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CANADA FARMER

Vol. III. No. 10.

TORONTO, UPPER CANADA, MAY 15, 1866.

POSTAGE FREE.

The Field.

Familiar Talks on Agricultural Principles.

EXAMPLES OF FERTILE AND EXHAUSTED SOILS.

The chemist is able to make use of the soil as a witness in its own behalf, and to obtain from it incontrovertible evidence respecting its condition and the usage to which it has been subjected. It is a rather reluctant witness however, and requires a very scientific process and most careful examination, to make it disclose the secrets it can tell. The soils of Canada have not been very extensively analyzed, still some examples are within reach by the help of which the general statements made in the course of these "Talks" may be illustrated. Some analyses of Canadian soils were made by Dr. Hunt of the geological survey of Canada and published in the report of the survey for the year 1849 and 1850, and also in the general report in 1863. A few of these analyses are quoted in Dawson's First Lessons in Scientific Agriculture, whence we transfer them to our columns, together with most of the accompanying comments upon them. They are pregnant with instruction, and will richly reward patient study.

One of the soils analysed was a vegetable mould from the alluvial Flats of the Thames in Western Canada, and it is said to have yielded 40 or even 42 bushels of wheat to the acre, and in some instances to have been successfully cropped for thirty or forty years without manuring. Of the soil treated in this rascally manner, Dr. Hunt says:

"Such is the fertility of the soil in this region, that little need has hitherto been felt of a system of rotation in crops; but some however have begun to adopt it, and have commenced the cultivation of clover, which grows finely, especially with a dressing of plaster, which is used to some extent.

"The natural growth of these lands is oak, and elm, with black walnut and whitewood trees of enormous size; the black walnut timber is already becoming a considerable article of export. Fine groves of sugar maple are also met with, from which large quantities of sugar are annually made.

"I give here an analysis of a specimen of the black mould from the seventh lot of the first range of Raleigh. The mould here is eight or ten inches in thickness, and has been cleared of its wood, and used six or eight years for pasture; the specimen from a depth of six inches contained but a trace of white silicious sand.

"No. 1 consisted of—

Clay	83.4
Vegetable matter	12.0
Water	4.6
	—100.0

100 parts of it gave to heated Hydrochloric Acid—

Alumina	2.620
Oxyd of iron and a Little Oxyd of Manganese	6.660
Lime	1.500
Magnesia	1.050
Potash and Soda .....	.825
Phosphoric Acid .....	.400
Sulphuric Acid .....	.108
Soluble Silica .....	.290

This, it will be observed, is a soil rich in alkalis, phosphoric acid, and soluble silica; and on these accounts, eminently adapted for the growth of wheat as well as of nearly all other ordinary crops.

With this may be compared a soil from Chambly, in Lower Canada, respecting which the following remarks are made:

"The soils of this seigniory are principally of a reddish clay, which, when exposed to the air, readily falls down into a mellow granular soil. In the places where I had an opportunity of observing, it is underlaid at the depth of three or four feet by an exceedingly tenacious blue clay, which breaks into angular fragments, and resists the action of the weather. The upper clays constitute the wheat bearing soils, and were originally covered with maple, elm, and birch; distinguished from them by its covering of soft woods, principally pine and tamarack, is a gravelly ridge, which near the church is met with about fourteen acres from the river; it is thickly strewn with gneiss and syenite boulders much worn and rounded. The soil is very light and stony, but yields good crops of maize and potatoes, by manuring."

"The extraordinary fertility of the clay is indicated by the fact that there are fields which have, as I was assured by the proprietors, yielded successive crops of wheat for thirty and forty years, without manure and almost without any alternation. They are now considered as exhausted, and incapable of yielding a return, unless carefully manured; and such, for the last fifteen or twenty years, have been the ravages of the Hessian fly upon the wheat, which is the staple crop, that the incitements to the improvement of their lands have been very small; so that the Richelieu valley, once the granary of the Lower Province, has for many years scarcely furnished any wheat for exportation. But the insect, which for the last three or four years has been gradually disappearing, was last season almost unknown, and the crops of wheat surpassed any for the last ten or twelve years."

"Of a number of soils collected at Chambly, only 3 have been submitted to analysis; they are—one of the reddish clay taken from a depth of sixteen inches, from a field in condition, and considered as identical with the surface soil before tillage, No. 2; and one at a depth of six inches, from a field closely adjoining, but exhausted by having yielded crops of wheat for many successive years without receiving any manure, No. 3; the latter supported a scanty growth of a short thin wiry grass, which is regarded as indicative of an impoverished soil, and known as *herbe à cheval*; both were from the farm of Mr. Bunker; the third, No. 4, is a specimen of the gravelly loam above mentioned, from an untilled field upon the farm of Mr. Yule."

No. 2 contained a small amount of silicious sand and traces of organic matter, and gave 5.4 per cent of water.

100 parts of it yielded to heated Hydrochloric Acid—

Alumina	3.305
Oxyd of Iron	8.680
Manganese .....	.160
Lime .....	.711
Magnesia	2.310
Potash .....	.536
Soda .....	.340
Phosphoric Acid .....	.418
Sulphuric Acid .....	.020
Soluble Silica .....	.180

No. 3 consisted of—

Silicious sand with a little feldspar	9.0
Clay	79.2
Vegetable matter	6.8
Water	5.0
	—100.0

100 parts of it gave—

Alumina	not determined
Oxyd of Iron	4.560
Lime .....	.347
Magnesia .....	.888
Potash } .....	.380
Soda }	
Phosphoric Acid .....	.126
Sulphuric Acid .....	.031
Soluble Silica .....	.080

By the action of water, a solution containing minute traces of chloride and sulphates of lime, magnesia, and alkalis is obtained: 100 parts of the soil give in this way, of chlorine, .0013; sulphuric acid, .0005.

No. 4. This soil contained about 20 per cent. of pebbles, and 12 of coarse gravel; that portion which passed through the sieve consisted of—

Gravel	75.0
Clay	13.7
Vegetable matter	6.1
Water	5.2
	—100.0

The soil was very red, and the sand silicious and quite ferruginous, consisting of the disintegrated syenitic rocks which make up the coarser portions.

100 parts gave—

Alumina	2.935
Oxyd of Iron	5.505
Lime .....	.156
Magnesia .....	.409
Potash .....	.109
Soda .....	.144
Phosphoric Acid .....	.220
Sulphuric Acid .....	.018
Soluble Silica .....	.080

The first of these soils, [No. 2] that which had not been exhausted, closely resembles in its proportions of inorganic plant-food, that first noticed. It is further to be observed, that while one of these soils, that from Raleigh, is very rich in vegetable matter, and the other, that from Chambly, contains very little, both are equally fertile as wheat soils. This is a striking evidence of the great importance of the mineral riches of the soil.

If now, we compare the fertile soil, No. 2, with the exhausted soil, No. 3, we see at once that the latter has parted with the greater part of its alkalis and

either in well enclosed fields, or tied up in stalls, and they must take such food as they find there or is given them, whether it contains the saline parts so necessary to their well doing or not; and in some measure we increase the evil in stall feeding, by drawing out, in warm water, some of the saline matters of the food. There is no question that many diseases our horses, cattle and sheep are liable to, would be prevented if the animals had free access to salt; and when it has been given regularly the beneficial effects have soon shown themselves."

In France and Germany salt is far more liberally distributed to farm animals than in England. A commission recently appointed in the former country to give a thorough investigation of this matter, recommended that for a working ox or milch cow, 2 oz of salt be given daily; and double that amount when the animals are placed under fattening conditions. Lean sheep from one half to three fourth oz.; when fattening one to two oz.—horses, donkeys, and mules, 1 oz. daily. They further report that salt increases saliva, and thereby aids digestion and promotes fattening, and that in all mixtures or cooked food for animals, salt ought to be liberally added, subjected to a moderate fermentation. In Germany and some other countries a much larger amount of this article is given to animals than what is recommended by the French commission.

From a collation of the experience of the best agriculturists in various countries, in ancient as well as modern times, it would appear that the regular use of salt in the food of animals tends greatly to promote their growth, and by strengthening the system, exercises an important influence in the prevention of diseases. "Our English agricultural journals have more than once drawn attention to the fact that a constant supply of salt in moderate doses hastens the development of the colt, and promotes muscular power in the horse, besides rendering this animal less subject to inflammation of the bowels and stomach, indigestion, broken-wind, worms, &c. It also preserves oxen from inflammation of the intestines, and acute chronic diseases, typhus and consumption. In sheep, experience has shown us that the habitual use of salt has an extraordinary influence in the prevention of cachexy [rot, &c.], giddiness, worms, parasites, &c.; and in swine it appears to prevent hydatides, and some other disorders."

Of the use of salt as a manure, opinions, both of scientific and practical men, are somewhat conflicting; a circumstance, no doubt, arising in a great measure from difference of soil, climate, and other physical conditions. In the British Islands, especially near the coasts, salt is not found so necessary or beneficial either to cattle or to the soil, as it is in Canada, in consequence, no doubt, of the atmosphere being impregnated with so large an amount of saline matter. In strong westerly storms an incrustation of salt is not uncommonly observed on windows exposed to that aspect for several miles inland; and in many situations the annual rain fall, being from 30 to upwards of 40 inches, would deposit in the soil, at the rate of three or four hundred pounds of salt per acre. In such instances, and where the salt prevails largely as the consequence of springs, the artificial application of that material to the soil, would not only be of no advantage, but might be positively injurious. For although all farm crops, and fertile soils contain a certain amount of salt, yet if that article exists in too large quantities it will prove injurious to the land and the animals that are fed upon its produce. In regions that are so remotely situated as to be but feebly affected by direct oceanic influence, or where saline springs are absent, as is the condition of large areas of this North American Continent, the artificial application of salt will generally be found beneficial. We require more experience in this matter before definite amounts to be used can be dogmatically stated; and much depends on the kind of crops cultivated, as mangolds, potatoes, and roots generally, contain much larger quantities of salt than the cereals. From four to five and six hundred pounds per acre [applied frequently if found beneficial] would be much safer than venturing on much larger doses, as is sometimes done on Continental Europe. Salt may be advantageously employed in the compost heap; and it has been found useful, from a remote antiquity, in making a strong brine for steeping seed grain, thereby cleansing the cuticle of the germs of injurious parasites. Experience also teaches that salt has a tendency to develop the grain in the ear and to brighten and stiffen the straw of our cultivated cereals. Salt is well known for its antiseptic action and to this may be attributed much of its value in relation to both plants and animals. In the animal system, it acts as a salutary check on what might be otherwise be a too rapid fermentation of the food in the stomach and intestines, while in plants it prevents an unhealth-

thy, because too rapid growth, by causing plant food in the soil to become soluble in a slower and more gradual manner. Dr. Phipson, who has devoted much scientific investigation to this subject observes:

"There is a circumstance in which salt is capable of playing an important part as a manure, without being directly absorbed by plants. I discovered this accidentally, while making a series of experiments upon the action of various artificial manures manufactured in England. In the course of these experiments I observed manures rich in animal matter yielding ammonia and decomposing rapidly in the soil [also those containing ammonia ready formed] are particularly beneficial to annuals that is, to plants that complete their development in one season, and which are precisely those cultivated by man in our latitudes. They also act energetically on biennials, and upon a few more or less herbaceous plants cultivated in green-houses,—for instance, geraniums. But when we have to deal with *ligneous* vegetables, such as rose trees, vines, olives, apple trees, &c., these rapidly decomposing manures have frequently, according to my experiments, an injurious action. If applied in notable quantities, the plant loses its leaves, becomes covered with blight or parasitical fungi, and soon presents an unhealthy appearance. But by mixing these manures with about one third their weight of salt [or better still, salt and sulphate of potash], and applying them in the same quantity as before, their action is slackened in virtue of the antiseptic property of salt used in so large a quantity, and their effects are highly beneficial, instead of injurious. Roses and other trees, I found to be particularly sensitive in this respect. These plants require rich manure no doubt, but manures which decompose slowly and whose action is lasting. This important result can be obtained by a proper use of salt, a part of which is doubtless assimilated by the plants, but the greater portion acting in this case as an antiseptic, and prolonging the decomposition of the manure." Dr. Phipson's valuable essay may be thus summarized:

1. That, without a due proportion of salt, plants cannot attain to their proper degree of perfection; and this applies especially to colza, turnips, wheat, oats, maize, and other grasses.

2nd. That salt is an essential constituent of plants as well as of animals.

3rd. That the oil is constantly losing, by cultivation, a great amount of salt, taken away by the crops.

4th. That none of the manures at present used [except a very few of the best super-phosphates] contain salt; guano shows only four tenths per cent.

5th. That it is necessary to add salt at regular intervals to the soil, in some shape or other, if we wish to derive the greatest possible benefit by the crops.

"As a general conclusion it may be stated that, by considering salt in its application to agriculture, we find that agriculture, can and ought to, utilize every property of salt; its solubility, its attraction for moisture, its tonic, stimulating, and other physiological properties, its antiseptic and nutritive qualities, as an essential part of the food of animals and plants. Truly, no substance has ever been put to so many trials, and none has ever repaid us so well for the labour of our experiments."

The Use of Gypsum, or Plaster as Manure.

This question has excited a good deal of attention among chemical agriculturists ever since it was discovered that plaster possessed the almost marvellous powers which are known to belong to it. From Liebig down, it has excited the attention of all agriculturists. Recently a writer adopts the views that the use of gypsum is to make the potash of the soil more valuable, and hence more within reach of plants.

Liebig has, however, anticipated this view. (See Nat. Laws of Husbandry, page 320 and 328.) Bear in mind three facts about this substance.

1. Gypsum produces its best effects upon leguminous plants like clover, which are themselves most rich in magnesia and potash, and least on the cereals which consume less of these constituents.

2. Gypsum produces its best effects upon the rich soils which overlie the slates, like the dairy soils of Herkimer and Oneida counties, where this manure is almost universally used.

3. Gypsum produces little or no effect upon light sandy soils, destitute of potash, or nearly so, unless accompanied with ashes; nor upon those rich heavy soils abounding in humus, like the flats of the Mohawk.

In the former case there is no potash to be acted upon, and in the latter it is so diffused, though plentiful enough as to be out of the reach of the dissolving effects of the substance.

Poultry Manure:

As we have often stated, we believe that our common management of poultry is wasteful and extravagant. We might make a great deal more by care in economizing the manure of the poultry-house, and this is worth attending to. Here is what Geyerlin, whose book was alluded to in the *Home for Poultry*, recently published, says on this point:—

In France, as well as in our own country, most eminent chemists have proved by analysis that poultry manure is a most valuable fertilizer, and yet, for want of a proper system in housing poultry, it has as yet not been rendered available to rural economy. The celebrated Vanquelin says that when the value of manures is considered in relation to the amount of azote they contain, the poultry manure is one of the most active stimulants; and when, as a means of comparison, the following manures are taken, in parts of 1,000, it will be found that—

Horse Manure contains.....	4.0 parts of azote.
Guano as imported.....	49.7 do.
Guano when mixed of vegetables and stones.....	63.9 do.
Poultry Manure.....	83.0 do.

It will be seen that it is worth preserving, even though it may be small in amount.—*Ploughman.*

Disintegrating Soils.

The probability is that if the exact truth could be ascertained, we should find that quite one-sixth of the crop capacity of all our cultivated fields everywhere, is annually absolutely thrown away in clods. Some surly old cynic, a great many years since, sneeringly applied to us delvers in the dirt the ill-natured epithet of "clod hoppers." Well, the old vinegar cruet, whoever he might have been, was not so wide off the truth after all. There are more "clod hoppers" among honest farmers than there are gentlemen among sour cynics. A great many farmers, intelligent upon many points, make serious mistakes in preparing soils for crops. Something beyond deep ploughing and liberal manuring, is requisite to produce best results. Something far short of the extravagant range in either, ought always to give better satisfaction. It is ploughing judiciously at the proper season—when the land is in the best possible condition, and then thorough pulverization of the soil. Many a fertile acre, after ploughing, re-ploughing, and planting; carried through the season, locked up in clods from the size of a grape-shot to that of a tennis ball, more fertility than liberated in the spring by better disintegration, would have added one-sixth—often a fourth to the yield, and saved a useless expenditure for manure to an equal amount. The mistake begins usually in ploughing land when it is too wet, thereby packing it like a pressed brick, so that a large per cent. of its fertility is sealed up, requiring a wasteful outlay of after labour in counter-ploughing, harrowing, and rolling in order to pulverize it, and after all, in too frequent instances, the work can be but imperfectly accomplished, and there is so much of the soil absolutely thrown away. If the farmer could always command team and time, sub-soiling would always be the economical rule. Run the surface plough first, say seven inches deep, and follow directly in its wake with the subsoiler, lifting and disintegrating as much as possible the damper, more compact sub-stratum, and then as the turned over portion of the soil would be light and porous, disintegration by counter-ploughing, harrowing and rolling, might be more readily and thoroughly achieved. But as only about ten in a thousand of us can command these conditions, the next best plan is for us to plough as we can, when our land is in the best possible order, working early and late—an hour or two by moonlight occasionally—never mind all their eight hour legislating and preaching in ploughing, planting and harvest time—then lie by and rest, or do something else, whenever we find our field so wet that the furrow falls from the mould board like a long length of broad rubber belting instead of crumbling down freely disintegrated as it ought. Count that day lost that has been given to ploughing, when you look back upon long lines of furrows beautifully turned, superbly pressed, their shining surfaces glossy as a satin vest. In vegetable gardening, thorough pulverization should be the invariable rule—knock the clods to pieces—disintegrate—beat every lump the size of your fist into atomic usefulness. There is money laid by useless in every lump—a little in each—a good deal in the aggregate. Beat it out of that, pulverize, dig, disintegrate, and economize manure and money.—*Phil. Bot. Post.*

The soil, by its weight, is constantly trying to form rock under it in the soil. It is the farmer's business to see that it don't do it. His plough and spade are the means to prevent it, but especially the subsoil plough.

