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Seed Report

Having this year travelled over a larger extent of country than ever before, expressly for the purpose of ascertaining what kinds of wheat are yielding the best and giving the most satisfaction, we find that the Scott wheat is the only kind that no complaint is made about. Every one we have seen and heard from is satisfied that it is the most profitable fall wheat to raise, taking everything into consideration. We have examined many pieces, and seen the different varieties growing together. In every instance the Scott wheat has stood the winter the best, and rusted less than any of the other varieties that are generally sown.

Taking the acreage sown with Deihl wheat, we believe if statistics are obtained, the Scott wheat would be found to return at least eight bushels more per acre than the Deihl, although in some few instances, the Deihl may even exceed the yield of the Scott wheat. The appearance of the Deihl will take the eye in preference to the Scott.

It is not from a single sample or two, or from the yield of one or two sections, that we should judge.

We require a wheat for general cultivation that will yield the largest average returns in bushels and in money.

The Scott wheat was first brought into Canada by J. McMichael, Esq., of Blenheim. He imported it from Ohio.

The Scott wheat is not quite as plump a sample as it was last year, owing to the unfavorable season, although when compared with the Deihl it is comparatively free from rust, yet it has not wholly escaped. There is great difficulty in procuring it entirely pure and free from admixtures of any kind. Still we will supply the best we can procure.

The Treadwell wheat was at first thought to exceed it, but from continued trials, the Scott wheat has established itself as the more profitable. We procured a little of it two years since, and from every place except one, where it was tried, we have heard the greatest satisfaction pronounced regarding it. We would strongly recommend each of our subscribers who have none to procure a little this year, as we believe the demand for it will be general next year. It will most probably be the leading wheat of the country for a few years.

The Weeks Wheat is nearly as valuable a variety as the Scott Wheat. We class it as being in some instances superior to the Treadwell. It is far safer than the Deihl, being hardy, standing well, yielding well, and of good quality. On our farm and on others we have visited it has turned out better than either the Treadwell or Deihl varieties. The Treadwell was our favorite for some years, and still is a favorite; it succeeds best on clay soils.

Many with light soils prefer the Deihl, but the Treadwell is still giving general satisfaction on clay land, although in a few localities the Deihl is yet preferred, particularly along the borders of Lake Erie, extending back some distance in the country, where the soil is well cultivated, warm and light, and where the Scott Wheat has not been introduced.

The Mediterranean Wheat does not yield quite as many bushels per acre as some other varieties, but for rough culture and wet undrained lands, it will stand as much hard usage as any; it may be the most suitable for general cultivation.

We find in the eastern and northern parts of Ontario, that the wheat will be a much lighter crop than in the southern and western portions. We would strongly advise our eastern and northern subscribers to procure a little of the Scott Wheat, as the price it will command next season will amply repay for introducing it into your neighborhood.

In one instance only have we heard of the Soule Wheat doing well. We have heard a great many complain that it has turned out worse than either the Treadwell, Deihl, Mediterranean, or Midge Proof. The Midge Proof is now fast falling into disrepute, 1st, because the midge has ceased to trouble us to such an extent as formerly, and 2ndly, because it is one of the worst wheats to lodge, consequently the most expensive to harvest.

The Boughton or Rappahannock is the earliest wheat to mature; some farmers still prefer it. The Arnold Wheat has not generally succeeded. We do not receive such reports as to justify us in advertising them. The Boughton variety may be obtained from L. Lapierre, of Paris, who is one of the largest wheat raisers in the county of Brant. These varieties may, despite our opinion, become the leading wheats.

The Forfar wheat—another hybrid variety—has spouted so much this year that it is hard to find; still the persevering trials of its originator may in future be rewarded.

The fall wheat seed season is so short from

the time of threshing, the prices so fluctuating, and reports so difficult to obtain, that we feel the necessity greater this year than ever for more united action to enable us to carry out the Emporium plans to their full advantage. We should have the different varieties growing more immediately under our control, or under the control of the Association. Very great difficulty is experienced by us in procuring really pure seed, free from fowl seeds.

We have recently heard from two reliable parties of a wheat called the Dominion Wheat, a bearded white wheat which is said to be yielding well. We have not seen this variety yet, and the parties cannot tell us anything about its origin.

There are two or three new varieties, or new names to winter wheat in the States. Some accounts have been received at this office by circular, regarding the Fultz Wheat, but we cannot attend to them all as well as we would wish. Mr. McMichael, of Blenheim, was the gentleman that imported the Scott Wheat.

