the bean crop. They are most generally cut by the sickle low by the ground, tied into sheaves, and built into thatched ricks, or lodged in barns. The straw and the grain are very easily separated by flail, or by machine, and winnowed for use. The sheaves are tied by straw ropes or tarred twine, which lasts for years on being preserved for use. Pease in mixture are not unfrequently sown with beans, and then the pea straw serves very conveniently for being made into ropes to tie the beans. The straw of beans when well harvested, is very well relished by horses, and the husks of the pods by sheep; and it forms in any shape, a very useful short litter for pigs in sties, and for sheep confined in cots. It is in fact regarded as superior to hay for various feeding purposes; and the value of the straw is no doubt a great inducement to the cultivation of this crop, as well as the circumstance that the introduction of this crop enables the farmer to extend the length of the rotation, and throw the various white crops and clover more remote from each other.

It is of importance then that in calculating the best season for reaping, regard should be had to the condition of the straw as well as the grain, and it is well known that by allowing any crop to become fully ripe, its straw decreases in nutritious properties from the development of the woody fibre and the drying up of the juices. In a paper read to the Western District Mid-Lothian Agricultural Society, Mr. Melvin stated that while the fodder of the bean when cut in a green state was most valuable as food for horses; on the other hand, when allowed to stand until it became blackened, was as "worthless and hurtful" for this purpose as barley straw. It is his opinion that although the crop takes a much longer period to win in the field, and longer to get into condition in the stack, the best plan is to

cut as soon as the hilum of the bean within the pod gets black.

Although bean-straw is generally employed for feeding in a dry (raw) state, it appears that cooking is in some parts of the country resorted to with effect. A writer in the "Agricultural Gazette," whose bean crop was so unusually strong that he had difficulty in inducing his cattle to eat the straw, had recourse to steaming it, which he did by means of a temporary steamer of tin, with perforated holes made to fit a large pan used for brewing and other domestic purposes. The favourable effect of the steaming process was at once apparent. The bean straw was changed from a brittle dry material into a soft pulpy one, and emitted an odour not unlike that of spent grains. The cattle showed a relish for it, and instead of requiring more palatable material as a condiment, it became the incentive, and no material was found to be so strong an inducement to the consumption of other straw, as an admixture of bean straw.—The bean straw analysis, showed on comparison with an analysis of meadow hay, a double per-centage of albuminous matter, a somewhat less proportion of gum, starch, &c., being 40 in the hay to 31.63 in the bean straw.

A correspondent of the "Gardener, Florist and Agriculturist," some time ago proposed a system of harvesting beans, which, if practicable, might prove advantageous, and improve the character of bean straw without affecting the crop of grain. He suggested that, instead of tying the haulm in sheaves, and leaving them to stand in the field, that as soon as cut, women and children should be employed to pluck off the pods, to be conveyed to sheds, to dry upon hurdles suspended so that the air should circulate freely, and thus the whole crop would be preserved without the possibility of injury. by the slightest attention of a creely passing a small rake so as to turn the pods once or twice a-week; the whole expense of so collecting and storing the crop would be compensated by the preservation of the best beans, which, in the usual method of ripening, in the field, are often dropt out. The haulm likewise would prove very superior as food for horses, being well hayed and sweet, instead of rotting and hardening under exposure to the changes of weather. The gentleman to whom we refer (a Sussex farmer) fed his horses entirely with this food for sometime, and found them to thrive under it admirably, and to relish it much more than ordinary hay.

The great value of beans for feeding was well shown in the year 1825, when (as we learn from Dickson's work on the Breeding of Live Stock) a sweepstake was entered into by five East Lothian Farmers, to be claimed by the one who should be pronounced the best feeder of

cattle. In order that an equal chance should be enjoyed, an extensive dealer in Aberdeenshire, was instructed to forward 40 long-horned Aberdeen cattle, of the same age, and in equal condition; these were divided as fairly as possible among the five farmers (price £18 per head).—The cattle were put up to fatten in the second week of September; there was no restriction as to feeding. At Christmas following they were exhibited at Haddington and the improvement was most remarkable. The late Mr. Lee of Skateraw was declared the winner; he had used *boiled beans throughout in feeding*. The other competitors fed very high, as on drass and dregs, Swedish turnips, hay, bruised beans and oats. The superiority of boiled beans was here proved—a fact to which as deserving the particular attention of cattle feeders at the present day, Mr. Dickson has called special attention.