Canadian Natural History.

Buzzards.

(Buteonina.)

BUZZARDS resemble hawks and falcons in having short wings, and the bill crooked from the base. They, however, differ from them both by the possession of a beak somewhat larger and weaker, and by the absence of the tooth on the upper mandible. The third and fourth quill feathers of the Buzzard are the largest; while in the falcons, the second; and in the hawks, the fourth, have that distinction. Buzzards are sluggish and inactive in their habits, and in hunting their prey, rapid pursuits and quick movements are not

well as on the young of fur-bearing animals. Respecting the method adopted by this bird in capturing its prey, Audubon remarks—"They now and then pursue a wounded one; but the greatest feat he had seen them performing was scrambling at the edge of the water to secure a lethargic frog." The same eminent authority also frequently shot them "long after sunset, as they sat patiently waiting for their prey at the edge of a ditch." Notwithstanding its constitutional laziness, the Rough-legged Buzzard is a powerful bird, and can do wonders when it chooses to exert itself. "When roused by hunger it will not be content merely with frogs and mice, but addresses itself to the capture of large game, such as wild-ducks and rabbits." The head, neck, throat, and breast of this bird are yellowish white, with broad triangular spots. The throat is marked with lengthened streaks of

catch attention. The doomed creature is borne off in the claws of its remorseless destroyer before the victim is even aware of the presence of its enemy. The Buzzard is frequently described as watching from an eminence or from the summit of a decayed tree, remaining for hours in one situation, and from thence sweeping down on the prey when it is discovered. We never had an opportunity of seeing it so employed, and have always regarded its long stationary perches as the result of repletion. However this may be, the same station is frequently taken up day after day, and the hours are patiently passed in a motionless dose. "When roused from this perch, or during the season of incubation, the flight is slow and majestic. The bird rises in easy and graceful gyrations, often to an immense height, uttering their shrill and melancholy whistle. At this time, to a spectator



COMMON BUZZARD.

ROUGH-LEGGED BUZZARD.

employed. The expansion of the wings is ample, but of that rounded and hollow construction which is unfavourable for great activity. The plumage is loose and downy, and bears a certain resemblance to that of the owl.

THE ROUGH-LEGGED BUZZARD.—(*Buteo lagopus*).—Is so named from the circumstance that its legs as far as the base of the toes, are covered with feathers. On this continent, it ranges over the northern districts, migrating from one neighbourhood to another, and extending to the fur countries and the plains of the Saskatchewan. It breeds on lofty trees, and the nest is formed of sticks, with a slight lining. In disposition, it is more shy and wary than the Common Buzzard, shortly to be described. It delights in low-lying hunting districts, and it preys on the small quadrupeds, such as field mice and ground squirrels; the inferior orders of reptiles, newts, frogs, lizards, and snakes, as

brown, while the head and neck are narrowly streaked with markings of the same colour. The under parts of the body, in front of the thighs, is of a deep amber brown, and the feathers are edged with yellowish white, tinted with reddish. The upper tail coverts and base of the tail are white—the latter seems a constant character in all the specimens we have had an opportunity of examining. We have observed in some individuals a slight difference in the intensity of the brown and the broadness of the markings of the bird, and one or two actually had the head nearly spotless.

THE COMMON BUZZARD.—(*Buteo vulgaris*).—Like the bird just described is sluggish and inactive in its habits. The flight is heavy but buoyant, and when hunting, it is performed in low sweeps. While softly sailing along in its noiseless flight, it surveys the ground and pounces on any thing living that may

underneath, and in particular lights, it appears of immense size. The motions of the tail, when directing the circles, may be plainly perceived, as well as the beautiful markings on it and on the wings." An eminent authority describes the bird as follows:—"Bluish black bill, darkest towards the point; the under parts are sometimes pale yellowish white, streaked on the throat and breast with shades of brown of different intensity, and on the belly and vent crossed by broad irregular bars. Sometimes they are of a uniform tint, nearly as dark as the upper surface of the body and being little interrupted. The plumes of the thighs are generally dark, crossed with reddish. The tail is slightly rounded, and is crossed by a broad bar of amber brown near the tip, and by seven or eight narrow ones of the same colour." The length of male specimens are about twenty inches, that of females being about twenty-three inches.

Stock Department.

Canadian Importation of Suffolk Horses.

We have much pleasure in recording the following valuable importation of pure-bred Suffolk Horses made by Fred. Wm. Stone, Esq., of Moreton Lodge, Guelph, in October last, which will no doubt be of great service in improving the agricultural horses of Canada, and we herewith present our readers with a short description and two illustrations of them.

HERO, by The Hero, dam Silver, by Mr. Badham's Chester Emperor. The Hero was bred by the late Mr. Crisp, by Wilson's Goshub, dam by Manchester Boxer, g.d. by Mr. Kerr's Old Britain, g.g.d. by Mr. Toller's horse. Hero is a beautiful red chestnut stallion, 3 years old, 16½ hands high, with clean legs; is a good traveller, and very docile. He was reputed the best and most promising horse in Essex or Suffolk.

LABOR, a 6-year old chestnut mare, in foal to The Hero. Sired by Mr. Barthropp's Hercules, winner of 2nd prize at Romford, and commended at Battersea in 1862.

SILVER, a four-year-old chestnut filly, by The Herodam Silver by Chester Emperor. Winner of 2nd prize at Witham as a foal with her dam. 2nd prize at Brentwood as a three-year old in 1865, and 1st prize at Ipswich as a three-year-old in 1865, beating the winner of the 1st prize at Brentwood.

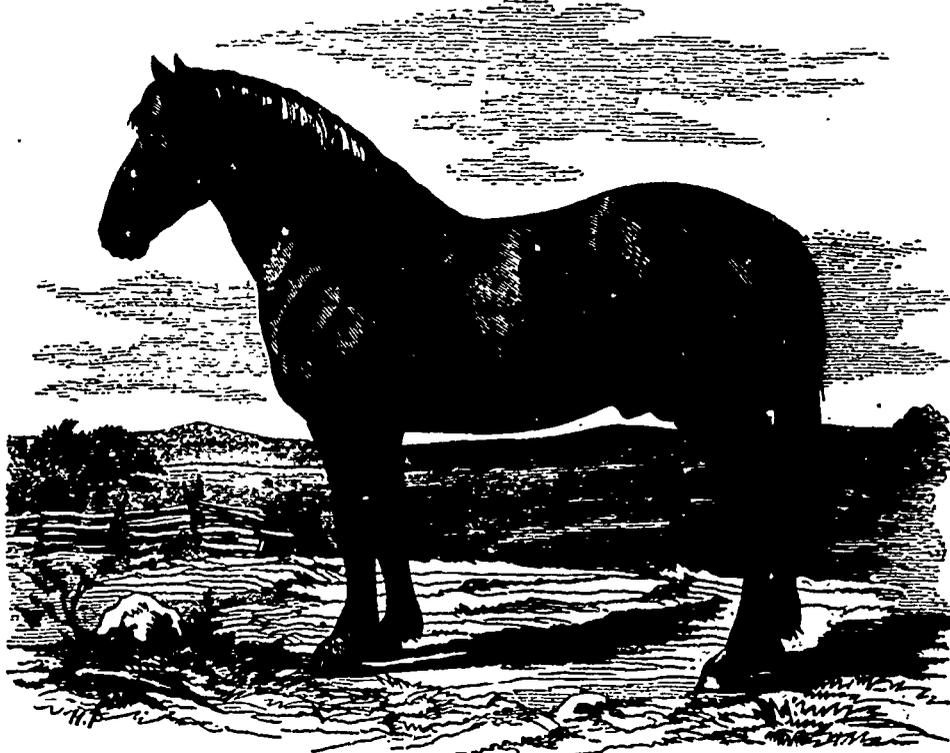
CANTERBURY NUN, a beautiful two-year-old chestnut filly. Sired by Chester Emperor, dam Canterbury Nun, by The Hero. Winner of 1st prize at Harwich as a foal with her dam, and 1st prize at Newcastle Show of the Royal Agricultural Society in 1864. 1st prize at Brentwood as a yearling in 1865. 2nd at Ipswich in 1865.

N.B.—Her dam, Canterbury Nun, took 1st prizes as a two-year filly at the Norfolk, Suffolk and Royal Agricultural Shows in 1860; also, 1st prize as a three-year-old filly at Romford in 1861, and 1st prize for the best mare and foal at the Royal Agricultural Show at Newcastle in 1864.

The above horses are descended from the well-known and celebrated stock of Messrs. Barthropp, Badham and Crisp, which, for symmetry, hardiness of constitution, and working qualities, cannot be surpassed. Their good pedigree, and the position obtained by them at the various agricultural shows, are proofs of their intrinsic merit and of their high

standing in the estimation of Suffolk breeders. They were purchased by Mr. Stone from Sir Thomas Leonard, Belhus, Romford, Essex, England. We trust they will thrive in their new home, and that their enterprising proprietor may find them a profitable addition to his already large and valuable collection of well-bred farm animals. Mr. Stone certainly deserves much praise for the persevering efforts he is

RED CHESTNUT 3-YEAR OLD SUFFOLK STALLION, "HERO,"



IMPORTED BY F. W. STONE, Esq., GUELPH.

making to furnish choice breeds of stock for the use and benefit of the farmers of this country, and we can but hope that his exertions will come to be duly appreciated.

Foddering.

SOME people think it a very small matter to feed cattle, and so it is, but yet one will keep his stock in

RED CHESTNUT SUFFOLK FILLY, "CANTERBURY NUN,"



IMPORTED BY F. W. STONE, Esq., GUELPH.

good condition on much less feed than another. Stock should be fed liberally, but no more at a feed than they will use up. Hay should never be thrown from the mow to the floor or the racks until the cattle are ready to use it. Some make a practice of throwing down the night's feed in the morning, and placing it in the stanchions while the cows are out, thinking that time and labour are saved, and that it makes no

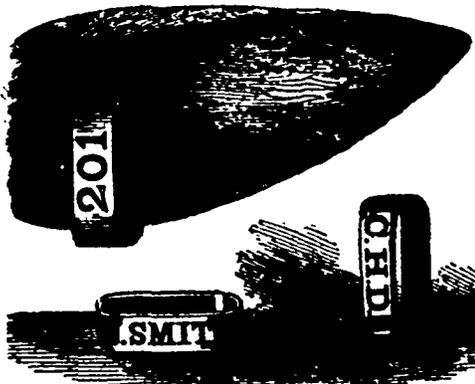
difference. Such practice is objectionable, since the hay loses from the drying of the fibre, which renders it less palatable and less nutritious to stock. An over feed is always wasteful, since the animals breathe upon that portion which is left after filling themselves and unless compelled by hunger, will not feed again upon the refuse. In a few days by this course of feeding the alleys become filled and have to be cleaned out at a loss. Keep the feed alley clean, and throw no more hay before the cattle than they will eat at a meal. Feed stock liberally, and with regularity as to hours. The health and thrift of animals much depend upon the regularity in feeding. It is poor economy to stint stock in their food at any time during the foddering season, but if the rations are to be decreased, it had better be done in spring.

They should be kept in flesh, and those that are thin brought up by a little extra food. An ear of corn a day in addition to a full supply of good hay will have a marked influence in the course of the winter, small as the quantity of extra food may appear. The "underlins" should be turned out to water first, and have plenty of time to take their fill before the master animals are loosened from the stanchions. It will save much hooking and injury to stock. Cattle like a change of food, and coarse fodder, straw, &c., may be used to advantage as an occasional feed. When used in this way, it is worth much more than its nutritive value would seem to imply.

The true way to fodder cattle is to have a platform scales on the floor and weigh each feed. One knows then precisely what he is about, and can regulate quantity much better than by guess. However, a careful hand that keeps an eye over his herd will guess pretty accurately, and bring his animals out in the spring with a good coat of flesh to begin the summer's work. None but careful and experienced hands should be entrusted with the care of stock in winter. If others are employed, the master's eye must be on the watch or losses must be expected.—

Dana's Sheep Label.

We are indebted to Mr. A. Young, Junr. of Sarnia, for the opportunity of thoroughly acquainting ourselves with Mr. Dana's system of marking sheep. As will be seen from the accompanying cuts,—which appeared in vol I. p. 168 of this Journal, but which, for the benefit of new subscribers, we now reproduce—the label is neat and simple in its construction. A punch is used to make a hole in the ear, through which the label is passed, as seen in the illustration. The punching process to our mind is the only objectionable part of system, but it is probably not more cruel than the method of marking sheep by means of indentations cut in the ears, as practiced by some flockmasters both in this country and in Britain. A Register prepared by Mr. Dana, is intended to accompany the labels. This furnishes a simple and convenient means of keeping a very valuable record of every individual member of the whole flock. The following extract from the printed instructions as to how the Register ought to be kept, will best illustrate the usefulness of this record:—



"Sheep number 10 was born in 1862, is now 3 years old, fleece this year weighs 8 lbs.—1866, 7 1-2 lbs.—1867, 8 lbs. &c., date when coupled, November 20th, had a lamb marked with label number 60, the star over the number signifies that it is a ram lamb,—1866 had no lamb—1867 had a Ewe lamb numbered 200.—Sheep No. 1 was sired by ram number 1, from Ewe number 40, was large size middling form, quality of wool first rate and short staple, thick fleece, better than the average. Yolkeness, medium; covering of belly, excellent; the head badly covered, wrinkles in the highest degree; constitution, excellent; sold to John Smith."

The labels are made of iron wire rolled flat, and afterwards washed with tin. The name ordered, and numbers from 1 upwards are then stamped on the label, after which it is bent into link shape. It is almost unnecessary to remark that it may be attached to the ear in a variety of positions, or in the same position on opposite ears. This, to our view, is a highly commendatory circumstance, as the position of the label will enable the flockmaster—even at some distance—to distinguish the various grades or ages of the sheep in his flock. By an advertisement in another place—to which we refer our readers—it will be seen that Mr. A. Young, Junr., Sarnia, is the general agent for Canada. He states that he will forward 100 labels marked with name and number—postpaid to any one who remits \$3.00. The label, we understand, is being very generally adopted by flockmasters in the States.

Productive Sow.

I have a sow, which in March, 1864, had her first litter of pigs—15 in number. These pigs were kept until nine months old, when their dressed weight averaged 294 pounds. In March, 1865, she had her second litter of 18 pigs—lost two—sold some—fatted and nine—average weight, dressed, at ten months, 300 pounds. March 13, 1866, she had her third litter of 21 pigs—four dead, and one died after it came—all of good size. To-day, March 25, we have 16 pigs doing well, which will dress 300 pounds at ten months old, if well fattened.

If any of your subscribers have a sow that has beaten this, we would like to hear from them. The sow is half Suffolk, with part Berkshire and a little cross of the large breed, and is capable of being fattened to 600 lbs., with very fine bone and fine thin hair. Onondaga Co., N. Y. CHAS. W. DEAR.

Value of Palm-Nut Meal as a Material for Feeding.

We learn from *The Farmer* that "At a meeting of the Council of the Chemico-Agricultural Society of Ulster, Dr. Hodges placed before the Society a new feeding stuff, which had recently been used with great advantage in feeding sheep and cattle. It was in the form of a coarse, brownish powder, and consists of the residue which was left, after submitting the kernels of the palm-nut to the action of powerful crushing machinery for the extraction of oil. Samples of the meal into which this residue was converted had been forwarded by Mr. Alexander, and also by Mr. Green, of Londonderry. Analyses proved that the samples contained a much larger amount of fatty matter than any of the oil-cakes in the market, and also that, from the amount of flesh forming (nitrogenized) matters present, the meal deserved the attention of cattle feeders, and might be regarded as a most valuable addition to our supply of cattle food. While the best samples of linseed cake rarely yield so much as 12 per cent. of oil, the palm-nut meal gives 23 per cent. One hundred parts of the samples had the following composition, respectively:—

	Mr. Alexander's sample.	Mr. Green's sample.
Moisture.....	6 50	9 20
Flesh-forming matters .	15 60	15 00
Oil.....	23 10	22 50
Respiratory compounds and fibre.....	51 39	49 89
Mineral matters	3 51	3 41
	100 60	100 00

The price of the palm-nut meal in Liverpool is £6 10s. per ton; and though less agreeable to the taste than linseed, yet cattle soon begin to relish it; and experiments reported by Professor Voelcker, which were made at the Royal Agricultural College, Cirencester, by the manager of the farm, Mr. Coleman, shew that experience corroborates the indications of chemistry, and that it proves a valuable fat-producing material."

Raising Weak Lambs.

A VERMONT subscriber—a successful breeder of Merinos,—writes the *Country Gentleman* as follows:—"Formerly as soon as I had a lamb drop, if it did not get up at once and take care of itself, or if it was weak, I had to take it into the house and keep it warm for the least chill is sure death. I have lately hit on a plan that I think would benefit others who are breeding high priced sheep—which is to keep a few bricks on the stove, and, when the lamb drops, put the warm bricks into a basket or box and a little straw over them; the lamb is put in the bed thus prepared, and he is up as quickly as in the middle of July."