THE SCOTT AND DEIHL WHEATS.

Sir,—Having now threshed my fall wheat, I can give statements. No wheat in my neighborhood is as plump as it was last year. The Scott Wheat has again out-yielded the Deihl. I had the two varieties growing side by side in the same field; both were treated the same; the Deihl yielded 17 bushels per acre, and the Scott yielded 24 bushels per acre. The Scott wheat stands the winter well, and it has not rusted with me. I am highly satisfied with the wheat. All that I have will be required in my neighborhood for seed. J. B. BURWELL.

Caradoc, Aug. 19, 1872.

SEED WHEAT.

Sir—The six bushels of Scott wheat I procured from you was sown late on 3 1/2 acres of dry clay land. It made very little blade in the Fall; in the Spring my neighbours advised me to plough it under; it could hardly be seen. I had but very little hopes of reaping anything from it; but having so much work to do in the Spring, I let it take its chance. I have now thrashed it, and it yielded 105 bushels. The straw is clean, the grain plump, and the threshers said it was the best wheat they had threshed this year. The Deihl and Treadwell about here are yielding from 12 to 15 bushels per acre of poor, light, shrunk stuff, having rusted straw. Every one that saw the Scott wheat growing about harvest time said it was the best wheat they had seen. It is my impression, had the season been favorable, I should have had between 50 and 60 bushels per acre; as it was, I got 30 bushels. I know no one who has as much per acre, or as good wheat.

J. JOHNSTONE.

Westminster, Aug. 20, 1872.

An English writer says that in the American system of agriculture, the settler subdues a piece of land, flogs it to death, and abandons the cereals, and then repeats the operation on a new subject.

Notes for the Month.

LOOKING FORWARD.

Every prudent man, when entering on a farm, will endeavour to know the qualities of every field—its state of fertility; of cleanness; whether its soil is dry or wet; clay or sand predominate; what crops it has lately borne, &c. Without some such knowledge of the different parts of his farm, he will, in all his labour, be but groping in the dark. The farmer who has occupied his farm for some time, and tilled perhaps every arable foot of it, has not such enquiries to make. But he has enquiries to make of his own experience. He has to ask himself how he shall turn every sod of it to the best account. He has to consider every field separately, and also in connection with the whole. He has to take into account the probable prices of the ensuing year; what crops are most marketable within easy distance; as well as what his land is best fitted to produce; what labour he can command; what system of culture he shall now pursue that will, in other years, be most beneficial to him by improving the soil. A farmer, to be successful, must be a man of prudence and foresight. He must expend labour and money in expectation of a future remuneration. What system of culture shall he pursue? This is an important enquiry that every farmer must decide for himself. It was too much the custom (a custom not yet altogether done away with) to pursue no regular system—to have no regular rotation of crops—to sow wheat year after year till the soil, entirely exhausted, refused to pay any longer for the tillage. With such exhaustive tillage no farmer can be successful. The elements in the soil that wheat demands as food must be restored in some manner, or it will cease to be productive; and it will be more difficult to renovate it than it may have a remunerative degree of productivity. Each kind of crop needs its own kind of food, though some particular elements are needed by all. With some crops the soil is partially enriched, by the mode of culture they require and receive, and by the fertilizing elements they attract and inhale from the atmosphere.

We note this subject now, as this is the best season to devise the system you will adopt, not merely for the year but for future years. Shall it be a course of four years, of six years, or what?

WINTER WHEAT.

This is considered by farmers the most important crop in his farm. It will, if a good crop, bring him in, more immediately, a larger sum of money than any other. For it the soil must be well prepared, clean, rich and dry. If there be danger of water lying in any part of the field, let this be guarded against by well-formed, open drains. It is better to sow it so early that it will have a good start, and be well rooted before the winter storms. Drill sowing is now practised by the best farmers.

SEED WHEAT.

This requires careful selection. Let it be thoroughly clean, and free from the seeds of weeds. In another article in this paper will be found some good advice as to the varieties of seed.

SOILING.

To this subject we directed the attention of our readers in a late issue. It is now time to commence preparations for it. Sow your first crop for soiling. In this country the best and earliest crop for soiling is Rye. In the old country we had a greater variety of soiling crops than we can have here. There we had Winter Vetches (tares), Spring Vetches, Clover, Italian Rye-grass, Rape, and then the root crops for soiling. Here, our principal crops for soiling are Rye, Peas and Oats, Corn, Clover. Still, there is variety enough to practise soiling successfully. The earliest, I have said, is rye. It produces a very large amount of feed for cattle. I have grown it here and six feet

high. You can have it out of the way in time to prepare the ground on which it grew for turnips.