The boiling of the beans, no doubt operates, in lessening the tendency to flatulency in the animals to which they are given.

The bean, like all other crops, is subject to its peculiar maladies. Mildew, arising from, or rather consisting of, the growth of a minute fungoid parasite, is very prevalent in certain seasons, but no means are generally employed to obviate its attacks. It depends so much upon atmospheric conditions that we can do little to avert it, and the crop often ripens well in spite of its prevalence.

The Rev. Mr. Berkeley has called attention to another fungoid enemy of the bean, which he likens unto that dreadful scourge of the human race, the small-pox; it covers the pods, and when in an aggravated form, other parts of the plant also, with small bright pustules; sometimes even the seeds are affected by it. This disease has not however become of general prevalence.

The great insect enemy of the bean is a minute plant-louse, called the Bean Aphis, which swarms over the whole country in myriads at certain seasons.

AGRICULTURAL EDUCATION.

The Rev. Christopher Bird, of Choller-ton, says the young agriculturist ought to have a more enlarged and liberal education than that which prevails at ordinary English schools. It ought to be built on a deeper and broader foundation, and built with better materials—both grammatical and mathematical, and so be capable of carrying a higher and more finished superstructure. Here you will be inclined to say, well! do we not perform our duty very creditably with our present education? Yes; but I think you would do it better with a superior education—better for yourselves individually, better for your own class, and better for the

community in general. I do not think you occupy that relative social position, nor exercise that political influence, nor give to agriculture that dignity, which you ought to, considering the capital you employ, the abilities you exercise, and the supreme importance of your occupation. For if it be the duty of the manufacturer to provide clothing and furniture, of the merchant to distribute them—if it be the duty of the physician to take care of your health, of the lawyer to guard your property and person, of the architect to build your house, and of the clergyman, so far as he can, to guide your faith, it is your office to provide plenty of wholesome food for the whole community.—And if you fail in your department all the others—the whole fabric of society—will fall to the ground and perish. What reason, then, can be given why the agriculturist should not feel himself upon a level with any of these professions, except that his education has been left short?—Then how comes it to pass that the manufacturer and merchant should exercise so much greater political influence than the agriculturist? The capital embarked—the labour and care exerted—the number of hands employed, directly and indirectly, by the plough, are two-fold more than are put in motion by the loom; and yet the manufacturer and merchant exercise double the political influence, which you are often made to feel by the distribution of the taxes. I can see no other cause for this than that the sons of merchants and manufacturers and of professional men have a more enlarged education, and have more of that power which general knowledge gives. They feel themselves more equal to take a prominent part in political discussions, and are better qualified to gain a hearing from the public.

As to the advantage to be derived for your own occupation, I have to observe, that every one of the natural sciences might very materially subserve the purposes of agriculture. As to mechanics, it would seem that the knowledge of the first principles of this science were a *sine qua non* of the agriculturist—who has so much of his capital invested, and his power employed, in moving heavy bodies in every direction and angle to the horizon. As to chemistry, it is felt more and more to be a necessary for the agriculturist. It would enable him to judge of the quality of food and manures he may have to purchase, and of the medicines he may have to administer to his cattle. It is scarcely necessary to point out to the cultivator, the usefulness and even necessity of knowing something of geology and its kindred science mineralogy. Generally the soil will partake of the qualities of the stratum which underlies it, or if some of those disturbances which from age to age have varied the external crust

of our earth, have covered the rock with an adventitious soil, it will generally be found to have been washed down from the surrounding hills. Then, as to botany, it would seem that the study of that science would be almost forced upon the agriculturist by his daily occupation.

THE SHORT OR MIDDLE-WOOLLED BREEDS OF SHEEP.

SOUTHDOWNS.