The same correspondent mentions that his flock of breeding ewes (full-blooded Merinos) is 200 in number—having at the date of his letter, April 3d, 73 lambs, with about six coming in every day. As to the treatment of the dams, he says:

"I am feeding them six bushels potatoes and two bushels grain per day—the latter of any kind I happen to have, corn, barley, oats, buckwheat or all mixed,—and all the good early-cut hay they can eat. Ewes fed as above will have plenty of milk, which is the main thing. The next is a tight shed that can be kept warm. If there are plenty of hot brick there is no danger of losing a lamb. If the sheep have been wintered so that the milk is short, some new milk cows must be kept."

Summer Pigs.—A clover lot is the best pasture for pigs through the early part of the summer. It is good, indeed the whole season, but after harvest the pigs should glean the grain fields, and as soon as the corn is grazed it may be fed profitably. Give stalks and all, for hogs will relish the juicy leaves and husks. But if you have a clover lot near the house—in the orchard it may be—so as to feed the milk and slop of the kitchen conveniently, you have as good a chance as may be desired. Pigs will thrive on clover alone, especially when it affords blossoms, but it will pay well to feed some grain daily. Meal, either alone or mixed with ground oats, barley, or mill feed, perfects the clover and milk system of feeding. When milk is fed it is better, we think, to wean the pigs when they are two months old, and then give them the whole benefit of the food. Some farmers talk of "shutting their hogs up to fat" in the fall; they should fatten them all summer, keep them fit for the butcher all the while. This is the way pigs are grown which dress 350 or 400 lbs. at 10 months old.—*Rural N. Yorker.*

The Dairy.

Carcass and Milk.

In the first introduction of improved breeds of stock into the country, much injury has been done by the misapplication of the kind of stock. Although, in many instances it was seen to be desirable to improve the breed, the specific direction in which the improvement was desired, was not presented to the mind with sufficient distinctness. And the point was not settled whether it should be in the carcass or in the milk. The Durham breed was held in high esteem, as its merits as a beef animal will ever maintain it, and we know of gentlemen obtaining them at high prices, and attempting upon the Durham breed to improve their dairy stock, and in almost every instance disappointment was the result. We know of a fine dairy establishment breaking down in consequence of this, and several private parties have had to fall back on the common stock for milkers. The Durham is an excellent animal for the market; the milk is of high quality, but very seldom in sufficient quantity. So that for early maturity, weight of carcass, and ease in fattening—the Durham takes the lead, but in milking qualities alone it is almost always deficient.

The Ayrshires and Alderneys are milkers, and the Levons perhaps unite the two qualities in the greatest perfection of which they are capable: but the complete union of the two qualities is an impossibility. The great development of milking qualities requires especial attention, for, while an animal may have a disposition to give a large quantity of milk, it must have the appropriate materials supplied, from which to manufacture the milk. We see every day that inappropriate feed will dry up the milk of a thorough bred Ayrshire, and cause her to lay on fat, and that appropriate food will do much to help the milking qualities of our common stock.

Bran mashes and food of that soft watery class, with clover hay, will produce milk. While dry food and especially corn, will produce fat.

There is much also in the soil and climate and quantity and quality of the water influencing the condition of stock.

It is an experiment of vast value to our State, the introduction of the Ayrshire breed; it is one that merits the attention of all, and we shall be glad to be able to record their entire success, and show their suitability to our soil, climate and wants. Much credit is due to the initiators of the idea of improvement in that direction.—*Cor. Rural World.*

TO INCREASE THE PRODUCE OF BUTTER IN THE WINTER.

An Irish correspondent of *The Farmer* writes to that journal as follows:—"I think it would be of advantage to many who still persist in keeping the old-fashioned stove in the dairy to know that there is a simple plan, which costs nothing, and which I have practiced with the most satisfactory results for years, by which the produce of cream in winter can be fully doubled. It is effected thus—when the new milk is collected into the cooler, and just before setting, take cream out of the cream vessel in the proportion of a glass of cream to each gallon of milk in the cooler, blend the cream thoroughly, and set the milk as usual, and in twelve hours I will guarantee a most abundant top of cream. In fact, I will promise as great an increase in cream from milk so treated without a stove, as in a dairy with a stove and in which this method is not practiced. In very wet weather the proportion of cream to be mixed with the new milk should be increased. As the cream rises much quicker than by the ordinary method, the period for skimming should not be so long deferred, because, from the composition of milk, once the buttery corpuscles have separated from the remaining constituents of the milk, the milk sugar rapidly passes or changes into lactic acid.

Try it forthwith, and report the result. In my next I shall say something about dairy benches, or, as they are called here 'stillings.'

TRAINING HEIFERS.—If you want a heifer or young cow to break in kindly to the milking process, make friends with her at the outset. Be soothing and gentle with her. If she is skittish, fretful, or uneasy, the milker should be patient and cool. Refrain if possible, from any application of the milking stool. It may make her stand shivering in her place, but the milk will be rendered grudgingly and greatly in diminished quantity. By patience and kindness the young cows may be soon brought to regard you as a friend. This relation once established and the victory is won.—*Rural N. Yorker.*

Poultry Yard.

Hardy Table Poultry.

MANY persons object to Dorkings on the ground of the difficulty of rearing them on wet soils or in damp seasons, though at the same time they require for table-use large-framed meaty fowls. The three desiderata of hardhood, large size and first-class birds for the table can be most readily combined, if exhibition fowls are not required, by rearing cross breed varieties. For example, if the Dorking stock is found too delicate, we should recommend the introduction of two or three dark Brahma hens into the run; the chickens hatched from them will be very large, hardy, rapid growers, and furnish good table fowl. Two or three of the best pullets should be saved, and next year, if running with the Dorkings, will hatch some very first-class table birds that the best judge in the world could hardly distinguish from Dorkings when on the table. If preferred, Cochins may be chosen, but the result will not be quite so satisfactory. Other crosses that we have tried with great advantage are those between the Croveccour and the Dorking. The chickens thus produced were of almost monstrous size, and of first-class quality as to whiteness of skin and rapidity of flesh; but they were undoubtedly very ugly as to plumage and combs. The La Flèche is also a very heavy bird, which is insufficiently hardy to be crossed with any large breed that may require fresh blood. Other crosses that may be named are Dorkings and Malays, Cochins and Croveccours, &c.

The objection often taken to rearing a lot of mongrels is more apparent than real. There is no necessity for keeping the birds so reared; they are bred for the spit and the pot, and these should be their destinations. If larger, hardier, and more rapidly growing fowls can be obtained by cross-breeding, there can be no valid reason for not employing this method. The most gigantic oxen at our prize shows, the largest and most easily ripened sheep, are constantly to be seen in the cross-bred classes; but no one would think of perpetuating the races. So with fowls, keep one stock pure, purchase a few hens of the kind required to cross with your pure stock, and kill all the cockerels of the half-breed, and the result will be that, without deteriorating your pure stock, you will have larger, hardier, and earlier table fowls than those persons who obstinately cling to one pure variety only.—*The Field.*

A NEW IDEA FOR HOUSING POULTRY.—A correspondent of the *American Agriculturist* gives a novel plan for a poultry house. It consists of a light building 4 by 9 feet, and 4½ feet high, without floor, and set upon wheels or rollers. Three feet at one end open lath work, and the remaining six feet partitioned off, the partition coming down within a foot of the ground, enclosing 3 x 4 feet. The enclosed portion is for the roosts and nest boxes. The house is designed for fifteen hens, and is to be set on the grass, and moved its length every day. The writer states that such a house is in practical operation, and works well, the advantages being that the fowls get fresh grass each day, that they thrive better in small than in large flocks, that they can thus be kept more cleanly and in better health, and that by moving the house in any locality on the premises, so that it may be sheltered or exposed in warm or cold weather, a more even temperature can be maintained. The house is to be provided with windows and doors, and be made ornamental or otherwise, to suit taste.

The Apiary.

Management of the Apiary for May.

BY J. H. THOMAS.

In favourable seasons swarms may be cast the last of this month. It is well therefore to be ready. Old hives that are to be used should be well cleaned, by scalding with boiling water; then thoroughly dry and keep in a cool place, as bees will accept a cool hive far more readily than a warm one. Sometimes, however, bees will leave a hive and no reason can be assigned for their doing so. How to prevent this, see "Canadian Bee-Keepers' Guide."

Stocks that are in moveable-comb hives may now be examined, and drone comb out out, which will prevent the rearing of an unnecessary number of drones, thereby saving a large amount of honey;

though in some cases it may somewhat retard swarming. Weak stocks should still be fed, especially if the weather is wet and cold; though, as fruit and other trees are now in blossom, bees will generally gather sufficient to supply their wants, and in some localities may lay in stores. If box hives are used they should be turned up every morning and the bottom boards cleaned, destroying all the miller-grubs that have been ejected by the bees, from the combs. The bottom board may be dropped at the back of my hive for the same purpose, or each frame may be taken 'out and examined, if any grubs are in the combs they can be removed easily with the point of a knife, saving the bees much trouble. As soon as fruit blossoms appear, the full entrance to a hive may be given the bees, as they will not be likely to rob anymore. If every thing has been favourable and the honey harvest is good, honey boxes may be given to strong stocks the last of the month. The question is often asked, if giving stocks honey boxes will not prevent their swarming? In some cases it may; in others it appears to make no difference. The advantages however are in favour of putting on boxes; for if a swarm is prevented, a box of honey will compensate for the loss of the swarm; on the other hand, should a stock fill the box with honey, and swarm also, which they are likely to do, then a box of honey is gained.

Entomology.

Precautions against Destructive Insects.

THE ORCHARD AND GARDEN.

We made some remarks in our last issue respecting a few precautions that may be taken against the insects that commonly injure the field crops of the farmer. In pursuance of the same subject, we now come to the insect depredators that attack our orchards and gardens. These are so various in number and kind, and differ so much in their mode of work, and the amount of mischief they commit, that it would be an almost endless task to give even a few short particulars concerning each; we shall, therefore, confine our remarks to those that are most injurious, and at the same time most widely distributed.

Let us begin with the insects that attack our Apple trees, both in the orchard and garden. The most formidable of these, inasmuch as it attacks the very heart of the tree, and conceals its operations from view is the Two-striped Borer (*Saperda bivittata*, Say.) This insect has inflicted an immense amount of injury in many parts of the United States, and has also commenced its work of destruction in Lower Canada, but we have not yet heard of its appearance in any part of this Western province. As, however, it is well known in the orchards of Michigan and Illinois, in the State of New York, and to the east of us, we can hardly hope to enjoy our present immunity very long. The presence of this insect in the tree can generally be detected by the little piles of saw-dust-like matter that are collected at the base of the trunk the refuse of the wood gnawed by the borer. The particular spot where the insect is at work is marked by the surface of the bark being there blackened and slightly depressed; this is often the only indication of the mischief that is going on within. Should any of our readers have reason to fear that their trees are thus attacked, their best course is to examine the trunks carefully, and wherever they notice the change of colour in the bark, apply the knife and exterminate the intruder. And then, to prevent renewed attacks, and assaults upon trees that have hitherto escaped, about the end of this month, or the beginning of June at the latest, rub the trunks of the trees well with common soap until they assume a whitish appearance, and place a lump of it in the principal crotch. This is considered an effectual remedy against the ravages both of this insect, and another, very similar in its mode of attack, though quite different in its form. The latter is called the Buprestis Borer (*Chrysobothris femoralis*, Fabr.); it is unhappily by no means uncommon in this country, though its depredations do not appear to have been much noticed.

The Tent caterpillar, another well known enemy of apple and other fruit trees, has been noticed before in this Journal. In the number for April 16, page 119, we referred to the necessity of examining the trees and cutting off the rings of eggs before the leaves come out and render their detection impossible. As, however, with all our care, some are sure to escape observation and build their nests as usual, it will be necessary to examine the trees ere long again, and destroy all that can be found by tearing down the "tents" and crushing under foot all their inhabitants. This can be most easily and effectually accomplished when the nests are small, and on a rainy day when the caterpillars are all at home for the sake of shelter.

Where Bark-Lice are troublesome, as they are in many parts of Canada, the trees should be well washed over early in June with one of the following washes, (both are highly recommended):—Take two parts of soft soap and eight of water, and mix with them lime enough to bring the whole to the consistency of thick whitewash; or, boil tobacco in strong lye till it is reduced to an impalpable pulp, then mix it with soft soap till the whole is about the consistency of paint; apply with a brush.

And now let us turn to our Cherry trees. The first insect enemy to be noticed is the Tent caterpillar, referred to above. After the leaves come out, however, they are liable to be visited by slugs, which frequently commit an immense amount of mischief. A detailed account of them and their remedies will be found in last year's volume of THE CANADA FARMER, page 262.—It is therefore unnecessary to recount them here. Another destroyer of the leaves is a reddish beetle (*Galeruca rufocingulata*, Say) also noticed in volume II, page 248. The Black-knot, though apparently a fungus, and not the work of an insect, may be mentioned here, since it is so exceedingly injurious both to Cherry and Plum-trees. Mr. Walsh, after long and patient investigation and plenty of experiments, says that the following is the practical conclusion to which he has come:—"If the diseased twigs are all cut off and destroyed early in July, in the latitude of New York, or a little earlier or later, according to the latitude, taking care to cut a few inches before the affected part, the Black-knot can be checked, and probably entirely eradicated; but if this operation is delayed till August, it will be of no benefit whatever."

The Grape-vine is attacked by numerous caterpillars, some of them of large size, which can be most easily destroyed by hand-picking, whenever they make their appearance. The same mode of treatment can also be adopted for repressing the exertions of the large spotted beetle (*Pelidnota punctata*, Linn.) which is sometimes sufficiently numerous to be destructive, in the southern portions of western Canada. A more common enemy is the Flea-beetle (*Graptoderus chalybea*, Illig.) which early in the season begins its work of eating holes in the buds and leaves. Dusting with lime, when the leaves are wet with dew, will probably be found a good preventive against this little insect; the use of very strong soapsuds is also recommended.

Currant and Gooseberry bushes are only too liable to the attacks of caterpillars, as most gardeners know by bitter experience. In many parts of the country we shall no doubt have a repetition this summer of the hordes of destroyers that did so much mischief to our bushes last year; it will be well, therefore, to be prepared for vigorous measures of defence. Hand-picking is the only means that we can recommend for the extermination of the larvæ of both the Saw-fly and the Currant-moth (vide CANADA FARMER, vol. II. page 231.)

Currant bushes are also very subject to the attacks of two borers, one the larvæ of a beetle (*Psycocerus supernotatus*, Say), the other of a wasp-like moth (*Trochilium tipuliforme*, Linn). Both of these feed upon the pith of the stalks which they often completely hollow out, and of course, very soon kill. Dr. Fitch gives some very good advice respecting them, which gardeners would do well to follow; he says:—"The utter carelessness with which the currant is treated in most of our gardens, with a thicket of young shoots annually left unpruned and crowding upon and smothering each other, gives these borers and other pernicious insects the utmost facilities for lurking unmolested and pursuing their devastating work without interruption. Were this shrub suitably trimmed, and kept thinned out to only three or four stalks from each root, these stalks, growing freely exposed to the light and air, would be little if any, infested by these depredating insects. As these worms remain in the dead stalks through the winter, their destruction is easily effected. By breaking off all the dead brittle stalks at the surface of the ground and burning them, these borers may at once be exterminated from the garden. But they will soon find their way back again unless the bushes are well pruned every year."



Flax Compared with other Crops.

To the Editor of THE CANADA FARMER:

SIR,—I purpose briefly to consider the result of the culture of flax as compared with other generally cultivated crops, so far as I can judge from personal observation, in this section of the country. It is asserted that to till the land properly, we may obtain an average of two tons per acre, which sold for \$14 per ton, amounts to \$28, deduct from this \$3 for seed, and \$5 for harvesting expenses, and we have the net result of \$20 for cultivation. To cultivate the same land to equal perfection, and sow with barley, we have an equal chance to receive 35 bushels to the acre, which at 70 cents per bushel, would realize \$24 50, and for one ton of straw, \$5 50, giving a total of \$30; deduct from this for seed, harvesting, &c., \$3 50, we have \$26 for cultivation and rent for estate. Sow up with oats, and we would obtain 55 bushels, which at 30 cents per bushel, would make \$16 50; add to this \$9 for one and a half tons of straw and chaff, which gives a total of \$25 50; and deducting \$3 50 for seed, harvesting and threshing, there will remain \$22 for labour. Similarly take peas, and you are likely to obtain 30 bushels to the acre, which at 60 cents per bushel, gives \$18, add for straw, \$5, makes a total of \$24; from this deduct \$4 for cost of seed, harvesting, &c., and \$20 is left to the producer,—an amount equal to the flax. We must not forget that green crops are beneficial to land, whereas white ones are the reverse, which gives the balance in favour of peas. We shall not take wheat into consideration, as at present it is a precarious crop; but were all things equal, there would be a greater financial profit resulting from its cultivation (at the present prices) than from any of the above mentioned crops.

The above remarks show a balance in favour of other crops, as the straw is indispensable for feed and manure; but it is expected that the price of coarse grains will be lower since the abrogation of the Reciprocity Treaty, which may somewhat equalize the results. There are other great considerations which should induce farmers to cultivate flax, such as the employment of capital in the extension of home manufacture. It is obvious that it is to our interests as Canadians to encourage the cultivation of such produce as will tend to develop the greatest amount of manufacturing resources, especially if the benefit to the producer be sufficient to sustain him in his effort. Factories require operators, and their establishment would increase immigration—would build up our little towns, increase trade, and create a better home market for general produce. We would be unworthy the name of citizens were it our sole aim to enrich ourselves at the cost of the country, by impoverishing our soil, and by causing our families to seek homes in other lands.