Cost of Illinois Cereals.

The *Prairie Farmer* publishes some estimates as to the cost of the several grains grown in Illinois by Mr. Gibson, a farmer in that State, and read by him at a meeting of a Farmers' Club. The following is his account for growing thirty acres of wheat:—

Ploughing, 20 days, at \$1.90 per day..	\$33 00
Harrowing, 4 " at \$2.10 " ..	8 40
Rolling, 4 " at \$2.10 " ..	8 40
Seed, 25 bushels, at \$1.50 per bushel..	37 50
Interest on seed, 10 mos., at 10 per ct.	3 15
Seeding and use of drill, 2 1/2 days.....	10 70
Rent, 20 acres, at \$3.60 per acre.....	72 00
Taxes.....	10 00
Harvesting, 2 days.....	52 60
Stacking, 4 men, 2 days.....	20 45
Threshing.....	38 05
	\$299 25

He estimated the yield on the 20 acres at 300 bushels, or 15 bushels per acre. This would make the average cost little less than \$1 per bushel.

This can only be regarded as an estimate approximating to the real cost and value of the crop. Many items of the account are not what a Canadian farmer would reckon, and then it must be an inferior crop to yield only 15 bushels per acre. For rent, the charge is high; for taxes, the charge, we would say, is still higher, but that we know that taxes in the States are so much higher than they are here.

We give insertion to the article, hoping that some of our readers may be induced to look into their accounts of *debit and credit* in their several farm operations, and being desirous that some would forward to us an accurate account, or, at least, an estimate of the cost of their several crops. There are among our agricultural friends some as competent to keep accounts of their outlaying and incoming as any city accountant. There are but few, we think, who keep such a farm Day-book and Ledger as we would suggest to them, though we know it would, were they to do so, greatly conduce to their advantage. Though they have seasons of hurry and fatigue, they might find time to make their entries regularly. As. T. Ed.

Arsenic as an Insect Exterminator.

In the *FARMER'S ADVOCATE*, potato-growers have been advised to use Paris green with plaster for exterminating the Colorado potato bug. We carefully studied the whole matter before we gave that advice. We have since then heard and seen and read much on the subject, and we have closely watched the effects of the prescribed remedy, and the result has been the confirmation of the correctness of the advice we then gave. A writer in the *Michigan Farmer*, a paper of very high authority in agricultural matters, has recommended arsenic instead of Paris green, as a bug-exterminator. The principal argument advanced for the use of the arsenic is its comparatively little cost, it being sold for 20 cents per pound, while 50 cents is the price of Paris green. In reply, it is shown that "arsenic is capable of being absorbed in such quantities as to prove injurious to the living vegetable." "It is a dangerous material to have in the household, because it is so easily mistaken for other white substances in common use; for example, flour, saleratus, &c. Paris green is not liable to this error because of its strongly marked color." "Again, when applied in large quantities to the soil, it may accumulate in the soil to the injury of subsequent crops, or it may dissolve in quantity greater than the oxide of iron of the soil can render inert, and may find its way into wells, and slowly poison all who use the water. Injury by no means confined to sudden and violent death." "Three pounds of arsenic, the quantity recommended for one acre, is for each hill of potatoes, if so planted, and at 3 1/2 feet apart, enough to poison two men."

[We have referred to this matter briefly. It is necessary that farmers, who have not themselves the opportunity for much scientific study, should be guarded in taking up every new idea brought before them. Careful study of all things pertaining to their interests is our duty. As. T. Ed.]

Jottings in our News Room.

The work of surveying goes on favorably in the West by all accounts.

The Truro and Amherst Railway will be opened on the 1st of September.

St. Johns, N. B., though settled as recently as 1783, chiefly by Loyalists from the States, contains about 40,000 inhabitants, and is a place of much enterprise and wealth.

The grain, root, and fruit crops throughout Nova Scotia are reported to be in excellent condition, and an abundant return is anticipated.