Among our native *short-woolled* breeds, (we use the term *short-woolled* because it is in common acceptation), the Southdowns have long stood conspicuous. It were idle, and more than that it would be fruitless, to attempt to investigate the original source of our short-woolled races, or to attempt to analyze the causes which led to their peculiar character of fleece, as distinguished from that of the long-woolled breeds of our Island; yet it has often struck us that the Southdowns, strictly speaking, are confined to Sussex; they rise from the Marsh of Pevensey to the bold promontory of Beachy Head; they then trend westward as far as Shoreham, occupying a surface of about twenty-six miles in length, and six or seven in breadth, containing 99,480 acres. This tract is properly denominated the South Down.—From Shoreham the Downs gradually recede from the coast and traverse the western part of the county, bearing some points towards the north, and enter Hampshire between West Harting and Stanstead, near Petersfield. Their extreme length in Sussex is fifty-three miles, their greatest breadth seven, and mean about four miles and a half. The average height is about five hundred feet above the level of the sea; but Ditching Beacon is 858 feet, Firls Beacon 820 feet, Chanctonbury Ring 814 feet, Rooks Hill and Bow Hill each 702 feet, and Beachy Head 564 feet above that level. The Downs have a rich covering of short and delicate turf, containing large portions of wild thyme (*Thymus Serpyllum*), and occasional patches of the common furze, the *Ulex Europæus*, in patches of thirty or forty acres. The whole district is without trees, except in some declivities, where the white thorn is found, and in some of the richer portions of Stanmer and Arundel parks, where thriving plantations of beech and other hardy trees have recently been made. The surface of the Downs is gracefully undulating; the northern escarpment is precipitous, whilst the southern declines gently, and westward of Brighton gradually blends with the lowland of the coast.

Such is an outline of the general characters of the Downs of Sussex, the nursery and congenial home of the breed of sheep in question.

Formerly the Southdown sheep were very indifferent; it is true that they car-

ried very fine wool, but then the carcase was ill-formed, a disadvantage which more than counterbalanced the excellence of the fleece. They were small, thin in the neck, high in the shoulders and in the loins, down on the rump, with the tail set very low; the back was sharp, the ribs flat, and the fore quarters narrow; yet there were materials to work upon, and besides, these sheep had some excellent qualifications; they arrived at early maturity, were extremely hardy, thrived upon scanty keep and short feed on the natural pastures, and the mutton was fine-grained and of good flavour.

Attempts were first made to improve the Southdowns by crosses with the Leicesters, a long-woolled sheep, but these attempts ended in utter failure, nor were crosses between them and the Merinos ultimately advantageous. It was by careful selections, and the keeping in view of a definite purpose in the choice of breeding stock, that the improvement of the Southdowns was achieved. It is to Mr. Ellman of Glynde that the elevation of this breed to its unrivalled position in its own line as a hill sheep is due.—*Martin, on the Sheep.*

FARMING IS FASHIONABLE.

Let our Halifax merchants read the opinion of an English lord. Gentlemen farming has its disadvantages in an old country, but it is very much wanted in a new one:—

Agriculture is the only trade which is fashionable. As soon as a merchant becomes rich—as soon as he attains a position in society—he must needs become a farmer. No one thinks of becoming a tanner or a tallowchandler for his amusement. But everyone tries to get a farm, and then swears that he loves the smell of a dunghheap more than the scent of his wife's flowers. Perhaps he obtains three or four farms and throws them into one. This naturally increases the competition for farms, and raises their price. But the price of your produce is not proportionately raised. It is true that the wages of artisans are much increased, and that many of them eat beef twice a day, which they did not do before. This, however, does not enhance the farmer's prices so much, as it draws imports from abroad. Then, again, you are subject to losses by weather. If it be dry, alas for your turnips. If it be wet, your corn is damaged. There are also losses of cattle by disease. Besides, sheep and oxen cannot be laid by until there is a demand in the market for them. An ox soon eats up his price without adding to his value. He must, therefore, be at once forced upon the market. These are all great drawbacks. What, then, is to be done? That which the manufacturer has to do in his

race with other manufacturers—lose no chance of improving production by new machinery, and increasing the fertility of your land by new manures.—*Lord R. Montagu, in Agricultural Gazette.*

WONDERFUL YIELD OF POTATOES.