There is room for a vast increase in woollen, flax, and cheese manufactories in Canada, and capital sufficient to sustain them, but there is a lack of those who are willing to invest in them. We have too many capitalists whose highest aim is to take advantage of other men's misfortunes, extorting from them the highest rate of interest, thereby sapping the very vitals of the business element of our country, and involving it in bankruptcy. If some of the above class would invest in manufactories, they would not only increase their wealth, but would become public benefactors. It must be confessed that our American neighbours show us an excellent example in the employment of capital. They have more determined enterprise, are willing to invest in and encourage all branches of manufacture, hence their ability to pay such high prices for our produce.

Let us as farmers strive to redeem ourselves in this respect, and encourage manufacture, for upon this depends the future welfare of our country. We can adopt the co-operative or joint stock principle, and become our own manufacturers, and thus establish a sure market for our produce.

W. W.
Brampton, April 24th, 1866.

Culture of Indian Corn.

To the Editor of THE CANADA FARMER

I hail THE CANADA FARMER to my home as a friend, as it is the only medium whereby we, farmers of Canada, can convey our ideas and practical results of the byre and the field. Thinking a few notes upon the culture of Indian corn may not be uninteresting to the many readers of the CANADA FARMER, I take the liberty given by the editor, requesting short accounts from farmers and others. *Kind of soil and preparation for planting*—Sandy loam and black sandy mould are the best adapted for sure and abundant crops of this excellent cereal. The second crop from sod is best; as soon as convenient after taking off said crop, (after fall wheat is best,) plough up the land, and harrow well during the fall; if a good crop of wheat is got, no manure is required, and as soon as other spring work is got along with, plough up the land the second time, finish up before 24th May, and mark out for planting from 3 to 4 feet both ways, according to the variety selected for planting, but by no means select any of the white kinds, if quality is desired, (20 years experience has taught me this.)

Now we are ready for planting, (at a distance from any lakes,) be sure to plant the medium size yellow, as it ripens early, the larger kind generally is too long in ripening, the fall frost is apt to cut it. Plant 24th May, 3 1/2 feet apart each way at right angles, if there is no cut worms in land, put four kernels in each hill, of well selected seed. This is very important as the germinating powers of Indian corn is easily killed. I always plant the corn dry, just as it comes from the cob, discarding the corn on each end of the cob. If a large and perfect crop is desired plant no pumpkins with the corn. 50 to 70 bushels of shelled corn per acre is my average yield. Between 6th and 10th June pass the one-horse cultivator (Henry Collard's, Gananoque, C. W., is the best,) both ways between the rows; also *Craw* a little fresh earth with hand-hoe to each hill; a top-dressing is now required; I find nothing better than pure gypsum, say a large spoonful to each hill. 80 to 100 lbs. per acre leached ashes is a good substitute. About the 20th June go through the same process, save the top-dressing. If any weeds show themselves, pass through again, allow nothing to grow but the corn. Corn does not require hilling up, nor pulling out suckers to ensure a good crop.

Within four months of planting the crop is ready for harvesting; just before doing so, pass through the field and gather the best ears for seed, leaving enough husk on to tie them, and hang up in a pure dry place. I have been frequently asked the secret of raising such good crops of corn. The above is my mode, told in the plain and homely language of a farmer.

Yours truly,

HENRY EDWARDS.

Lobo, 20th April, 1866.

Flax Culture.

To the Editor of THE CANADA FARMER:

SIR,—It is to be regretted that the fall wheat has suffered from the winter frosts this season, and to those who are sufferers in this respect, flax presents itself as a most valuable crop to supply this loss, as the land is in the best possible condition for a crop of flax, with either a slight ploughing or applying the cultivator. The opportunity, too, of being able to secure the best of Riga seed, lately imported by the Government, at a much less rate than even cost price, should also be an additional inducement to farmers to try this crop. While they may safely look for several inches longer straw, they may also expect at least from \$4 to \$5 a bushel another year for all the seed they can raise for sowing purposes.

In the counties of Halton, York, and Peel, where so much complaint is heard of the failure of the fall wheat, farmers should feel encouraged to make a trial of this new and valuable branch of Canadian industry, when facilities are at their door for having it prepared for market. The Scutching mills at Norval, Scarborough, Weston and Streetsville, in connection with the extensive linen manufactory at the latter place is a sure guarantee of a market for both seeds and fibre. In some instances parties have already ploughed up as many as 20 acres of their fall wheat and are substituting flax. In the neighbourhood of Fergus, farmers are known to have sown as much as sixty bushels of seed this year. While we find this going on, others need have less hesitation in putting a few acres. In no other instance have they the same encouragement afforded them. Seed is offered by the mill-owners without paying for it until after harvest, and a sure market when the crop comes off the ground.

JOHN A. DONALDSON.

The Wheat Crop.

To the Editor of THE CANADA FARMER.

SIR—Since wheat has so frequently failed to realize the expectations of the farmer, it behoves him to direct his attention to some crop that will yield satisfactorily in soil that does not do so well in wheat.

Now, it is an established fact that ground that does not contain the properties essential in growing wheat, may yet possess those which are capable of producing an excellent crop of flax; and an instance has just now come to my knowledge, to which I wish to draw the attention of those concerned, of a farmer who has ploughed up a wheat field in which he was disappointed, and this with the resolution of putting the whole in flax; and, as there is going to be a scutching mill in Weston this summer, where I have been informed, a certain quantity of the straw will be purchased reaped or cradled—seed being now distributed, I cannot but think this an excellent opportunity for those thus situated as to wheat, to adopt this plan of turning such ground to advantage, and of giving it a change that will be beneficial. Hoping that this suggestion will not be thrown away on your readers,

I am, &c.

AGRICULTURIST.

York, 2nd May, 1866.

TANNING SHEEP SKINS.—“A constant Reader” makes the following enquiry:—“Could you, or some of your numerous readers, give a simple and effectual method of Tanning Sheep or Lamb Skins with the wool on?”

COMMUNICATION ACKNOWLEDGED.—A huge, closely-written sheet has reached us from “Beaver River” of Collingwood. Our correspondent glides lightly over no less than six different subjects, and winds up with a poetical effusion—chiefly remarkable for its length,—for it contains no less than thirteen verses. There are probably in the sheet two or three practical suggestions worth printing; but they resemble a few grains of wheat mixed in a bushel of chaff. They cost a great amount of time and labour to find them, and when found are not worth the trouble bestowed in the search.

HAMBURGH HEN'S EGGS.—“W. Eford” of Colborne, makes the following enquiry:—“Can you, or any of your correspondents, inform me where I can obtain a dozen of Hamburgh Hen's Eggs, and at what price?”

ANS.—We are unable to supply the information. Some of our readers probably can.

SHEEP GRUBS.—“James Wood, of Bailieboro” desires “some information respecting the treatment of sheep, when afflicted with grub in the head.”

ANS.—If our correspondent refers to Vol. I., page 103, of THE CANADA FARMER, he will find an illustrated and exhaustive article on the subject, from which he may obtain all the information he desires.

GRAFTING WAX.—“A Subscriber” makes the following enquiry:—“Will you kindly inform me the proper proportions of Resin &c., to make grafting Wax?”

ANS.—The composition to which you refer is prepared after a variety of receipts. A good grafting mixture results from thoroughly incorporating four parts of resin, three parts of beeswax, and three parts of lard. These ingredients should be well mixed while warm.

CARDING MACHINES.—“C. W. Jones” of Madoc writes:—“I take the liberty of referring to you for information which I find it impossible to procure from any other source. I wish to purchase a Carding machine, but do not know where they are manufactured. Could you inform me whether there is a factory of the kind in this country, or where they can be purchased in the States.”

ANS.—We are unable to supply the information. Manufacturers of such machinery ought to advertise in this journal.

IMPROVED CHURN WANTED.—“Robert Blair” of Grand Bay, Saguenay, writes as follows:—“Can you inform me through the columns of your much esteemed journal where I can procure a churn on the most improved plan, capable of churning one hundred pounds weight of butter at one time, to be worked by horse or other power.”

ANS.—We cannot supply the desired information. Makers of churns and Dairy utensils, generally, would do well to advertise in our columns.

STUMP MACHINES.— T. B. of Sandforth, writes as follows:—Will you have the goodness to inform a subscriber through the medium of your journal, where I could purchase a Stump Machine, and at what price. Which kind is the best, a lever or screw? What could the screw and nut be bought for separately? Will you be so kind as to give me all the information respecting those Stump Machines that you possibly can, as I have a large number of stumps to take out."

Ans. We have heard of several Stump Machines, but have not had sufficient acquaintance with the operation of any to warrant us in recommending them. Probably some of our farmers who have thoroughly tested such a machine will favour us with their experiences."

WHAT THE MOON HAS GOT TO ANSWER FOR.— A Reader writes from Columbus as follows:— "There are a great many farmers in Canada, who have the opinion of sowing certain kinds of grain, especially peas, that they get a better crop to sow when the moon is increasing instead of decreasing. I have known many farmers lose a good season waiting the moon's age. If you would favour the readers of THE CANADA FARMER with a few lines of your opinion, it might be of some service."

ANSWER.— We had almost trusted that the age of abject superstition, to which your inquiry is only appropriate, had passed away. It is stated by medical authorities that persons whose minds have become morbidly unsound, are at certain times, appreciably affected by lunar influences— hence the term *lunatic*. This fact may probably explain the strange delusion under which "many farmers" labour, in regard to "sowing certain kinds of grain." Science and common sense agree in saying to the farmer—Sow your seed in the regular season when your soil is in proper condition, and never mind the moon.

PURGATIVE MEDICINE. "Wm. Hill," of Hillsgreen, makes the following enquiry:—"Having a cow which, by accident, got into the barn and partook of some threshed grain, and having been recommended by parties to try so many different receipts for moving the bowels, and all of no avail, I would like very much if you or some of your numerous correspondents would give an answer to this very important question, as there may be many like myself, who would be the better of such information."

Ans.—Give a large dose of purgative medicine, say Epsom salts two pounds, calomel one drachm, combined with one ounce of ground ginger. To be dissolved in two quarts of water, and given in one drench. The abdomen may be well hand-rubbed several times a day, and the cow made to take gentle exercise. If the bowels are unmoved in thirty hours, half of the above dose should be given along with a pint of warm ale. Encourage the patient to drink plenty of water or other fluids. Clysters of soap and water, or of infusion of tobacco, should also be tried.

FOOT DISEASE IN CATTLE.—"C. M. B." of Dereham writes:—"Permit me to inquire through your valuable paper in regard to a disease that has made its appearance in this vicinity among cattle. The disease is in the foot, and it commences in the heel by cracking. The shell of the hoof comes off, and finally the whole foot comes off at the ankle joint. It seems to be a dry rot. My neighbour has seven attacked with it. His cattle has been well cared for through the winter, with good dry stables and sheds, with plenty of straw for beds. Any information you will give for the treatment of said disease, will be thankfully received."

Ans.—We presume you refer to a disease not at all uncommon in cattle and known as Foul in the Foot.

The treatment we recommend, is to remove any gravel, straw or other irritant which may chance to be lodged in the cleft of the hoof. The foot should be enveloped in a poultice of linseed meal, to which may be added a mild lotion composed of the sulphate of zinc, four drachms to a pint of water. The poultice is to be renewed once or twice a day, and the foot washed with water and castile soap. Flannel bandages, wrung out of boiling water, may also be applied to the swollen fetlocks and this treatment persevered with for several days. If matter forms within the hoof, the knife must be freely used, and all separated or detached horn removed and the parts stimulated with a mild caustic, as the chloride of antimony, or the sulphate of copper. The animal should have plenty of nourishing food, with a sufficient allowance of clean dry litter.

ENGLISH ROBERT APPLE.—"Jas. Cooper," of Woodburn, writes as follows:— I beg to ask of you a little information in regard to the English Russet, or Foughkeepsie Russet J. J. Thomas, in the American Fruit Culturist." after giving a description of the fruit (very like the Golden Russet) says— Keeps through spring, and often through summer. For twelve months' growth upright, shoots lively brown. A profuse bearer, a profitable market variety. It is distinguished from the English Golden Russet by its straight upright shoots, and from the Roxbury Russet by its less flat form and less acid flavor.' H. E. Hooker & Co.'s catalogue gives it substantially the same character. I have seen many lists of apples recommended for cultivation from fruit growers' associations both here and from the United States, but I have never seen the above recommended, or even mentioned, while I have seen others of inferior quality.—that is, according to the catalogues—that have been. How is this? Have we no such apple here? or have we it under another name?"

Ans.—From what we can learn, the apple "English Russet" does not appear to be a very desirable variety in this section of Canada, except for its long-keeping qualities, and in this respect it is not at all superior to some other varieties of Russet. In Canada, its flavour is represented to us as being inferior to that of the American Golden Russet. The English variety is grown largely on the Hudson, and in that locality may be a superior apple to what it is here. The American Golden Russet is, however, to all intents and purposes, the best Russet for general cultivation in Canada. The tree is perfectly hardy, is a most prolific bearer, and the fruit keeps till the end of February or March.

The Canada Farmer.

TORONTO, UPPER CANADA, MAY 15, 1866.

The Cattle Trade with the States.

The Congress of the United States has imposed an *ad valorem* duty of twenty per cent on cattle, horses, sheep, and swine imported across the lines from this Province. So far as Canada is concerned, this cannot be regarded other than a beneficial piece of legislation. Uncle Sam's drovers have been for some time assiduously employed in cleaning out our stock of cattle, and we venture to hope that the twenty per cent import duty will enable us to keep what few we have remaining. We require all the cattle especially heifers we can produce for some years to come. "We want the cattle" the *Belleville Intelligencer* well says, "not only for beef, but for the butter and cheese with which Canadian dairymen are making preparations to supply the English market. Our cousins have been making a good thing out of this business for the past few years, and profiting by their example, we shall put into our own pockets a share of what we have been heretofore helping them to make." The narrow protectionist jealousies of the abrogationists of the Reciprocity Treaty in the States blinded them to the fact that a great and mutually advantageous trade was in full operation between our cousins and ourselves. Before long they will learn the egregiousness of their folly.

A very curious line of argument on this subject is used by Mr. Newton in his Monthly Report of the Agricultural Department for March. He says "the Canadas had reaped the harvest of high prices occasioned by our war expenditures and the condition of our currency without incurring the taxes and military duties which the American farmer endured in the prosecution of the war"

From the last half-yearly trade returns it appears that "there were exported from Canada, in six months, 15,000 horses, 103,810 horned cattle, 168,000 sheep; the total value of this class of exports being \$7,423,355. Of wheat, grain, and other agricultural produce,

the value of the exports was \$11,954,813, the most of which went to the United States. The total exports for the half year were \$33,653,463, being an increase over the corresponding year of more than \$10,000,000.

Our cousins across the lines are altogether too shrewd to speculate in agricultural, or any other kind of produce, unless they see their way to a decided margin of profit. They would not have bought our horses and cattle and sheep unless it had been clearly to their advantage to do so. Animals and other agricultural products were required to supply the exhausting drain on farm products in the States during the war. Canada was the cheapest and most convenient market wherein to purchase. The benefits were, therefore, to say the least of it, quite as much on their side as on ours. And yet Mr. Newton in the pamphlet above referred to, indulges in the following palaver.

A more gross injustice to the American farmer than the Canadian treaty could scarcely be conceived. It was a selling of him for a fishery and a New York transportation. Now these two interests, may as well understand that they can make any equitable exchange with the provinces of their interests with a like Canadian interest, or of any other that is local to them, and which the parties to be affected by it may agree upon. But when it comes to this, that American agriculture, especially that of the west and northwest, is to be sold for eastern fisheries and transportation, then so great a crime against it will be punished. Once more we thank God that this agriculture is now a power in the United States, and as ready as it is able to vindicate its own rights, and redress the wrongs committed against it."

Professor Voelcker on Field Experiments.

This eminent expounder of agricultural chemistry recently gave one of his elaborate and exhaustive lectures before the members of the Royal Agricultural Society of England. His subject—"The Proper Conduct of Field Experiments."—was appropriate both to the time of the year, and to the progressive condition of British agriculture.

The experiments in question were classified as Practical, for the determination of the economical or profitable course under given circumstances; and Theoretical, having for their object the determination of truth irrespective of special circumstances. The former, with their narrowly limited bearing and their purely selfish object, are neither so interesting nor so valuable as the latter. And it was to the latter exclusively, accordingly, to which the Professor directed attention. The following are the points to which he referred:—

1. They need not be on a large scale. One-twentieth part of an acre of turnips or other root crops; one quarter of an acre of corn or grass, will answer fairly any simple question that is put to it by the application of a manure. A larger extent sometimes involves a fatal difference of treatment in the several parts of it. A difference of 6 tons per acre of Mar gold Wurzel has arisen solely out of a day's delay of seed time; and unless the plots be small enough to be treated virtually together, the results will not be capable of comparison.

2. These experiments ought to be conducted on soil of what may be called an *indifferent* character—level, fairly drained, uniform as to depth, and without any marked character as to composition or texture. It should be neither stiff nor light, nor should it be too rich. As the distinctive effect of different foods cannot appear in the case of a man already fully fed—so manure cannot produce their characteristic effect, or indeed any effect at all, on soil already full of all that plants require.

The results of experiments illustrative of this point were exemplified, in which nitrate of soda and superphosphate of lime and common salt proved altogether ineffective on the Clover crop, in consequence of the land being already rich enough.