A writer in the *New York Observer*, speaking of the Genesee Valley, says:—No part of the valley bears the marks of high cultivation that I had always associated with this fertile region. It is really painful to see one crop—the Canada thistle—growing here so luxuriantly. It is not only allowed to occupy the highway, but there are many broad fields in which the wheat and the thistle are contending for the occupancy of the ground, and in many cases the latter has gained the victory.

An order has been issued excluding Russian cattle from England on account of the prevalence of the rinderpest in the Russian empire.

The Maine lumbermen predict that five years hence, at the present rate of destruction, the forests of that State will be wholly cleared of timber. The lumber crop this year is estimated at 7,000,000,000 feet. Of this amount the Penobscot lumbermen cut 225,000,000, and the Kennebec men over 100,000,000.

It is proposed to form a Scotch settlement in the county of Victoria, N.B., for which purpose land is selected, and fifty families are to come out in the spring.

Agriculture.

CANADIAN THISTLES.

SIR—In driving about the country, I have had a good opportunity of witnessing the different methods of killing Canadian thistles. I have seen none succeed but the plan of not allowing them to form a top at all during six weeks. No plant can live long without a top in warm weather. Usually, during haying and harvesting, the thistles get quite a growth in the fallows. They take breath, and this gives new life to the root, so that it continues healthy until the time of sowing the wheat. During the hurry of haying and harvesting the cultivator should be run lightly through them, say three or four inches deep, sufficiently often to prevent the top from ever seeing the daylight. This is the point. Never let the top above the ground in any part of the field. If the cultivator be set too deeply, the portion of the root attached to the top is likely to take root again. Many try to kill the thistles without any distinct idea as to how they are going to do it. They plough them, let them grow up again, and so on until the grain is sown, and, when harvest comes, there comes a thick crop of thistles. They do like a boy trying to drown a young pup—hold it under the water till nearly dead, then raise it out to see if it is still alive, then dip it under again for a short time, then out again, and finally concludes that it is the hardest thing in the world to drown a young pup. Most people do the same by allowing a head to come out here and there before the root is dead. Many farmers despise bookmen and theory, and think no one knows anything of the processes of nature and farming but themselves, forgetting that theory and practice should go together. No doubt there is, now and then, a foolish article written about farming, and the farmer therefore concludes that everything written on the subject is nonsense, and will not give due consideration to any advice on it, no matter how good. Men the world over are apt to think they know more about the business they follow than any one can tell them. Professional pride is of as natural growth as Canadian thistles.

I am very much pleased with the *FARMER'S ADVOCATE*. J. L., M. D.
Richmond Hill, Aug. 8, 1872.

[The remarks of our esteemed correspondent have the invaluable quality of good common sense, expressed in a plain, intelligible manner. We append two items from our exchanges that must be of interest to farmers. The law relating to allowing those weeds to grow to the injury of their neighbours is very stringent. For their own sakes, as well as that of

others, farmers should do all they can to exterminate them. The law, if strictly enforced in all places, would be productive of great evil, for in some parts of the country the land would not be worth the labour. This is particularly the case in some of the light, rocky land back of Kingston. The editor of the *FARMER'S ADVOCATE* is prosecuting an experiment for the entire extermination of them, that he hopes will be successful. He has applied to the Department of Agriculture to assist him in the undertaking, but his application has been unsuccessful. There could be nothing of greater benefit to farmers and to the country at large, and it is the duty of the Ministry to give every encouragement to such an undertaking.—As. T. Ed.]

THISTLES.—Great complaints are made by some farmers against others for permitting the spread of Canada thistles, and the carelessness of certain parties who should use efforts to exterminate the nuisance before going to seed. There is a law making it compulsory upon parties to cut down the thistles growing upon their premises or within a certain distance of them, and we trust that it will be enforced. We have heard of one farmer who actually sold his farm because his neighbours permitted the thistle to go to seed to such an extent that farming was no longer profitable in that neighbourhood.

THISTLES.—A case of considerable importance to farmers was tried at Lucan last Monday, before J. McIlhargey, Esq., J.P. The action was brought by a Mrs. Hogan against one John Toohey, for allowing Canada thistles to go to seed on the farm which he occupies and which he leases from her. The charge was proved, but, as it was the first time the law was put in force in that section of the country, the magistrate mitigated the fine to \$2 and \$5.50 costs. Farmers will do well to bear in mind that they render themselves liable to fine if they allow Canada thistles to come to full blow on their farms; and whether they are owners or occupiers it makes no difference, for the law seeks to prevent the spread of the noxious weed.

CLOVER AND TIMOTHY.