That the Board of Agriculture has done substantial good to the agriculture of Nova Scotia by introducing such Potatoes as the "Harrison," "Early Goodrich," "Gleason," "Garnet Chili," and others of the Goodrich breed, is very well shown by such paragraphs as the following,—

Mr. Isaac W. Archibald, of Upper Stewiacke, Nova Scotia, writes, under date 26th Sept., to Mr. F. W. Andrews, of Quebec, giving the following results of an experimental planting of potatoes, furnished by Mr. Andrews last spring. Mr Archibald prefaces his statement by saying that the season was unusually wet, and the potato rot very prevalent in his neighborhood. The potatoes were planted May 15th, and dug Sept. 26th, with the exception of the "Harrison" which was dug 14th Sept. "Harrison"—2 potatoes yielded 102; nearly all very large; only one diseased, and only three too small for table use. "Early Goodrich" 3 potatoes yielded 318; not so large, and twenty diseased. "Gleason"—3 potatoes yielded 150; mostly good table size; some very large; six small, only two diseased. "Garnet Chili"—2 potatoes yielded 106; all perfectly sound, and all but one or two good table size, some very large. Total planted 10; total yield 676; but, as all were not large, the yield will, we suppose, instead of 67 to 1, be about 50 to 1. The "Goodrich" is apparently the greatest producer, though if the weights had been given, we would have been better able to judge. It is also to be observed that the wetness of the season made potatoes unusually large this year.—*Montreal Witness.*

SALE OF STOCK AT RICHMOND.

The following is a list of the Live Stock imported by the Board of Agriculture from Canada, and sold at auction on the 2nd inst., with the names of the purchasers and the prices paid:—

BULLS AND CALVES—Short Horn Durhams.	
1—Lobo Lad—Western Halifax Agri. Soc.	\$135.00
2—The Yeman—Thos. Crowdis, for N. E. Margaret Society.	110.00
3—Sir William—John. Rand, for Un. S. Cornwallis.	185.00
4—Lord Derby—Hon. R. A. McHefley, for Windsor Society.	90.00
5—Duke of Edinburgh—J. McNeil, for Pt. Hood and Mabou. Soc.	75.00
6—Cato do do.	70.00
7—Nobleman—F. R. Parker, Shubenacadie Society.	100.00
8—Pictor. Agricultural Society.	80.09

Hereforde.	
9—Moreton Chief—H. Ince, East Annapolis Society.	85.00
10—Sir William—A. Anderson, Halifax.	95.00
Ayrshires.	
11—A. Longley, Paradise.	105.00
12—Jos. Northup, for Boulevardrie Society.	135.00
Devon.	
13—Duke—F. R. Parker, Shubenacadie.	70.00
SHORT HORN COWS AND HEIFERS.	
14—Nelly the Third—J. McNeil, Port Hood and Mabou.	97.50
15—A. Chase, Cornwallis.	65.00
16—Joseph Wier, Halifax.	65.00
RAMS—Cotswolds.	
17—H. Davenport, Sydney Agricultural So.	35.00
18—J. McNeil, Port Hood and Mabou.	40.00
19—Jno. B. Dickie, Onslow Society.	30.00
20—Chas. Cochran, Newport Society.	51.00
21—James W. Patten, Maxwelton do.	45.00
22—Hugh Dunlop, Upper Stewiacke.	49.00
23—D. F. Layton, Upper Londonderry.	49.00
24—John McNeil, Port Hood and Mabou.	46.00
25—Thos. Crowdis, N. E. Margaree.	36.00
26—George Esson, Jr., Halifax.	28.00
27—Hugh Dunlop, Upper Stewiacke.	32.00
Leicesters.	
28—Thos. Crowdis, N. E. Margaree.	51.00
29—David Chalmers, Stirling Society.	52.00
30—Robert W. Allison.	30.00
31—Hon. R. A. McHefley.	31.00
32—John McNeil, Port Hood and Mabou.	46.00
33—Chas. Cochran, Newport Society.	51.00
34—H. Ince, E. Annapolis.	55.00
35—H. Davenport, Sydney Society.	49.00
36—H. A. N. Kaulback, Lunenburg Society.	36.00
37—F. R. Parker, Shubenacadie do.	56.00
38—Thos. R. Crowdis, N. E. Margaree.	48.00
Shropshire Down.	
39—F. R. Parker, Shubenacadie Society.	50.00
Southdown.	
40—H. Davenport, Sydney Society.	45.00
Ewes.	
41—H. Davenport, Sydney Society.	21.00
42—F. R. Parker, Shubenacadie do.	24.00
43—W. Stevens, Lower Stewiacke.	21.00
44—H. Ince, East Annapolis.	26.00
45—Wm. Esson, Halifax.	63.00
HORSES AND MARES.	
46—Lassitude, J. Northup, for Bd. of Agri.	480.00
47—Aracan, Hon. A. McFarlane, do.	120.00
48—Somersault, G. W. McGregor, Halifax.	100.00
49—Annfield, T. Lavers, Halifax.	100.00
50—Lurline, J. Northup, Halifax.	180.00
51—Overcast, Hon. A. McFarlane, Cumb'd	100.00
52—Attraction, Jno. Caldwell, Halifax.	104.00

Communications.