3. The result of the experiment depends on the time and mode in which it is conducted. Experi-

mental m. curls on Grass lands on which it is proposed to try the effect of slowly dissolving fertilisers should be done in autumn. Even ammoniacal salts may be applied in autumn, if on land possessing any retentive character. Nitrates, on the other hand, which the soil allows to pass through it, must not be applied till spring. It is thus plain that a comparison of ammonia salts with nitrates sown together in autumn will give very different results from a similar comparison tried in spring time. Care must be taken to ensure the uniform distribution of the fertilisers. Concentrated manures should be mixed with at least three times their bulk of some harmless diluent. The broadcast manure distributor should be employed to ensure fact uniform application to Grass or corn; or they may be sown by hand over the drilled fields for roots before the plough covers the dung in the drills by splitting the intervening ridglets.

4. A careful record of the composition of the manures employed, of the character of the soil, and of its past agricultural history, must be preserved in order that the result may be read in the light of the information thus preserved.

5. It is of the greatest importance that the experiment be devised so as to answer to a very simple question. If complicated mixtures of manures be used, the result cannot be attributed to its proper cause with any certainty. Let the experiment be devised so as to be sure that it shall answer "yes" or "no," as to the effect of a single ingredient. The effect of potash as a manure is worth knowing; but these newly imported crude potash salts are mixed with common salt, and it is extremely difficult to ascertain what portion of any result they may produce is due to the one and how much to the other of the ingredients they contain. For four years, on six different farms, Professor Voelcker has been endeavouring to ascertain the truth on this point, and he is still in doubt.

The experiments, moreover, must have regard to the fitness of the soil and climate to the plant which is employed to test the manures by. It is as useless to try the effect of manures on Indian Corn in Scotland as it would be to test them by means of Mangold Wurzel in Sweden. So also the soil should be fitted to the habits of the plant. The Lupine fails on land with a hard, cold subsoil, not because the food it requires is not present, but because its deep tap-root requires a subsoil in which it can extend.

7. In reading the results of experiments, regard must be had to the character of the season, wet or dry, early or late, cold or warm. And extensive diligence should be used in noting all the successive appearances of the crop under varieties of weather throughout the year.

Lastly, the operator must not only have unbound-patience—waiting long and putting his question frequently before he satisfies himself that he has got the answer—but he must have both pluck and self-denial enough to throw his results into the waste paper basket rather than mislead his brother farmers by the publication of unsatisfactory conclusions.

The Diseases of Meat as they affect the Consumer.

The danger arising from the use of the flesh of diseased animals has received an unfortunate illustration in the late deplorable cases of *trichina spiralis* in Germany. Everything calculated to throw light on the action of diseased meat on the human subject must be welcomed as an important addition to our stock of knowledge. An interesting and instructive paper was recently used before the English Society of Arts, by Dr. Thudicum, on "The Diseases of Meat as affecting the health of the People." Investigations in Europe, as well that recently instituted at Chicago, have unquestionably proved that a clear and well-defined danger exists, at least in so far as pork is concerned, and Dr. Thudicum justly observed that "the exposition of this subject is the duty of all those who are called upon to exercise their skill in the protection of the health of the public." Much remains for science to accomplish in this field of investigation.

Dr. Thudicum classes the diseased conditions of meat under three heads, the first being, "Diseases of a specific nature, which can be transplanted upon man, so that the human subject becomes afflicted with the same disease as that which had hold of the animal when it died or was killed." And he went on to inform his audience that there is only one disease known to science at the present day which can be

classed under this head—namely, malignant pustule or anthrax. He does not, however, attach any particular importance to the possible introduction of this disease into man, owing to "the rarity of cases which can be traced to a diseased condition of flesh meat arising from this cause." In this connection, he stated that "the so-called specific diseases of animals cannot, as a rule, be transplanted upon man, and where this can be done, it is only by inoculation." Dr. Thudicum stated that each species of animals has its own peculiar diseases, the germs of which are invariably reproduced by its own species and transmitted from one individual to another of the same species. Hence, "we may use the flesh of cattle affected with pleuro-pneumonia, mouth and-foot disease, and cattle plague, or that of pigs killed while subject to the scarlet fever peculiar to the pig, without rendering ourselves liable to disease of a similar nature as that with which the animals were affected.

In the second class, Dr. Thudicum places all "these diseases which, while produced by disease specific to the animal species, do not cause the same specific disease in man, nor any other disease specific to man, but either produce no disease at all, or, if producing a pathological effect, cause a process which stands to its cause in the relation of poison to poisoning, but not in the relation in which typhus infection stands to typhus fever." He is convinced that the use of pleuro-pneumonic beef, particularly when underdone, has caused disease in the human subject, and even death; but he contends that the evidence upon which such cases have been reported, lacks precision—that illness arising from the use of such meat may have been caused by an intermixture with it of meat of another kind in a half-putrid state, and that, although the long-continued consumption of beef derived from animals affected with pleuro-pneumonia, steppe-murrain, &c., may produce remote effects, even this is not proved.

In the third class of diseases communicable to man by means of the consumption of the flesh of animals, Dr. Thudicum traced the history of those fatal effects produced by entozoa, and hence called parasitic diseases. Thus, "man derives the great hookless tapeworm from veal and beef, and the common hooked tapeworm from pork; from the sheep and ox, through the instrumentality of the dog, comes the germs of that painful and frequently fatal disease termed *echinococcus* or cystic disease; and, lastly, from the pig man gets that awful scourge now known by the name of trichiniasis."

The Dr. traced the history of these diseases and the agents by which they are produced, at great length. By means of an oxy-hydrogen microscope of immense power he exhibited the agents themselves, enormously enlarged. Some of the tapeworms shewn were estimated to contain the enormous number of from 300,000 to 400,000 ripe eggs. He mentioned the case of a German who died suddenly at London, on the 27th of March, in consequence of trichiniasis. A post-mortem examination showed that the muscles of the cranium, and the muscular system everywhere, were full of trichina capsules, the number of these worms contained in the body of this man being estimated at "about 40,000,000!"

The Farmer (Scottish) in an editorial on this subject most justly remarks:—"It appears that many of the 'ills that flesh is heir to,' which pass under the names of 'a cold,' 'indigestion,' 'typhus,' 'rheumatic fever,' &c., are in reality often stages of the malady occasioned by the entrance of these wormlets into the system. A defence against the evil is therefore of the utmost importance, and this, it appears, consists, in the first place, in feeding the animal on wholesome food, not on the garbage frequently given to pigs, and next in thorough cooking of the meat. Underdone veal and the appearance of red juice in roast pork must, it seems, be regarded as symptomatic of danger; and thorough cooking, whether the meat is roasted, stewed, or boiled, is the only real safeguard which consumers possess against the possibility of there being 'death in the pot.'"

Drainage.

Seeding operations, on several farms we have inspected this spring, have been considerably delayed from the absence of drains to carry off the superabundant moisture present in the soil in low-lying districts. We have had occasion, time and again, to recur to the subject of drainage in the pages of THE FARMER. We have uttered no uncertain sound on the subject, but have, by "line upon line," and "precept upon precept" urged the vital importance of a general system of thorough drainage.

It will be in the recollection of most readers of THE CANADA FARMER, that in our issue of June 1st last year, Mr J B Osborne of Beamsville, impressed with the magnitude of the interests involved in the question generously offered to give Fifty Dollars, if fifty other farmers would subscribe a dollar each, to make a premium of one hundred dollars, to be awarded at the Provincial Exhibition of 1866, to the farmer who had put in the greatest extent of tile drains from Sept. 1st. 1865 to Sept. 1st. 1866. This munificent offer elicited several letters suggesting modifications &c. which we published. Whether the scheme met the general approval of the agricultural community or not we have no means of determining—other than this, that the fifty farmers and their fifty dollars were not forthcoming; and the "Drainage Prize Scheme"—with shame be it spoken—is consequently defunct. It is surely matter of the deepest regret that over all the broad acres of fertile and prosperous Western Canada, fifty farmers could not be found who would subscribe A DOLLAR EACH to give an impetus to a movement whose issues are fraught with so much importance to the whole community. We trust that the Agriculturists of Upper Canada will no longer suffer such a shameful record to stand against them—testifying, as it certainly does, as well against their hearts as against their heads.

In the meantime, we purpose briefly to glance at some of the practical aspects of the Drainage question. It may appear a somewhat hazardous statement to make, but looked at even from a British point of view, it is certainly true that farmers are "only beginning to see their way how to drain land." This opinion although anything but flattering to modern progress—of which, by the way, a little too much is now and then said—was recently enunciated by Dr. Tiffin—one of the great apostles of the "Modern System of Drainage"—at a meeting of the Wigtown Farmer's Club. The portion of his able paper devoted to the "defects of draining" was especially instructive. Respecting the "small number of drains cut," Dr. Tiffin is reported to have said:—

"We are told by engineers that a well-pit will draw moisture of any description from all the ground of ordinary texture, within a circle of 12 feet space, or radius, from the circumference of the pit itself. Taking the diameter of the pit to be 4 feet, we have a circle, the total diameter of which will be about 28 feet, brought within the influence of the pit. Now, if a well-pit, perhaps 20 feet deep, will only relieve 14 feet of fair drawing ground, on each side, of its moisture, I would ask how is a drain, 4 feet deep, in a stiff clay subsoil, to draw freely over even a similar space? I presume it was upon this theory that Government directed that their drains should be at least 9 yards apart, conceiving, we may suppose, that the ordinary drawing properties of soils would enable each parallel drain to relieve its share of the 27 feet of all its moisture. The theory I shall not dispute; but what is the fact? In open, free subsoils, the whole space is vastly benefited; but on clayey soils, little more than half the space is directly affected by each drain. The remainder obtains a certain amount of good, but only indirectly through the improved absorbing power of that portion which is upon and contiguous to the drain, and to some small extent, perhaps, through the evaporation of the moisture contained in it not being interrupted by that of the drained portion. Everybody, of course, knows that the surface immediately above the drains presents the most luxuriant appearance, and that this gradually diminishes as we recede from the drain. What does this indicate? It clearly shews that where the water is directly abstracted from the soil, there the productive powers of the soil are least interfered with. The lesson to be learned from this hint on the part of nature is, obviously, that we should increase the number of drains."

A considerable section of the British farming community at the present day are in favour of subsoiling as a substitute for draining. The benefits conferred on the soil by a thorough system of sub-soiling—by Fowler's machine for example—can hardly be over-estimated. Yet on clay lands, we are persuaded that without thorough drainage be first applied, an immense amount of labour is thrown away by the adoption of this expensive process of breaking up the subsoil. As an economical arrangement, the following method, which is just now somewhat popular in the north of England, is worth careful consideration. Alternate deep and shallow drains are cut at intervals—say of five, or five and a half yards, the former being four feet and the latter three feet deep. The effect of this arrangement is that the deeper drains serve the purpose of intercepting and carrying off the underlying water, while the surface water is speedily and effectually removed by the shallower drains.

Respecting the best method of tiling drains, we are decidedly in favour of pipes and collars. A properly laid drain in a clayey subsoil ought to last for generations, but this cannot occur unless the tiles are most accurately laid on a sound foundation, and their opposing extremities properly secured and supported. This security and permanent support cannot be obtained, by any means at present known, except by some form of collar, as the use of any kind of slip placed under the tiles does not serve the purpose of the collar. It might probably be worth the attention of our tile manufacturers to attempt the construction of a pipe with one end widened so as to receive the small end of the next tile, and so on.

The want of a system of drain ventilation is another noticeable defect in modern operations. A free admission of air into drains is absolutely necessary if we wish the water to pass away rapidly, and especially is it necessary in the subsidiary drains, where the conductors are small. Every drain should have its ventilator placed at its point of greatest elevation and properly protected from damage.

If the foregoing hints and suggestions have the effect of leading some of our farmers to ponder over the importance of the drainage question, our purpose will have been served.

Death of Professor Dick.

VETERINARY science has sustained a great loss in the death of Professor Dick, the founder and Principal of the Edinburgh Veterinary College. He died on the evening of Thursday the 4th ult. at a quarter to seven o'clock, in his house, Clyde street, Edinburgh. He was born in May 1793, in a house inhabited by his parents, situated in the White Horse Close, Canon-gate, Edinburgh, and consequently he was in his 73rd year. His parents came to Edinburgh from Aberdeenshire when both were about eighteen years of age. Their son William was the second child of the marriage. He was carefully educated,—a considerable portion of the income of the blacksmith and farrier (John Dick) having been expended in giving his family a good education. His son William, when a boy, attended a school at Paul's Work—kept at that time by the Rev. J. Robinson—and afterwards at a school in Shakespeare Square, kept by a Mr. Kesson. From the public school William Dick attended the classes of Mr. Wilson, teacher of rhetoric, and of Mr. Noble, teacher of mathematics. He had the great advantage of attending the lectures of such distinguished men of science as Professor Hope on chemistry, and Professor Gregory on the practice of physic. He was also a close attendant for two seasons at the lectures in the Medical and Surgical School of Practical and Comparative Anatomy, delivered by Dr. Barclay. When William Dick was not in the classroom he was assisting his father in the forge—shoeing horses, and practically acquiring a knowledge of anatomy. A story is related by the late Adam Fergusson of Woodhall, Canada, which illustrates the

early training of William Dick. Mr. Fergusson, in referring to the want of a veterinary institution in this Province and the establishing of the Edinburgh Veterinary College, wrote in the *Canadian Agriculturist*, in 1857, as follows—"The late Dr. Barclay, of Edinburgh, so well known as a teacher of comparative anatomy, had an excellent habit after lecture of discussing the subject day by day with the students, of whom the writer was one. A large proportion of his students were classically-educated young men, then preparing to take their medical degree, and who rather winced under the shrewdness and intelligence displayed at such times by a young man (William Dick) attending the class. This young man, in a modest and unpretending manner, often put them to the blush, and at last led them to ask the Doctor if he knew who the youth was upon whom he daily lavished his commendations. The Doctor having declared that he knew nothing of him, was quickly told that he was a common blacksmith. 'Well, well,' says the Doctor, 'all I can say is that *whether* he be blacksmith or whitesmith he is the cleverest chap among you.'"

During the session of 1817-18, Mr. Dick attended the Veterinary College, London, where he took his diploma. In 1819 he founded the Edinburgh Veterinary College, an institution which has enjoyed, in an eminent degree, from the commencement, a reputation as a School of Veterinary Science and Practice. In 1823 the College received the patronage of the Highland and Agricultural Society of Scotland, who conferred on Mr. Dick the title of Professor.

In regard to Professor Dick's qualifications as a teacher, it is only necessary to refer to the many eminent veterinary surgeons who have studied under him. He was a man of rapid judgment, having a sharp and shrewd insight which almost invariably guided him right. He was a man, in fact, rather of sense than science; and the power of accurate observation, with the accumulated gains of experience in his profession was to him a better guide than profundity in theologies of the modern school. As a practical veterinarian he has had few equals. In relation to diseases, injuries, and malformation of parts of the animal structure, more particularly with respect to the progressive organs, he has never been surpassed. A large amount of the most invaluable knowledge in reference to the structural formation of the horse, and the injuries to these from accidents and bad usage, has been lost to the profession by the decease of Professor Dick. Had he committed to writing the extensive and varied knowledge acquired during a long period of patient, steady, and intelligent observation, veterinary science and practice would have been greatly enriched. But unfortunately he did not write all he knew and what he knew more thoroughly than any other man—the extent of his practice and the time thus absorbed, rendering writing sometimes irksome to him.

At the Highland Society's Shows which he faithfully attended, his skill was in constant requisition, and as a judge of horses he was probably unrivalled. Although, however, the horse was the chief object of his care, Mr. Dick had an extensive acquaintance with all kinds of cattle disease, and on the outbreak of the Rinderpest he was at once appointed head inspector for the county of Edinburgh, under the Privy Council regulations. Mr. Dick was for many years a member of the Town Council of Edinburgh and of the old Police Commission. He was a man of really kindly heart and charitable temper, and though he might "speak daggers," he used none. He was respected by men of all classes and politics, and will be as universally regretted now that he is dead.

To many, it will be gratifying to know that Professor Dick has so disposed of his property as to insure the upholding of the Edinburgh Veterinary College. This munificent act increases the obligations under which Scotland rests to him for his long and persistent labours to found a College, which will con-

tinue to exercise a marked influence on veterinary science and practice, and through these on the general welfare of the community.

The *N. B. Agriculturist*—to which we are indebted for most of the facts in the foregoing notice—closes an affectionate tribute to the memory of the lamented Professor as follows—"His name will ever occupy one of the most prominent places in the annals of veterinary medicine; his sound and practical observations on almost every veterinary topic will be inculcated wherever veterinary science is rationally taught; for years to come the recollection of his zealous and able teaching will be affectionately remembered by hundreds of devoted pupils; by a large circle of friends he will long be truly mourned as a genial, unselfish, large-hearted man, ever more ready to give than to receive, and always willing, without ostentation, to help the needy or speed a good cause. May the signal example of Mr. Dick's patient industry, and his sterling honesty of purpose ever continue to animate the members of that profession which he so ardently loved, and for which he has done so much."

COMING TO THEIR SENSES.—In an article on "Canada—the fishery question" the *New York Times* makes the following admission:—"The truth is, that for certain qualities of lumber, and also for barley and long wool, we must continue to a very large extent dependent upon Canada; and the extra cost of these articles in our markets, produced by customs' duties will fall upon our own people as consumers, not upon the Provincial farmer or lumberman." Our cousins across the lines, are evidently regaining their senses.