It is chiefly on account of our variety of heavy plants that we seldom suffer very greatly from bad seasons; for a season that is unpropitious for one kind is often just the one for the perfection of the other. It will always be an argument in favor of mixed varieties.—It is often said that there is no use in these mixtures; have either all clover or all timothy, or all of one kind of grass whatever it may be; but though it may be granted that if the season be favorable for one kind, it would be best to have all of that one kind; yet as we cannot anticipate the seasons, it is best to have a variety. It is like paying something for insurance. We do not get quite as good as we might, but we are more certain to get a good average than we should otherwise be.

We note that some papers, especially Eastern ones, are agitating the wisdom of having clover and timothy sown each by itself, and not together as now. We shall still advocate the old way, in the light of this year's experience.—*Forney's Weekly Press*.

FRESH FROM THE GARDEN.

Dwellers in towns and cities, who have to procure their vegetables from the green grocer, or else from the gardener's wagon, know not the benefits derived from having a garden at home, where they can get everything fresh when needed.

Many say they can buy vegetables cheaper than to raise them. So they can, but it is at the expense of freshness and crispness. The longer time peas are pulled before being used, the more is their delicate taste lost. Tender salad plants wilt and part with their fine flavor when not freshly cut; and this is especially true of such kinds of garden stuff as are used in their green or unripe state. The most of what we get from the grocery or from the wagon has been gathered the afternoon before, and brought in during the morning. When hawked about the streets half a day through the hot sun, or exposed on the sidewalk in front of a small grocery, the quality of such vegetables is very inferior. In the case very often with extremely early vegetables, they are shipped from southern parts, and are many hours on the journey before reaching the consumer. Is such stuff fit for food for one that enjoys the pleasures of good living?

The moral of all this is to cultivate your own garden, however small it may be, if you desire

fresh, juicy and fer the husks found in corner spot grow up to of it, and buy w forth as the adv like to see a p apart for grow and that cultiva point of the ar

The practical by every farmer pay? That de to be developed. It may, doubt outset, that of would not pay farmers are at it; and further lands do not r part of our lar it, a few farms undertake such some lands wh would warrant be enumerated village lots, h cities, and in g in the market tion; and it is lands is rapid for cheap and yet come.

On what l general, lands need no artific allows the free lands with a c It is needed w its if allow a of such needs a are, standing growth, wide corn, fogs, th the spring, or tions requisite cultivated plan in due proporti quent growth, growth by wa wet soil by w want of need of particles n spaces between vation when a when air fil spaces. The surplus water. It is three-fold: rain in summ ammonia and sorbed and fil is often hurtfu rally to be avo no fertility, c are to be cut o Water is ro by evaporation. The first cool heat in the washes out a part of the s The soil, work chosen. To t rively dry, an cannot penet charged with In both it no The kinds fields, wide d with stones, makes a use useless stones to be choked may be fill or straw, t and find set plough with open drains water, but n filling; head fields. The quantity need possible. W complete sys

At a meeti no's Club, I ed can be n the topsoil. little of the of fertility v topsoil. Th which show generalizing understood and very n a discovery the full ext it was disco nia, being the soil, it w night to st

fresh, juicy and crisp vegetables. If you prefer the husks and tasteless things generally found in corner groceries, then let your garden spot grow up to weeds or make a croquet ground of it, and buy what you want to eat. I stand forth as the advocate of the garden, and would like to see a portion of every homestead set apart for growing vegetables for family use, and that cultivated too up to the very highest point of the art.

DRAINAGE.

The practical and important question asked by every farmer or gardener is, Will draining pay? That depends on many considerations, to be developed in the course of these lectures. It may, doubtless, be said, however, at the outset, that on most of the lands of Iowa it would not pay at present; that most of our farmers are at present too poor to undertake it; and further, that the greater part of our lands do not need it. There remains a small part of our lands that would be benefited by it, a few farmers that are abundantly able to undertake such permanent improvements, and some lands which, from their peculiar position, would warrant the outlay. Among such may be enumerated gardens, nurseries, orchards, village lots, highways, dairy farms near large cities, and in general such as are of great value in the market or receive much labor in cultivation; and it is manifest that the area of such lands is rapidly increasing year by year; but for cheap and remote lands, the time has not yet come.