LAVENDER IS HARDY IN NOVA SCOTIA.

Yarmouth, Sept. 11th, 1866.

Dear Sir,—In the Sept. No. of the *Journal of Agriculture*, I observe your recommendation of the Lavender as a garden hedge plant in Nova Scotia, and that it can be easily kept over winter in a frost proof cellar. To encourage the growth of this charming shrub, I beg to state that I have grown it out in the open air in my garden for the past three years without ever putting it into the cellar in winter. The first winter I left it out I covered it over with a half barrel, uncovering it when rain came and thawing weather set in. The second year I judged it hardy enough to stand out uncovered, and only twined some spruce twigs be-

tween the branches and round the stem, laying a little over the roots. The third winter it had less protection still. It blossomed last year, and is in bloom now, and I enclose a bud or two and some leaves to let you see it and enjoy its fragrance. The greatest damage it received in winter is from the weight of snow breaking off its stems, which are brittle in frost, especially when the snow has been half melted with rain and then freezes suddenly. With little nursing for a year or two, I think there would be no doubt of its ultimately growing as strong and as thrifty here as one sees it in Kent and Surry, England.

Yours very respectfully,
J. W. H. ROWLEY.

P. S.—Apropos to covering of plants in winter.—There is as much harm done with over-protection as with none at all. Many plants which are thought to require protection, are often covered so deeply as to cause them to rot and decay, especially have I found this to be the case with strawberries. I left vines uncovered last year, and they came out in spring as well as ever. I do not pansies, dahies, Japan lilies, sweet William, Auriculas, primrose, polyanthus—all these require nothing more than the raking of the earth round them in fall, and leave the rest to nature.

DURHAM CATTLE IN STEWIACKE.

To Dr. Lawson,—Please insert the following in the next number of your *Journal*:—

Mr. Eddy Tupper, of Stewiacke, belonging to our Society, has raised two calves this season from the bull which we purchased from L. W. Hill, Esq., of Falmouth. The heifer, which is seven months old, weighed 525 lbs.; and the bull, which lacked five days of seven months, weighed 595 lbs. I presume the weight of these calves is almost equal to those that are imported. Yours truly,

JAMES S. TUPPER.

DOINGS OF THE CHESTER AGRICULTURAL SOCIETY.

BERKSHIRE PIGS—COTSWOLD RAMS— PREFERENCE FOR POOR BREEDS— PRIZES—BULL FOR SALE.

The Chester Agricultural Society intend holding an exhibition of live stock, vegetables, fruit, &c., on the 22nd day of October, 1867, when 97 prizes are offered on the various animals and articles enumerated in the prize list, the imported stock of the Society not to be allowed to compete.

Two of H. E. Decie's Berkshire young pigs were purchased of him last autumn, and are now as beautiful specimens of the porcine class as a person wishes to look at. Several young pigs of the Essex breed

were also bought in Windsor, and have done well.

Two young Cotswold rams were also purchased by the Society, and caused very general disappointment, not thriving as well through last winter as was anticipated; but during this summer they have much improved, and will doubtless cause a beneficial change in the small and scrubby breeds of sheep, for the most part kept by our farmers. It is still kept in view to purchase a ewe of the same breed, so as to keep up the stock pure.

A number of last year's subscribers have withdrawn their membership this year, on account of the improved stock imported, preferring rather to adhere to the old and degenerate breeds so common in this county; but this must be expected. We hope yet to exceed the list of last year, but not in time to enable us to draw the Provincial grant on the whole number.