REMOVAL OF MR. D. McEACHRAN, F.R.C.V.S.—Ed.—We observe that this gentleman is about leaving this section of the Province for Montreal. A valedictory dinner was recently given him at Woodstock by a numerous party of his friends. Mr. McEachran has practiced very successfully the veterinary art in the County of Oxford for the past three years, where his services have been held in high repute. He has also during the last two sessions rendered very valuable service to the Veterinary School in Toronto as an able and indefatigable teacher. The Board of Agriculture, at their last meeting, passed a resolution thanking Mr. McEachran for his efficient services as a Veterinary teacher, and while regretting his departure, most cordially wished him a large measure of happiness and success in his future scene of labour, a sentiment that is shared by a wide circle of friends in Upper Canada.

Agricultural Intelligence.

The Growing Crops.

FULL inquiry in its neighbourhood has satisfied the *Galt Reporter* that "the wheat was never worse winter killed than it is the present year, and that even if every circumstance between this and harvest proves favourable, we cannot in this section reap an average crop. And we hear the same complaints from all quarters, although we believe that in Dumfries we have received perhaps as much injury from the unsettled character of the winter as in any part of the Province." A subsequent issue of the same paper states that "a fair estimate can be made of the condition of the fall wheat. The past week or ten days has brought it on very rapidly; but we find a large breadth thoroughly winter killed. This is the case in all sections to a greater or less extent, and will at the outset render a large crop this year an impossibility. Clover has improved to some extent, but has undoubtedly suffered considerably. We anticipate that a large breadth of spring wheat will this year be sown; while those who have land fit for barley will, in all probability, turn their attention to the cultivation of this cereal."

The *London Free Press* says that "in Huron great progress has been made in spring seeding, and a large breadth of land is being sown. Fall wheat promises well; in some places it has been severely winter-killed. Compared with other years, the season is backward." It also says that "in Lambton the fall

wheat looks remarkably well, and promises to be an average crop, if present appearances can be taken as a guide. Spring seeding is in a very backward state. Grass has received a decided check, owing to the late cold weather. The season has been unusually late."

The Mount Forest Examiner says in that section, so far as it can learn, "the crop has passed the winter in safety, and now presents a very favourable appearance."

We are glad to learn from the Stratford Beacon that "The fall wheat in this vicinity, looks well and gives promise of an excellent crop, notwithstanding the fears of many that it suffered severely during the winter. Although small portions of it have been winter-killed, still on the whole it wears a healthy aspect; and the fine weather of the last few days has caused it to shoot out luxuriantly."

The Hamilton Signal says:—"It is cheering to learn from farmers in this vicinity, that the fall wheat, generally, in the County of Huron, is in splendid condition after the severe winter frost. White wheat will undoubtedly figure high in the States this fall despite the 20 per cent. duty, and it will be a good thing if our farmers have a large surplus stock."

The Ottawa Times regrets to learn that the fall wheat in Richmond and many other places in central Canada has been fatally injured by the frosts of early winter, before the snow fell. One farmer in Richmond has lost forty-seven acres of wheat and others also suffered heavily from the same frosts.

The following are portions of a letter which appears in the Dumfries Reformer of May 9.—Very naturally, a considerable anxiety is felt among all classes on that very important subject, "The state of the crops." In this immediate neighbourhood fall wheat is one-third winter killed. Farmers say one half. The correctness of either of these estimates will depend on the kind of season yet to come. This cold, dry weather is certainly not very favourable to the growth of sickly or delicate plants, just struggling for existence. Clover has suffered still more than wheat, and from this fact I would not advise farmers to be too hasty in pronouncing against "Midge Proof" as being too tender for this climate, as some are doing. Had clover escaped while wheat was destroyed, there might have been some reason for condemning the latter. But while one is no worse, or hardly so bad as the other, we had better not be too hasty in coming to conclusions. Brantford and Paris plains, &c., have suffered fully more than North Dumfries or Waterloo have. But there is one consolation—that mostly all that was sown is "Midge Proof" so that if we escape that pest, we may yet have more wheat in harvest, though not with such splendid prospects now as last year. In all the northern parts of the county of Waterloo the prospects are a little better than in Dumfries while further north and west indications improve very rapidly. In fact, in the whole of the north-western townships, usually included in the comprehensive term "the bush," fall wheat never looked better or gave fairer promise of an abundant harvest, and from the fact of last year's yield being so good, a larger breadth was put in than usual. Indeed, I don't know that there ever was anything like so much sown in the new townships as this year, and high rolling land such as Carrick, Howick, Culross, &c., now yield splendid crops, both in quantity and quality. Where fall wheat is sown in the southern part of the county of Huron, it looks well, but the main dependence is spring wheat, and though the weather has not been very favourable for vegetation, it has been just the thing for sowing and harrowing, so that spring crops have been mostly all got in good order—a most important point gained—and one of the best evidences of good farming.

A NATURAL BAROMETER.—Mr. Wm. McClathy, Postmaster of Katesville, in West Middlesex, sends the following to the Strathroy Home Guard: "As I know that you wish to give every information that would be of use to your numerous readers, I send you some remarks I have made on the changes which have taken place in the atmosphere for forty years past. I first observed in the rows of young Weymouth (or white pine) trees in my nurseries that the last year's growth and all the leaves or spines stand straight upright in dry weather, and on the least change to rain or snow, the branches bend and the leaves fall back and appear in a dying state, even before the snow or rain commences. When a change comes for dry weather, they all recover again and remain so until the next change is going to take place, giving the farmer warning in time for him to prepare for it. The white pine (*P. strobus*) grows in this neighborhood spontaneously. It is easily transplanted, if removed when about a foot high. It soon makes a beautiful tree, and might be called the Farmer's Barometer."

British Cleanings.

Cured meat, for the London market, is being sent from Queensland. The Brisbane Courier announces the first shipment of eighty-nine casks of beef.

The County Cork Agricultural Society has pronounced in favour of holding a cattle show this year, on the 1st August. It is the first Agricultural Society that has had the courage to decide on holding a cattle show this year. A resolution was passed to the effect that no English judges be asked over to this year's show.

RINDERPEST IN CHESHIRE.—The *N. B. Agriculturist* states that "the number of animals attacked by the cattle plague in Cheshire had attained on April 7 the frightful total of 50,954, or nearly one-fourth the whole number of attacks in England, Wales, and Scotland."

SINGULAR OCCURRENCE.—We learn from an English paper that "a woman went amissing in Gloucestershire about six weeks ago, and the other day her body was found floating in a lake with a water hen's nest built upon her breast. There were seven eggs in it almost hatched."

A REMARKABLE LAMB.—The *Bucks Advertiser* states that "Mr. Coleman, of Great Brickhill, had a lamb dropped a short time ago, which was found to have seven full-grown legs. It is now seven weeks old, and can walk on any four of these legs with perfect ease, not one of them being shrunk. It is a fine lamb, and sucks well."

INFINITE CREDIT TO THE GOOSE.—The *Perthshire Advertiser*, is responsible for the following:—"Prodigious.—We have just been shown an egg which, as regards size, is a perfect marvel, and does infinite credit to the goose which laid it. In weight the egg is 12½ ounces, and it measures 9 by 12 inches."

THE LAMBING SEASON IN SCOTLAND.—Good crops of lambs have been the rule the present season. As an example take the following fact supplied by *The Farmer* (Scottish):—"On a farm in the neighborhood of Dunse, seven score of ewes, out of a flock of eleven score, have each dropped twins during the present lambing season."

HIGHLAND AND AGRICULTURAL SOCIETY.—ELECTION OF SECRETARY. We learn from the *N. B. Agriculturist* that "at a meeting of the directors of this society, held in the Rooms, Geo. IV. Bridge, on the 25th ult.—the Duke of Buccleuch, President of the Society, in the chair—Mr. Fletcher Norton Menzies, Trinnie, Aberfeldie, was unanimously elected secretary to the society in room of the late Mr. Macduff of Bonhard."

A MONSTER SALMON. A recent issue of *The Farmer* (Scottish) contains the following:—"A salmon has just been caught in the Tay of the astonishing weight of sixty-nine pounds and a-half. Its length is 4 feet 8 inches, girth, at greatest thickness, 2 feet 6 inches, circumference of head, 2 feet, across tail, 1 foot. The market value of the fish, at present London prices (3s. 6d. a pound), amounts to £12. 3s. 3d."

CAPTURE OF A GOLDEN EAGLE.—We clip the following item from *The Farmer*:—"Last week a large golden eagle was captured on the farm of South Fallowton, near Coldingham, the property of David Milne Home, Esq., of Wedderburn. It measured 7 feet 11 inches from tip to tip of wing, and is in fine plumage. He was caught in an ordinary steel vermin trap by Simom Bathgate, gamekeeper to John Jamsay L'Amy, Esq., of Dunkeliny."

DISEASED OYSTERS.—*The Reader* contains the following:—"A report recently published by the natural history section of the Institute of Christiania contains the result of an investigation of a disease amongst the oysters, which, it is stated, renders the flesh highly poisonous. The discovery was made in the course of an inquiry into the cause of several mysterious deaths and cases of severe indisposition, which the medical men were entirely unable to account for."

THE LEAP INSECT.—We learn from the *N. B. Agriculturist* that "The Garden of Acclimatization in the Bois de Boulogne, at Paris, has just received three specimens of the leaf fly, an orthopterous insect, which derives its name from its resembling the leaf of a guava tree so closely that the most attentive eye can with difficulty perceive the difference. The first live specimen of this singular fly seen in Europe was brought to England some years ago, and was kept alive a long time. The three insects mentioned above which are still in the larva, were presented to the garden by M. Vandal, Director-General of the Post-office, and had been brought to France from the Seyohelles Island."

COFFEE AS A DISINFECTANT.—We learn from *The Farmer* that "Dr. Barbier affirms that ground coffee possesses some remarkable properties as a disinfectant. In several cases where he had to make post-mortem examinations of bodies under very disagreeable circumstances, he found that a handful of coffee strewn over the body and about the room quite overcame any bad odour."

DAMP WALLS.—The *Builder* gives the following remedy for damp walls:—"Three-quarters of a pound of mottled soap to one gallon of water. This composition to be laid over the brickwork steadily and carefully with a large flat brush, so as not to form a froth or lather on the surface. The wash to remain twenty-four hours, to become dry. Mix half a pound of alum with four gallons of water; leave it to stand for twenty-hours, and then apply it in the same manner over the coating of soap. Let this be done in dry weather."

TAX ON DOGS.—The following item is from *The Farmer* (Scottish) of the 14th March:—

"In the House of Commons, last Friday night, Mr. Ellice, in calling attention to the neglect of the authorities in enforcing the tax upon dogs, said that, as almost every cottage in the sheep districts of Scotland possessed one or more, the result was that nearly ten per cent. of the flocks were destroyed annually by them. He believed farmers would willingly pay a tax upon their sheep dogs if Government would undertake to levy a similar tax upon all other dogs throughout the kingdom."

GOATS AT A PREMIUM.—A recent issue of *The Farmer* (Scottish) has the following:—"Goats have recently risen into greater importance than usual, in consequence of the cattle plague, which has destroyed so many dairy cows, and increased the price of cow's milk. A regular export trade in goats is now carried on from Waterford and other Irish ports, and a sale of those imported animals was recently held at Aldridge's St Martin's Lane, London. The yard was crowded by private gentlemen and milk consumers, and the greatest eagerness and competition prevailed to secure a milch goat. The goats were lean, but in healthy condition, and they realized the extraordinarily high rates of from four to eight guineas, many of the goats producing nearly the value of a Welsh milking cow."

THE SCHOOL-MASTER ABROAD.—*The Farmer* (Scottish) says:—"The following written instructions for registering a dog were received last week by the clerk of Sessions, Coleraine district:—"A Black tarry here mell dog named Sancho after his mother, his feythers name being unknown, as he is blind of an I he is not of half use 2 mo and I think that you should only charge mo half price 1s 3d which if you dont do it at that figgar his days are No. and he will come 2 a wathery grave or dance upon nothing."

GRASS SEED TO THE ACRE.—A speaker before the Kelso Farmers' Club recommended the following quantity of seed per acre, for a medium soil:

"To lie one year in grass—¾ bushel annual rye grass, ¾ bushel Italian rye-grass, 4lbs. English red clover, 2 lbs. Eng. alsike clover, 2 lbs. white clover, 4lbs. English red clover; and for cutting I would recommend ¾ bushel annual rye-grass, ¾ bushel Italian rye-grass, 8lbs. English red clover, 2 lbs. English alsike clover: and where the land is clover sick, 2 or 3lbs. of yellow may be added as a safeguard, in the event of the red clover giving way, but it makes a coarse hay when allowed to stand and ripen. The following mixture I propose for two years, with the understanding that it is to be used principally for pasturage—¾ bushel perennial rye-grass, ¾ bushel Italian rye-grass, 2 lbs. English red clover, 2 lbs. English cow-grass, 2 lbs. English alsike clover, 4 lbs. English white clover, and 4 lbs. English yellow clover. English red and cow-grass being so much allied, I have included these in equal quantities."

RINDERPEST IN THE HUMAN SPECIES, AND ITS CURE.—There is a story going in North Staffordshire says the *Macclesfield Courier*, that a farmer in the direction of Leek, who had lost some cows, was fully persuaded that he had himself been attacked with the epidemic. Forthwith he consulted his own medical man, who tried to laugh him out of the notion, but to no purpose. The farmer then went off to an old well-known practitioner, who, being a bit of a wag, and seeing how matters were, entered minutely into the details of the case, expressed his concurrence with the patient's views, and told him he could cure him. He then wrote a prescription, sealed it up, and told the farmer to go to a certain druggist in the next pottery town. The farmer lost no time in going with the prescription, but was somewhat startled when the druggist shewed him the formula, which ran thus:—"This man has got the cattle plague; take him into the back yard and shoot him according to Act of Parliament." There is no need of saying that this was a "perfect cure."

Horticulture.

New and Choice Flowers.

In the illustrated article, "Floral Novelties," published in our last issue, a provoking and unfortunate mistake occurred in regard to the first cut. In the text, we described a new variety of Chinese Primrose, while by an oversight, which we much regret, instead of the proper illustration being inserted, another cut of the same dimensions, and bearing some remote resemblance to it in general colour—*Bocconia Japonica*—was substituted unwittingly by the printer.



The larger illustration accompanying this article is the Chinese Primrose, to which the description in last issue referred.

Bocconia Japonica, which is shown in the first cut of last number, is a perennial plant recently introduced from Japan, and is one of the choicest and handsomest varieties of its highly decorative genus. It is described in Mr. Simmers' catalogue, as being perfectly hardy, requiring no protection in winter, even in the northern part of Germany. It grows



luxuriantly, forming (the second year) a bush five to six feet in height, decorated from the month of August by beautiful pyramidal spikes of flowers two

to three feet in length. The beautiful, deeply sinuated oak-shaped leaves are large, of an obtuscordate form, of a sombre green above, glaucous below. Planted as a single specimen or in groups on lawns, it cannot fail to prove a beautiful and attractive object."

Ranunculus Asiaticus superbissimus, the pretty flower shown in the small illustration, is a valuable acquisition to the flower-plot. The *Ranunculus* is much esteemed by English florists, and a few eminent "old country" gardeners—with whom we are acquainted—have made *Ranunculus* culture quite a speciality. The plant is a hardy biennial, is raised from seed, and flowers freely the second year. The blossoms somewhat resemble small roses in shape,

and are possessed of unsurpassed brilliancy and variety of colour. White, yellow, rose, crimson, carmine, blood-red, scarlet, purple, &c., are some of the many shades in which these vigorous little plants display their loveliness.

Hardy Ornamental Shrubs.

To the Editor of THE CANADA FARMER:

SIR,—Having occasion to look over the volume of THE FARMER for 1864 I found in the April number, page 94, a list of hardy ornamental shrubs by "W. T. G.," in all amounting to four species. Of course "W. T. G." admits these do not comprise all the hardy shrubs that we possess—which sounds very well, but he goes so far as to call them the "Cream of the collection." Most people are particularly fond of fragrant flowers and there is only one in "W. T. G.'s" list possessing any fragrance at all. I would here add that *Deutzia Scabra* is not considered hardy east or west of Toronto, as particularly mentioned in his list, although it is a most charming object when in bloom. It is well-known that in Upper Canada we have many beautiful shrubs, and they begin to show their fine bloom and scatter their rich fragrance in the spring of the year—at the very period, in fact, when they are most wanted. In order to obtain beautiful varieties, care and taste must be used in the selection. Our enterprising nurserymen who spare neither labour nor expense to gather excellent shrubs of all kinds together, render this a comparatively easy matter. Their representations of the plants sent out by them are generally to be relied on—"W. T. G." to the contrary, notwithstanding. Respectable

nurserymen are not going to barter their reputation for the sake of a few cents. Of course mistakes may occur, and always will occur in conducting such a business on a large scale.

I am glad to observe that many of our well-to-do farmers are beginning to surround their homesteads with evergreens and flowering shrubs. I hope every year will see an improvement in this respect. Shrubs require no particular care—only, some of them need a slight annual pruning to keep them in shape. Subjoined is a list of hardy ornamental shrubs, all of which may be seen in flower during spring and summer, in most of the better kept gardens around Toronto.

As it would occupy too much of your valuable space to particularize every plant, its colour, time of blooming, duration, &c., &c.

I have merely added a few remarks to each class or genus as I wrote them down. Those marked with an asterisk are the most desirable and will give every satisfaction.