The amounts to be given at the proposed exhibition have necessarily to be small, and are as follows:—

Bulls, 6 prizes	\$8.00
Cows and Heifers, 10 do.	12.00
Sheep and Lambs, 6 do.	6.00
Vegetables, 37 do.	14.00
Homespun Cloth, 3 do.	2.25
Steers, 13 do.	16.00
Swine, 4 do.	7.00
Grains, 17 do.	10.00
Apples, 5 do.	3.25

An Alderney bull, 4 years old, bought by the Society in the spring, will be sold at public auction the day of the exhibition, if not previously disposed of at private sale, in order that two younger animals may be procured, to provide for both the Eastern and Western districts. The present animal is sold for no fault, as he will be sold at private sale for the low sum of \$30. A good chance is offered to any Society or persons desiring a good animal of that breed.

This season, with us, the hay crop is light, and potatoes rotting; but other vegetables, and grain, good.

H. B. MITCHELL.

Chester, Sept. 1, 1866.

PARADISE AGRICULTURAL SOC'Y.

A new Agricultural Society has been formed in Annapolis county, called the "Paradise Agricultural Society."

There are 52 members, who have subscribed one hundred and four dollars, and purchased the best Ayrshire Bull offered at the recent sale of Imported Stock.—President, Israel Longley; Sec'y, Wm. E. Starratt.

TO CORRESPONDENTS.

In answer to many enquiries we have to state that warrants enabling Societies to obtain their Government Grants for the present year will be mailed to the Secretaries of the respective Societies about the end of the present month.

Miscellaneous.

ACADIAN BOTANY.

NO. III.

SENECIO JACOBÆA, Linn. Common Ragwort. Stems erect, two to three feet high; leaves lyrate, bipinnatifid, segments divaricated, toothed, glabrous. Flowers in corymbs, heads large, ray spreading, achenes of the disk hairy, those of the ray glabrous, involucre hemispherical. Perennial. Hook. and Arnott, Brit. Flora, 6 ed., page 238. E. B., t. 1130.

The farm weeds of Pictou differ in some respects from those in other parts of the country. One of them is a British plant, *Senecio Jacobæa*, called Weebo in Scotland, Ragwort in England, and "Stinking Willie" at Pictou. It grows nowhere else on the American continent, so far as we have been able to ascertain. It first appeared on a heap of ballast discharged at Pictou from an English vessel some fifty years ago. It is now a common weed in pastures about the town, and is extending along the roadsides for a distance of 20 miles or more. The farmers would do well to weed it out, and stay its further progress.

With regard to the Ragwort or "Stinking Willie," we wish to call the attention of Pictou farmers to the fact that it is a most pernicious weed, more so than is usually supposed. Dr. Anderson made a careful and elaborate analysis of this plant last year in the Laboratory of the Agricultural Society of Scotland, and he found it to yield a larger amount of ash than any other weed examined. This indicates the tendency of the weed to lock up, during the period of its growth, a quantity of valuable mineral matter which ought to be available for the more valuable grasses and clovers. The ash consists principally of potash and soda salts.

The amount of ash of a plant represents the amount of valuable food material which it has taken from the soil. Of common English weeds the Mayweed and Sorrel yield 1 per cent. of ash, Groundsel 1½ per cent., the Corn Marigold and Dock 2 per cent.; but our Pictou friend (or enemy rather), yields more than 5 per cent. of ash! That is to say, bulk for bulk it takes more than twice as much food out of the soil as the Dock and, four times as much as the Mayweed.

The following details of the analysis may indicate to Pictou farmers how well the Stinking Willie is qualified to rob their pastures:—

Water	78.36
Albuminous Compounds	1.49
Other organic matters	15.11
Ash	5.04
	100.00
Nitrogen	0.24

The ash contained:—

Peroxide of Iron	2.34
Lime	11.42
Magnesia	3.69
Potash	24.33
Chloride of Potassium	10.97
Chloride of Sodium	9.44
Phosphoric acid	6.54
Sulphuric acid	8.41
Silicic acid	1.32
Carbonic acid	17.11
Charcoal	0.88
Sand	3.67
	99.62

The sand, charcoal and carbonic acid being deducted, the analysis gives:—

Peroxide of Iron	2.98
Lime	14.57
Magnesia	4.58
Potash	31.07
Chloride of Potassium	13.99
Chloride of Sodium	12.05
Phosphoric acid	8.34
Sulphuric acid	10.74
Silicic acid	1.68
	100.00

VERONICA MONTANA, Linn. Mountain Speedwell. Racemes lax, few flowered, leaves cordate-ovate, petiolate, serrated, stem hairy all around, fruit orbicular, notched at the apex and base, flat, membranous, glabrous, ciliated, much larger than the calyx. Hook. and Arnott, Brit. Flora, ed. 6, page 291. E. B., t. 766.

In the *Agricultural Journal* we have already noticed the occurrence of *Veronica Chamædrys* at the Prince's Lodge, Bedford Basin, as a naturalized English plant. It now gives us pleasure to add another species of this beautiful genus, although likewise an introduced one. Specimens have been communicated to us by Professor How, D.C.L., Windsor, accompanied by the following remarks:—

"I send you a specimen of *Veronica montana*. The *Veronica* grows in a bed perhaps three or four feet square in rather low land, on the edge of a copse of spruces near the Parish Church, Windsor, about three-quarters of a mile from the village."

BULBS—PLANT NOW FOR SPRING FLOWERS.

Every one enjoys the spring flowers that come from the hardy bulbs, and yet we seldom see these in gardens, for the reason that they are forgotten in autumn—the proper season for planting them. As a reminder we will say, that the sooner, after the middle of October, the bulbs can be got in to ground, the better. If the bulbs are to be bought, purchase early, before the stock of the dealers becomes reduced. If the soil is not in good condition, it should be manured with old cow manure, and if disposed to be heavy, some sand may be worked in. The best success will be had if the old soil be dug out to the depth of twenty inches, and the space filled with fresh pasture loam and decayed cow manure. When the bed is prepared, let it settle, and then plant the bulbs. It is a good practice to

put a little sand under each bulb. Hyacinths should be eight inches apart each way, and four inches deep. Tulips six or seven inches apart, and about three and a half deep. Crocuses may be nearer; three inches distant and two deep. Snow-drops, about the same as crocuses. Lilies are to be at least a foot apart each way, and five inches deep, and the same distance for the Crown Imperial. In making up the beds, it is well to leave them a few inches above the general level, as they will settle during the winter. Though the bulbs mentioned here are all perfectly hardy, yet they will come out all the stronger in spring, if covered when cold weather sets in, by a layer of littery manure, or leaves, which last may be kept down by sprinkling a little soil over them. Bulbs may be potted now and kept in a cool place until frosts come, when they may be placed in the cellar, from which they are to be taken during the winter at intervals, a few at a time, to a warm room to flower.—*Agriculturist*.

CHALK FERMENTS.

Chemists and Naturalists often cross each others paths. The naturalist ventures beyond his bounds and propounds a theory or states a so-called fact which the chemist at once upsets; and the chemist in his turn starts a hypothesis or gives explanation of a phenomenon which arouses the indignation of the naturalist. To this latter class belongs the paper of M. A. Bechamp, in a recent number of the *Comptes Rendus*, translated in "Chemical News" (19th Oct., 1866), in which he shows to his own satisfaction, but not to ours, that there are present in chalk living molecules which act as ferments, and that the part played by chalk in Butyric and Lactic Fermentations is due to these molecules. In these cases assuredly chalk acts simply as a chemical compound, and not by the exertion of any physiological action. The mobile corpuscles observed by the same author in the waters of Vergeze are "supposed" to be the cause of the formation of volatile fatty acids in these waters. It may be supposed, likewise, that M. Bechamp is mistaken.

NATIVE SULPHUR.—Several samples of a greyish black substance with slight metallic lustre have lately been brought by different parties to the Laboratory of Dalhousie College, for examination, in the belief that they were metallic ores.—On analysis, these samples were determined by Professor Lawson to be not metallic ores, but *Native Sulphur*, a substance that had not previously been known to occur in Nova Scotia. In the first specimen examined the dark colour was found to be due to plumbago, and not to

the presence of metallic oxides or sulphides as is commonly the case in Sicilian specimens. The substance is very light, specific gravity 2.0, and when heated in an iron spoon takes fire and burns with a blue flame, giving off sulphurous acid. The manufacture of pure sulphur from this substance would be a very simple process.

SMALL TALK.