* *Amygdalus nana flora pleno* (double-flowered Almond.) Highly esteemed for the beautiful display of gaily-coloured blossoms at a very early season of the year. There is a single variety light Pink; also a Double White still scarce, all perfectly hardy.

* *Deutzia Gracilis* (Dwarf Deutzia).—Remarkable for the compact habit of growth, with rich deep green foliage and numerous white shaped flowers; looks most beautiful planted in masses; native of Japan.

* *Calycanthus Floridus*. (Allspice Plant.)

* *Calycanthus Pennsylvanicus*.—Remarkable chiefly for the agreeable aromatic fragrance of the flower and bark, with curious chocolate-coloured flowers destitute of petals.

* *Coeneus Sangumea*. (Dogwood, bloody.)

* *Coeneus Florida*.

* *Coeneus Sanguinea foliis variegata* (variegated Dogwood).—The above shrubs are particularly effective in winter, on account of their bright green, red, purple, and striped bark. *Coeneus Florida* is very handsome in spring with its large showy white flowers.

* *Weigelia Rosea*.

* *Weigelia Amabilis*.

* *Weigelia Dubautii*.

* *Weigelia Variegata*.—This is of all the most desirable class of shrubs which can be grown in Canada; all of them perfectly hardy. No garden ought to be without the above delightful acquisitions from Japan. There are several newer varieties not yet thoroughly tested in this neighbourhood.

* *Spiraea Prunifolia*.—Plum-leaved Spiraea.

* *Spiraea Prunifolia*.—An old but good variety of the family, owing to its profusion of beautiful double board-like flowers, attaining to the height of four to five feet.

* *Spiraea Sorbifolia*.—(Sorb or Service-leaved Spiraea).—One of the most common varieties, known by its pinnate leaves and panicle flowers of a pure white.

* *Spiraea Salicifolia*.—(Willow-leaved).—Well worthy of cultivation in any garden, growing to the height of four to five feet.

* *Spiraea Douglasii*.—Douglas's Spiraea—Certainly one of the finest of the whole family, with dense compound terminal racemes of rosy lilac flowers produced on all parts of the plant—most beautiful.

* *Spiraea Calosa*.—A most charming variety; should be in every collection; a universal favourite from China.

* *Spiraea Lavigata*.—Very early flowering, beautiful smooth bark, green foliage, very hardy, from Siberia.

* *Cydonia japonica* (Japan Pear).—Better known by the name of *Pyrus japonica*. This is indeed a most charming object when in bloom, clothed with bright green serrated leaves in summer, and beautiful red flowers in early spring. It delights in a loamy soil, perfectly hardy, although the flower buds get killed occasionally near the top. A few pine branches thrown about will ensure success.

* *Philadelphus Coronaria*.—(Garland Syringa.)

* *Philadelphus Coronaria*.—(Flora Pleno—Double flowering.)

* *Philadelphus Coronaria*.—(Nana, Dwarf).—Much esteemed deciduous shrubs, grow freely in any common garden soil, displaying their richly-scented blossoms in May and June. The perfume resembles that of the orange, only much stronger. No garden ought to be without the above variety.

* *Fernum Opalus*, or *Guedder Rose*.—One of the most popular shrubs, with large handsome heads of beautiful white flowers, resembling the *Liydranga Hortensis*. As this shrub is liable to be attacked with green fly (*Aphis Vastator*) in dry seasons, it would repay the cultivator to give them a good syringing with strong tobacco water.

* *Symphoricarpos Racemosus*.—(Snowberry.)

* *Symphoricarpos Glomerata*.—(Indian Currant).—Flowers of these are inconspicuous, but being followed by a quantity of pure white berries, are thus rendered very ornamental in the fall and winter months.

Lonicera Tartarica (Tartarian Honeysuckle)
Lonicera Tartarica (Albiflora)—This genus is closely allied to *Caprifolium* or Honeysuckle, differing mainly in having more of a shrubby character. *Tartarica* makes a most desirable hedge plant.
Chionanthus Virginica—(Fringetree.)—Very desirable for large shrubberies, bearing numerous pure white feathery-like flowers; thrives best in a black peaty soil; beautiful in habit.
Berberis Aquifolia, or Mohonia Aquifolia—(Evergreen Berberry.)—A shrub inferior to none, whether as regards its glossy foliage or the number and brilliancy of the yellow blossoms in early spring. *Berberis vulgaris* is a very desirable hedge plant, a variety with purple foliage, very beautiful, contrast with other plants.
Rhus Cotinus—(Wild Olive.)—One of the most interesting plants in cultivation, retaining its beautiful feathery-like flowers nearly all the season.
Ribes Gordonii—(Flowering Currant)—With yellow and red flowers, foliage much like the gooseberry. There is a variety by the name of *Ribes Aurea*, a native of Missouri, very pretty; flower very freely in any soil.
Syringa Persica—(Persian Purple Lilac.)
Syringa Persica—(Persian Abba.)
Syringa Persica—(Josiree.)
Syringa—(newer kinds are *Charlemagne*.)
Syringa—(Charles the 10th)—This popular genus is for the most part derived from Eastern Europe. It is to be regretted that this fine genus has not more attention paid to them, as they are found to thrive well in all kinds of soil, and in nearly any position it is possible to place them in connexion with a garden. There are many new varieties of the above species, but those enumerated are considered most desirable, especially the two latter.
 There are many more very desirable shrubs besides the above—some old and many new ones—introduced within the past two years. Some of them are very beautiful, but not having been sufficiently tested in this neighbourhood, I do not think it advisable to enumerate them in this list. I will be most happy to report of their success at some future time if you should deem it worthy of a place in your valuable paper.

Chestnut Park, Yorkville.

GEORGE VAIR.

Floricultural Notices.

Novelties for 1866.—Quite a large number of novelties are offered by the dealers in seeds, principally from the German collectors, where they have been introduced or originated. Among the great quantity too numerous to particularize, we note the following, which appear to be the most remarkable and valuable acquisitions:—

Agrostemma cels rosa flore pleno.—A new and desirable variety of this old and pretty annual, producing an abundance of double blossoms, about the size of the Portulacca. The distinct foliage and the profusion of blossoms render it a fine plant for masses of dwarf flowering annuals.

Cedronella cana.—This is a *Salvia*-like plant, with fragrant foliage, and long spikes of deep purple flowers retaining the purple hue of the calyxes for a long time after the flowers have fallen. It is a hardy perennial, but flowers abundantly the first year.

Dianthus Heddewigi nana flore albo pleno.—A new double variety of the beautiful Japan pink, of a very compact dwarfish habit, producing with great constancy pure double white flowers.

Pink Sarah Howard.—A new hybrid, raised by Mr. Howard of Utica, N. Y., grows about two feet high, of a branching habit, with numerous stems terminated with double white flowers. It flowers abundantly all the autumn and winter and appears to be a valuable acquisition.

Palaozia Hookeriana.—A new Texan annual of great beauty, being much dwarfier and more branching than the *P. Texana*. The flowers are larger, with broader florets, and are produced in large corymbs; color, a bright rosy crimson, with a deeper centre. It flowers abundantly all summer—*Magazine of Horticulture*.

TO RESTORE LEANING TREES.—When a tree, after having been planted a year or two, leans badly—especially if to the north-east—its direction cannot generally be changed entirely by the use of the pruning knife. In this case, go to the opposite side of the tree, and with a spade, loosen and remove the earth from under the roots, and bring back the tree in this way, pulling it over to an erect form, then pack the earth firmly about the roots, so as to hold it steadily in its place. Only a few of these having been interfered with, growth is but little checked. Prune it rather more than if not disturbed, especially on the side to which it leaned, and the tree will scarcely feel that it has been touched.—*Northern Cultivator*.

The Household.

Homedale Farm.

FARM WORK.

SIMULTANEOUSLY with garden operations, work on the farm was carried forward, and the young folks occasionally went into the fields to get some lessons in manuring, seeding, harrowing, and rolling land. Questions innumerable almost were asked by them, and many a nice talk was had out of doors and indoors about rural matters. Now and then a chilly day reminded them that winter was not yet very far away, but whenever the weather was dry, work was pushed forward even if the air was cold. "Summer will be on us directly," Mr. Perley would say, "and we read in the Book of Proverbs, 'He that will not plough by reason of the cold, shall reap in harvest and have nothing.' The children were able to be helpful in some of the field operations. When the potatoes were planted, they were of great use in dropping the sets. A few rows only of early potatoes were put into the garden, and a couple of acres were devoted to potatoes, one of the fields being assigned to them along with corn and turnips. The potatoes were planted in rows three feet apart, the sets being put a foot apart in the rows. The rows were struck out, and the sets covered with a double-mould board plough. Corn-planting also gave the children an opportunity of helping. The ground having been carefully marked out, the men made places for the seed by removing about an inch of soil, when the young folks followed, putting six kernels in a hill. In setting them at this work, Mr. Perley amused them by quoting the doggerel so familiar in corn-planting localities:—

"One for the blackbird, two for the crow,
 One for the cut-worm, and two left to grow."

A cup-full of a mixture of ashes, guano, and plaster, was put into every hill of corn, to stimulate growth. Special care was taken in preparing turnip ground, and as the seed is not put in until late, there was the better opportunity to bestow unusual pains in getting the land ready for this crop. When some of the fields began to be green with the upspringing grain, they became objects of much interest, and were carefully observed. At first you could only see a slight green tinge upon the surface of the ground in the morning and evening twilight. By and bye, the green colour became more distinct until at length, a superb green carpet seemed to be laid all over the lately ploughed land. Meantime the meadow and pasture fields grew very beautiful also, and the young folks appreciated as they had never done in the city, the song about the grass, beginning,

"Here I come, creeping, creeping, everywhere."

Softer and more velvety than the finest tapestry carpet ever woven by the hand of man, was the carpet laid by nature upon the surface of the ground. The orchard and shade trees were bursting into leaf,—the distant woods grew green, and gradually leaved out,—in short there was beauty all around. To a family unused to country life, the charm of novelty added itself to spring scenes felt to be lovely by all whose minds are not obtuse, however accustomed they may be to them. Themes for home talk were abundantly supplied by nature's expanding life and varied beauty. Mr. and Mrs. Perley sought to give a useful turn to the conversation, and were wont to direct the minds of their children to the source of all being, beauty, and gladness, aiming to lead them up through nature to nature's God. On a calm, delightful spring evening, as they were enjoying the fresh air and the pleasant prospect from the partly-finished verandah, they had one of these nice conversations, about the loveliness of the opening spring, the beauties of nature, and the goodness of God. "What a change," said Mr. Perley, "from the dreariness of winter. It seems as though a messenger from the angel world had come and transformed the whole face of

the earth." "That makes me think," said Charles, "of a nice little piece of poetry I once learnt as a school recitation." "Let us hear it," said his papa. So Charles repeated,

"THE SONG OF SPRING."

I come, I come, on the Zephyr's wings,
 With a garland round my brow;
 I gently breathe on the frozen springs,
 And merrily then they flow.
 With a laugh, and shout, and a song I come,
 To gladden earth's cheerless bowers—
 Hark! to the honey-bee's joyous hum,
 As he revels among the flowers.
 I come, I come, to the forest deep,
 And silent is my bar:
 I wake it up from its winter's sleep,
 And lo! what a change is there.
 The boughs are waving in green and gold,
 The song of the cuckoo is heard,
 And all the depths of a woodland old
 With the notes of joy are stirred.

Where'er I come the valleys and dells
 And meadows grow green and gay,
 The hyacinth waves its purple bells,
 The brooks in perfume play
 I spread my mantle o'er all around
 I gladden each living thing—
 Hark! they unite in a joyous sound,
 As a welcome to the spring.

"Very good," said Mr. Perley, "but that was evidently written by an English poet, for it speaks of the cuckoo, a bird we haven't got in this country." "But we've got the whip-poor-will," said little George. "So we have," replied his papa, "and a very singular note that is which it is always sounding." "Yes," said George, "it seems as if he had got a whipping he did not deserve, and was complaining of it." "That's not so bad, Georgey," replied Mrs. Perley. "Mr. McLachlan, the poet, speaks of that strange bird as,

"A wandering sorrow murmuring,
 Whip-poor-Will!"

"I like best," said Lucy, "to hear the birds that sing in the morning. Before I am up, I sometimes hear them singing very sweetly." "How many comforts our kind Creator has provided for us," replied her mamma, "and how thankful we ought to be to the Giver of them all. The flowers, the grass, the birds, all proclaim the power and goodness of our Father in heaven. How ungrateful we shall be if we do not love and praise Him from whom all our blessings come."

(To be continued.)

Happiness can be made quite as well of cheap materials as of dear ones.

PETROLEUM FOR ASTHMA.—A correspondent of the *Country Gentleman* writes that journal:—"I have a son, six years old, that had the asthma in the most distressing form for three or four months, when he was one or two years old. We tried everything we could hear of without getting relief, till we were told to rub his neck and breast with petroleum, and we used it both crude and refined, experiencing very speedy relief and a final and permanent cure; for he has not since had a return of it, and is now a very healthy child."

AROMA OF COFFEE.—The berries of coffee, once roasted, lose every hour somewhat of their aroma in consequence of the influence of the oxygen of the air, which, owing to the porosity of the roasted berries, can easily penetrate. This pernicious change may best be avoided by strewing over the berries, when the roasting is completed, and while the vessel in which it has been done is still hot, some powdered white or brown sugar (half-an-ounce to one pound of coffee is sufficient). The sugar melts immediately, and by well shaking or turning the roaster quickly, it spreads over all the berries, and gives each one a fine glaze, impervious to the atmosphere. They have then a shining appearance, as though covered with a varnish, and they in consequence lose their smell entirely, which however, returns in a high degree as they are ground. After this operation, they are to be shaken out rapidly from the roaster and spread on a cold plate of iron, so that they may cool as soon as possible. If the hot berries are allowed to remain heaped together, they begin to sweat, and when the quantity is large the heating process, by the influence of the air, increases to such a degree that at last they take fire spontaneously. The roasted and glazed berries should be kept in a dry place, because the covering of sugar attracts moisture.—*BARON LEBIG, in Popular Science Review.*

Miscellaneous.

Can't Afford It.

Can't afford the paper this year, Harry. There is no use to talk about it. Muslin 75 cents a yard, and sugar 30 cents a pound—\$2.50 for a paper is more than we can afford."

"But, father, you never spoke a word about the expense when you were buying your seed wheat."

"That's quite another thing. I expect that to yield me a heavy per cent., if things keep up another year as they have this."

"If I can prove that the money spent on the paper yields you 200 per cent., wouldn't you think that worth investing in?"

"Let's see you prove it. I guess you study a new arithmetic at your school."

"I have just gone through 'profit and loss,'" said Harry, smiling. "Well, father, to begin with, what ever put it into your head to drain that big swamp in the south meadow? Wasn't it the paper that gave you all the directions, and that stirred you up to do it? Haven't you gained enough from it this year to pay for a copy of the paper twice over, and don't you expect it to yield enough in five years to pay for every agricultural paper that is printed? Where did we learn how to resuscitate our old peach trees, but in our agricultural paper, and a pretty harvest we had this year, for ourselves and for market?"

"Jenny, how many eggs have you sold this winter?" "Thirteen dozen," said Jenny, rather exultingly, as she saw her brother was getting the better of the argument. "The daughters like the paper as well as the boys. 'Half a dozen more in the basket.'"

"Well done—thirty cents a dozen, makes \$3.90. Who ever heard of our hens laying in winter, I should like to know, before the paper told us how to take care of them? Didn't they regularly eat their heads off during the cold weather? Now, mother, what's your view of the paper from your department?"

"The receipts are worth fully five dollars a year to me," said mother decidedly. "You all fare better for the suggestions I get from it. It helps us save as well as make, and that is quite as important."

"I will not go on to specify all the advantages it has been to the orchard, the bee-hive, the garden, and the stock generally, but any body who cannot see that farming has picked up on our place this last year, must be a blind man. Now to sum it all up, what is the cause of all this improvement?—The farmer's weekly newspaper."

"Make a good lawyer, won't he mother?" said the old gentleman, laughing and nodding at his wife. "Here, Jenny, sit down and write your letter, and enclose these two-fifty greenbacks, and while you are about it you had better send off another for your Magazine. We may get rich in time if we take papers enough, according to Harry's showing. Anything for you mother?"

"Nothing but the Mother's Journal thank you."

"Here's the money, Jenny. Now I'll run, or the baby will be asking for 'Tom Thumb's Magazine,' or some such work, I'm afraid. It won't do to get rich too fast, you know.—J. E. McC., in Country Gentleman.

Poetry.

The Thames.

A glimpse of the river! It glimmers Through the stems of the bowches; Through the screen of the willows it shimmers In long winding reaches: Flowing so softly that scarcely It seems to be flowing; But the reeds of the low little islands Are bent to its going; And soft as the breath of a sleeper Its heaving and sighing, In the coves where the fleets of the lilies At anchor are lying. It looks as if fallen asleep In the lap of the meadows, and smiling Like a child in the grass, dreaming deep Of the flowers and their beguiling

—L.A. CRAIG.

Advertisements.

1866.

1866.

BALL'S CELEBRATED OHIO MOWER & REAPER, MANUFACTURED AT Hamilton Agricultural Works,

By L. & P. SAWYER, Successors to McQUESTEN & CO.

In bringing our "BALL'S OHIO" before the public for the fifth season, we can do so with confidence, as it has established a reputation without a rival, evidenced by the unprecedented demand of the past season, which we were unable to supply, and the fact that all the principal manufacturers in the province are adopting the same pattern.

In the harvest of 1864, at the Great Provincial Trial—the only one ever attempted in connection with the Provincial Exhibition, where the Judges required every Mower and Reaper to be tried in the field both in mowing and reaping, before being exhibited—our "Ball's Ohio" Combined Mower and Reaper, in competition with the largest number of machines ever brought together (fifteen) for trial in the Province, was awarded the First Prize with a Diploma, after thoroughly testing its mowing and reaping qualities and draft.

The "BALL'S OHIO" having established itself as the best Combined Machine invented, and being such a general favorite with the public, the only question with the Farmer is—Where can the best one be purchased? Our answer is, being practical mechanics, having had nineteen years' experience in the business—elected with McQuesten & Co., and eight as sole proprietors of their extensive foundry—and having been one of the first to manufacture the "Ball's Ohio" in Canada, and using only the best materials, we feel confident our Ball's Ohio cannot be surpassed. We believe we are the only manufacturers in the Province who use the American Salisbury Iron, the strongest iron in the world, so that our castings cannot be excelled in strength and fineness. We have added several important improvements of our own the present year.

Ever since we have been in business it has been our aim to furnish only a first-class article, and ask a fair price for it—preferring to let other Shops make and sell the second-class—and in consequence our machines have gained a reputation second to none. We are gratified to know that our efforts have been appreciated by the public, as the following testimonial, taken from hundreds we might furnish, shows:

CHATHAM, C. W., 1st December, 1865.

Messrs. L. & P. SAWYER, Hamilton:

DEAR SIRS,—We, the undersigned, are happy to state that the Reapers and Mowers purchased this summer of your Agent, Mr James Sontar, Chatham, have given complete satisfaction. We will not ignore the fact that there are other machines of merit, which, on certain kinds of work, may equal the Ball's Ohio, but for general purposes and as a whole, we candidly believe no machine in the Province (and we have all kinds here) can approach it. We are especially pleased with the superior castings and material used in its construction, with the great truthness in its gearings and bearings, and with the plain and substantial, yet withal highly finished general character of the machine, points borne out by the excellent condition of the machines sold the previous four years, not one of which, so far as we are aware, having ever required a renewal of gearing on account of wear, and we have no doubt but it is for these excellencies the sale is so great in spite of strong competition with similar machines sold at reduced prices.

We heartily recommend your machine—

Table with columns: NAME, TOWNSHIP, NAME, TOWNSHIP. Lists names of farmers and their townships who recommend the machine.

We also continue to manufacture PITT'S POWER AND SEPARATOR, which stands unrivalled in the world as a Grain Thresher and Cleaner. Having made several important improvements the past season, one of which is a new Concave, with which it will thresh and beat barley and shrunken grain much better than formerly, we challenge the Province to excel it. We also make a newly improved DRAG SAW, CUTTING BOXES, &c.

We beg to thank the Farmers of Canada West for their liberal patronage in the past, and we hope by using the best materials, and employing only first class workmen, to merit its continuance.

All orders attended to promptly.

Hamilton, March, 1866.

v3-10-11

L. & P. SAWYER.



A CERTAIN cure for Tick, and all skin affections in Sheep. No flock master should be without it.

Prepared only by

HUGH MILLER & CO.,

Chambers, Toronto.

Toronto, Jan. 1.

v3-1-11.

GET THE LATEST! GET THE BEST!!!

GET THE PEOPLE'S BEE-HIVE!

FOR illustrative cuts and notice, see CANADA FARMER for April 18. With my present help, I shall hereafter be able to ship Hives on the day the order is received. All my Hives receive two coats oil paint, and a marble finish. Single-walled Hives, without miller attachment, \$2; with, \$3. Double-walled Hives, \$4. Right to make and use, only \$1, if bought with first HIVE ordered; otherwise, \$2. For circulars or Hives, address

v3-10-11

A. N. HENRY, Ottawa

VETERINARY SURGEONS.

VETERINARY SURGEONS practising in Canada, holding Diplomas of any recognized schools, are requested to send their names and addresses, and also the Colleges in which they studied, and the date of their Diplomas, with a view to publishing a list of the members of the Profession in Canada.

Address, "TORONTO VETERINARY SCHOOL," Box 571, Toronto.

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BLACKSMITH'S TOOLS.

Peterson's Patent Tyre Upsetting Machine. Patent Regulating Blast, Tappet Iron. Patent Double Geared Tyre Bender. And other Blacksmith's Tools.

FOR SALE BY ARCHIBALD YOUNG, Junior, General Agent, Sarnia, C.W.

AGENTS WANTED.

County rights for sale. Send for an Illustrated and Descriptive Circular. v2-24-

DANA'S PATENT EAR MARK FOR SHEEP.

SUPPLIES the only reliable means yet invented of marking and (with the register) of keeping a correct record of a flock of sheep. Price \$3 per hundred. All particulars, with samples, sent on application. Agents wanted in every Township.

v3-10-11

ARCHIBALD YOUNG, Jr., General Agent, Sarnia, C.W.

One Hundred Dollars Premium.

THE above amount will be paid by the South Waterloo Agricultural Society, to the first established Cheese Factory within the South Riding of the County of Waterloo, the same to be of the capacity of not less than two hundred cows.

The Annual Fall Show of the above Society will be held in Preston, on Wednesday, the 3rd of October, 1866.

Galt, April 1, 1866.

WM. A. SHEARSON, Secretary & Treasurer. v3-7-11

IRVING KESTER,

Formerly Johnson & Kester,

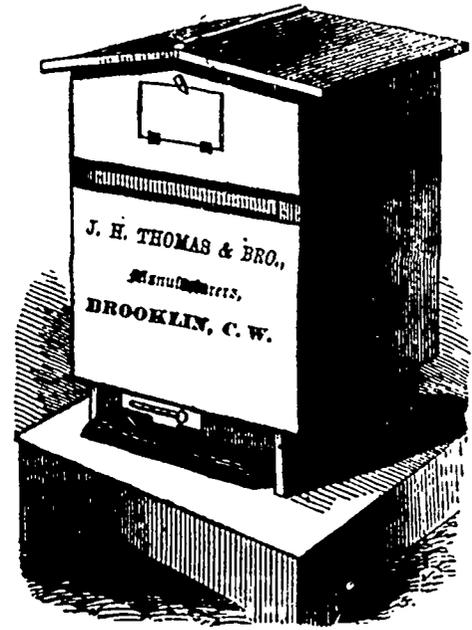
PRODUCE AND COMMISSION MERCHANT, Wholesale Dealer in Lard, Butter, Cheese, Eggs, Beans, Peas, Green and Dried Fruit, Clover, Timothy, and Flax Seeds, Grain Bags and Live Geese Feathers,

No. 89 Main Street,

v3-10-11

Buffalo, N. Y.

J. H. THOMAS' FIRST PRIZE DOUBLE BOARDED BEE-HIVE.



"The best Bee hive I ever saw" - Mr. Holden, Breeder of Italian Queens. "The most approved Bee hive now in use." - Mariaam Economicist. "With the Canadian Bee-Keeper's Guide, the veriest novice in the apiculture, by merely referring to it, can be a successful bee keeper." - Smith's Falls Herald.

HAVING increased facilities for manufacturing J. H. THOMAS' FIRST PRIZE DOUBLE AND SINGLE BOARDED BEE HIVES, we are prepared to offer them to those having previously purchased a hive and right of use, at the following rates: D. B. Hives \$3 50 S. B. Hives \$2 50 If ordered in lots of three to one address, D. B. \$3 25 S. B. \$2 25, in lots of six or more to one address, D. B. \$3 00 S. B. \$2 00. Hereafter, persons ordering a Double Boarded Hive, including right, will be required to send only Six Dollars. N. B. These hives are made by machinery are uniform in size and colour, well painted, sent as freight by rail to all parts of Canada. Demand increasing. Three hives can be sent to one address for the same freight as one. Terms cash, which should always accompany the order. J. H. THOMAS & BROS., Manufacturers, Brooklin, C. W.

REAPING MACHINES! THE NEW YORKER!

This well known Machine is manufactured by Seymour, Morgan & Alton, of Brockport, N. Y., it is the result of twenty years' careful practical and successful experience. It is a combined self raking reaper and mower. The self rake saves one man in delivering the grain, and much labor in the binding, by the perfect manner in which it does its work. Price of Machines, \$155, delivered per railroad, extra knives and pieces liable to wear, sent on with the machines, and is warranted in every particular, and to perform well in every capacity. A fair trial is given with all machines, and if they do not perform as represented, they will be removed free of expense to the person ordering them. All orders and letters promptly attended to by SAMUEL FOWLES, Peterboro', Agent for Canada.

THE FARMERS' ADVOCATE.

A PURELY Farmers Journal, published in London, C. W., by Wm. Weld, of Delaware, a practical farmer, also owner of the celebrated horse Anglo Saxon, suggester of the Farmers' Bank, and projector of an Agricultural Emporium. It is an eight page paper, published monthly at the small sum of 60 cts, and in addition each subscriber is presented with a copy of a handsome engraving, that took the first prize at the last Provincial Exhibition. It is a good Western Advertiser.

ANCLO SAXON Will be in the city of London during the months of May and June Terms - For Service, \$10, season, \$15, to insure, \$20 His stock took 1st, 2nd, and 3rd prizes at the Provincial Exhibition. Address, Wm WELD, Advocate Office, London, C. W.

LANDS FOR SALE.

TWENTY THOUSAND ACRES OF LAND, both wild and improved, and at all prices, for sale in various townships through out Upper Canada, cheap and on easy terms. For lists and particulars, apply to the proprietor, T. D. LEDYARD, Barrister, &c., South-west cor. of King and Yonge sts., Toronto, Toronto, Oct. 2, 1864.

BONES! BONES! BONES!

CASH Paid for any quantity of Bones, delivered in Boston, or at our Bone Flour Manufactory, in N. Y. Address, C. H. GARDNER, AGENT Of the Boston Milling and Manufacturing Co., 10 Cortland St., N. Y.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Tuesday, May 15, 1866. The weather during the past fortnight has been cold and disagreeable. Rain fell last night, and it is now warmer and more Spring like. The country is suffering for lack of rain. Much of the wheat sown last fall has been destroyed for want of moisture, and farmers are ploughing it up. Mr. John A. Donaldson strongly recommends farmers who are compelled to plough up their fall wheat to sow rye, which may be done any time this month. The imposition of a 20 per cent. ad valorem duty upon cattle entering the United States will probably lessen the export of live stock from Canada. It is, we think, for the interest of Canada that the trade be suspended for a short time. The country has been almost stripped of all kinds of live stock, and it will be a long time before Canada has much to spare. Prices have risen very considerably. Some prime beef has been sold 200 per lb. retail, in our market. A lot of 14 head of cattle sold some days ago at 6c per lb. live weight, and a lot deliverable in a month at as high as 7c. The following are the figures offered by butchers in this market per 100 lbs. dressed weight: Cattle - 1st class, extra, \$9 to \$10, do. second class, \$7 50 to \$8; do. inferior, \$7; Calves common, each, \$4 to \$5, do. extra, \$3; Sheep, prime heavy, \$7 to \$8; do. light, \$5 to \$6; lambs, \$2 to \$3.

The following are quotations of the prices of produce, &c.: - Fall Wheat - Car load offered at \$2 without buyers, \$1 98 offered Spring Wheat - In active demand, with few transactions. Car loads, \$1 40 to \$1 45. Barley - In the absence of transactions prices are nominal. Car loads sold at 65c to 68c. Peas - Steady and unchanged, at from 70c to 71c. Flour - 100 barrels sold at \$6 80; extra at \$9. Oats - Firm and unchanged. Selling at from 31c to 32c. Two car loads sold on the track at the latter figure. Rye - Prices, in the absence of transactions, are at present nominal at 56c to 60c per bushel of 60 lbs. Provisions unchanged. Pork, mess unchanged, \$23 per barrel, prime mess, \$20 to \$21 per barrel. Hams, in salt, \$12 50, smoked do., \$14. Dried Hams, \$13 per 100 lbs. Lard, 11c to 14 1/2c. Country Lard 9c to 11c. Bacon, unchanged, at 10c to 12c per lb. Beef, \$13 to \$14 per 100 lbs. Butter - Tub none in the market, choice dairy rolls are worth from 16c to 15c per lb. There is a very large supply and a very little shipping demand. Eggs in abundance at from 10c to 11c. Seeds - Clover unchanged at \$5 to \$5 25. Timothy steady and firm at \$3 to \$3 25 for No. 1, and \$1 50 to \$2 25 for No. 2. Flax seed \$1 90 for No. 1. Salt - Liverpool, in bags, held at \$1. Hay - \$9 to \$10. Straw, \$5. Petroleum - Dull at 55c to 40c for Canada, 40c to 42 1/2c for Pennsylvania; Denole, 37c to 40c. Freight - Dull. Grain to Oswego 2 1/2c per 100 lbs. American currency; Flour to Montreal 25c to 30c, gold. Grain - Owen Sound to Toronto by Northern Railway 10c. Lumber to Oswego \$1 50, United States currency. Hamilton Markets, May 8. - Grain - Fall Wheat, \$1 20 to \$1 21. Spring Wheat, \$1 to \$1 12 1/2. Barley, 50c to 62 1/2c. Peas, per bushel, 60c to 63c. Oats, 50c to 40c. Beef, per carcass, \$8 60 to \$8; hind quarters, \$9 to \$9 50, inferior, \$7 to 7 50. Mutton, per lb, 13 1/2c to 14c, per carcass, \$10 to \$12. Pork, per 100 lbs., \$7 50 to \$8. Eggs, per dozen, 12 1/2c. Butter, per lb, 25c. Apples per bag, 40c to \$1 50. Potatoes, per bushel, 60c to 75c. Hides, per cwt., \$5, dry hides, 10c per lb. Calveskins, per lb, 10c to 11c. Sheepskins, 40c to \$2 each, according to quality. Tallow - W. H. Judd & Brother's prices - Rough, per lb, 6c. Hay, per ton, \$9 to \$10. Straw, per ton, \$5 to \$4.

London Markets, May 8. - There was a very fair delivery of wheat to-day, prices ruled steady, at last quotations. - Fall Wheat - Inferior, \$1 30; good to extra, \$1 60 to \$1 80. Spring Wheat, \$1 20 to \$1 45. Barley, 60c. Peas 65c to 68c. Oats, 25c. Corn, 50c. Buckwheat, 40c to 43c. Flax Seed, \$1 50 to \$1 75 per 60 lbs. Butter - Prime dairy - packed 20c per lb.; fresh, in rolls, by the basket, 22c per lb. Eggs, 8c per dozen. Lard, 12 1/2c. Skins - Green hides, \$4 60 to \$5, calf, dry, 16c, green, trimmed, 12c. Sheepskins, fresh, \$1 to \$2. Wool, pulled, per lb, 30c to 35c. Tallow at 5c; rendered 7c to 8c. Hay, per ton, \$7 to \$9. Straw, per load, \$2 50 to \$3 50. Peas, \$2 to \$3 per load.

Guelph Markets, May 8. - Fall Wheat, per bushel \$1 50 to \$1 70. Spring Wheat, \$1 35 to \$1 40. Oats per bushel, 20c to 30c. Peas, do, 55c to 65c. Barley, do, 55c to 65c. Hides, per 100 lbs, \$5. Beef, per 100 lbs, \$3 to \$9. Pork, per 100 lbs, \$7. Straw, per load, \$3. Hay, per ton, \$10 to \$12. Wool, per lb, 40c to 42c. Eggs, per doz, 10c to 11c. Butter, per lb, 15c. Apples, per bushel, 60c to 80c. Potatoes, per bag, 40c to 60c. Sheepskins, \$1 to \$2.

Goderich Markets. - Spring Wheat \$1 25; Fall Wheat \$1 40c. Oats 25c to 30c. Flour \$3. Barley 40c to 50c. Peas 60c. Sheep, \$4 to \$5. Pork, \$7 to \$8. Beef, \$5 to \$6. Hides, green, \$4 50. Butter 15c to 20c. Potatoes, 30c to 35c. Hay, new, per ton, \$7 to \$8. Eggs, 10c.

New York Markets, May 12. - Cotton firm at 34c to 35c for middling. Flour - Receipts, 8,601 bbls., market dull, and 20c to 20c lower, sales 3,600 bbls., at \$7 50 to \$3 20 for superio state, \$3 40 to \$3 50 for extra state, \$3 50 to \$3 50 for choice do, \$7 50 to \$3 20 for superio western, \$3 50 to \$3 70 for common to medium extra western, and \$3 50 to \$10 for common to good shipping brands extra round hoop Ohio. Canadian flour 20c to 30c lower, and dull, sales 200 barrels, at \$3 75 to \$3 70 for common; \$3 75 to \$13 80 for good to choice extra. Wheat - Receipts, none; market dull and nominally 3c to 6c lower; sales 4,000 bush winter red western at \$2. Rye quiet. Barley dull. Corn - Receipts, 32,103 bush. market less active and scarcely so firm, sales 33,000 bush at 77c to 80c for unsound, and 80c to \$1 10 for sound mixed western in store and delivered. Oats quiet, at 42c to 50c for new Western; 53 1/2c to 61c for old do; 60c to \$1 10 for Canada, 57c to 63c for Jersey, and 63c to 64c for State. Pork opened heavy and lower, but closed firm, sales 8,900 bbls. at \$30 62 to \$31 25 for new mess, closing at \$31 cash, and \$29 50 to \$30 for old do.

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