The proceeds of the sale of Canadian Cattle and Sheep, on 2nd November, amounted to \$2711.50.—The *Gardener's Monthly* says that Quince cuttings rarely fail if set in the fall.—The *American Agriculturist* for November figures a splendid Merino Ram, whose fleece this year weighed 26½lb. The price of \$15,000 has been refused for him.—Mr. Decie of Wilmot has a number of pure Berkshire pigs for sale.—Thursday, the 15th Novr., is Thanksgiving Day.—Spelt is being grown in the States.—Goodrich potatoes are selling in the States at \$4 a bushel.—Magnesium rods are now used instead of zinc for detecting arsenic.—Mr. George Plumb, who brought out the Government Horses last year, returned by the *China* last week.—Fire proof gloves of asbestos, enabling an assayer to hold a heated crucible, are now sold in Hungary for \$20.—In the State of Nevada a mountain of salt, "several thousand feet in height," has been found.—A Chemical Laboratory is being erected at Bonn for the Rhenish Frederick William University, which will cost \$100,000.—At Worthing, a field of Italian Rye grass dressed with town sewage, has yielded a cutting of wholesome cow-feed at the rate of 20 tons to the acre.—Mr. Fisher Hobbs, who, in conjunction with Lord Western, originated the famous Esse breed of pigs, has just died. The Esse breed originated from crosses between the Naples, Essex and Berkshires.—Purchasers at the Government Sale of Live Crock at Richmond have in several instances been offered advances equal to nearly double the prices paid.—One of the Canadian bulls in being shipped at Halifax fell into the Harbour, but was rescued.—The Glasgow Horticultural Society has an income of \$5,500, and distributes \$3000 in prize money.—Mrs. Miller is in England preparing another series of her beautiful drawings of Nova Scotian wild flowers.—It is now time for intending exhibitors to commence preparation for the Provincial Agricultural Exhibition to be held in 1868.—The Board of Agriculture has obtained a quantity of the best Canadian Seed Wheat, Peas and Beans.—A new trade is springing up in the export of Wool from British America to England.—There is not enough wool in the States to clothe the people, and the duties are so high they cannot afford to import it.—The weather this fall has been very favorable for

ploughing.—In the Street Cars the other day, an old countryman descended contemptuously upon the Halifax houses as covered with "wooden slates."—At the Nova Scotia Institute of Natural Science on Monday evening, Dr. Gilpin read an interesting paper on Furs. It was the smallest meeting we have attended.—The last quarterly number of the *Edinburgh Journal of Agriculture* contains a vivid picture of the late Hugh Watson of Keillor, "by one of his daughters."—Hugh came of a "good old stock," enjoyed the "merry days when he was young," kept a racer and put many trophies on the sideboard at Keillor, became a trooper in the *Argus* Yeomanry, ran mail coaches till they were run off the road by railways, moved with the times into a railway director, introduced the use of bone dust into Scotland and erected the first bone mill, acclimatized Jonas Webb's Southdowns on the Sidlaw Hills, and originated the far-famed Angus breed of black polled cattle. He could sing a good song too, and became almost pathetic over "The Ewie wi' the crookit horn." Personally we have lively recollections of the genial gentleman farmer, and of his wife and daughters on their weekly visits to town on market days, and our special thanks are due to this daughter who has sketched as graceful a biography as we have read for many a year.

ADVERTISEMENTS!

FOR SALE!

A 3 year old BULL, part Ayrshire and part Durham, rather a fine animal.
Antigonish, Nov. 1866. CHAS. BIGELOW.

BULL FOR SALE.

AN ALDERNEY BULL, 4 years old, a fine animal, not cross, and raises fine stock. Lowest price, \$30.
Apply to
H. B. MITCHELL,
Sec'y Chester Agri. Soc'y.

TO CORRESPONDENTS.

Literary Communications are to be addressed to Dr. Lawson, Secretary of the Board of Agriculture, Dalhousie College, Halifax. All lists of subscribers and remittances of subscriptions are to be sent to Messrs. A. & W. McKinlay, Publishers, Granville Street, Halifax.

The Journal of Agriculture

—is published monthly by—

A. & W. MACKINLAY,
No. 10, GRANVILLE STREET,
HALIFAX, NOVA SCOTIA.

TERMS OF SUBSCRIPTION:—

Fifty Cents per annum—payable in advance.
A limited number of Advertisements in connection with Agriculture will be inserted on application to the Publishers.