On what lands is drainage needed? In general, lands with gravelly or sandy subsoil need no artificial drainage, for the subsoil itself allows the free overflow of the surface water. Lands with a clayey subsoil only need drainage. It is needed wherever the subsoil does not of itself allow a ready outflow. The indications of such needs are numerous and distinct. They are, standing water, rank, coarse vegetable growth, wide cracks during drought, curling corn, fogs, the collection of water in pits in the spring, or general muddiness. The conditions requisite to vigorous vegetation of our cultivated plants are warmth, moisture and air in due proportion in the soil; and, for subsequent growth, fertility. A very dry soil checks growth by want of moisture; a very hard or wet soil by want of air; a very cold one by want of needed heat. Our soils are made up of particles more or less finely divided, with spaces between. They are best fitted for cultivation when moderately moist, not wet; i.e., when air fills the larger and water the smaller spaces. The office of drainage is to remove the surplus water. The source of water in our soils is three-fold: rain, overflow, and springs. The rain in summer is warm, and is loaded with ammonia and nitric acid. It should be absorbed and filtered by the soil. The overflow is often hurtful and seldom useful; it is generally to be avoided. The springs are cold, have no fertility, chill and check vegetation; they are to be cut off.

Water is removed from soils in three ways: by evaporation, by overflow, and by filtration. The first cools the soil by the absorption of heat in the act of evaporation; the second washes out and away all the finer and richer parts of the soil; they are both to be avoided. The last leaves its warmth and its fertility in the soil, works downwards, and is always to be chosen. To this end the soil must be comparatively dry and mellow, for if it be hard the rain cannot penetrate it; and if it be already saturated with water, it can receive no more. In both it must flow off above ground.

The kinds of drains are various. In stony fields, wide ditches are sometimes dug and filled with stones, more or less carefully laid. It makes a useful drain and a good deposit of useless stones. Such drains are likely in time to be choked with dirt and fall. The bottom may be filled with brush, covered with a board or straw, then earth. It works well till decay and final settlement choke and destroy it. A plough with a long cutter makes a mole drain. Open drains serve well to carry off surplus water, but need constant attention to prevent filling; besides, they are inconvenient in the fields. The above are makeshift affairs, frequently useful and frequently the only thing possible. What is needed is a thorough and complete system of permanent drainage.

FACTS ABOUT MANURE.

At a meeting of the London (England) Farmers' Club, Professor Voelcker, said: "The subsoil can be manured to a certain extent through the topsoil. And it is as well to bring up a little of the subsoil and get back the elements of fertility which have sunk down through the topsoil. This reminded him of certain facts which showed how careful we ought to be in generalizing from what he would call half-understood facts in agricultural chemistry. It was very natural to make that mistake when a discovery was made, because we did not know the full extent of the facts involved. When it was discovered that plants absorbed ammonia, leaving the sulphuric acid to pass through the soil, it was thought that in all big elements might be stored up in the soil and the soil be manured accordingly; but that it was

not known how rapid were the changes which ammonia undergoes in the soil. It was a mistake to suppose that ammonia would remain permanently in the surface soil. It would get rapidly washed, in the shape of nitric acid, into the subsoil. Fertilizing elements could not be permanently stored up in the soil. It was not possible permanently to improve the fertility of the soil. The best thing the farmer should expect, after applying artificial manures to the land, was a heavy crop, and to look forward to profit by the ultimate improvement of the soil. Frequent manuring was the most profitable mode of procedure, but to manure with a view to the future was, in a great measure, all moonshine. Unless they saw their money back which they expended in manure in the weight of the crop to which the artificial manure was applied, they had better keep their money in their pockets. If the manure was not utilized at once it passed, in a great measure, into the drainage water, and he was not at all sure that there was not more fertilizing matter lost in the drainage and carried away than ever passed into the crop.

VEGETABLE FERTILIZERS.

The original soil, as it was derived from the decomposition of rocks, had in it sufficient elements of fertility to produce grass and trees; at the same time, these elements of fertility were increased by the continual decay of the vegetable matter. In the same manner we may restore a soil to near its original fertility by planting trees thereon and allowing them to grow for years. The leaves draw sustenance from the atmosphere as well as from the soil, and they return all except the moisture to the soil. Any matter of a vegetable nature, which will decompose readily, may be made available as a fertilizer, whether it be dry or green.

Of these two, without doubt the green plant turned under has the most beneficial effect, and of all the plants thus used, clover is generally acknowledged to be the best. But there are soils which will not grow clover, and these are usually soils which especially need the organic matter. For such soils the common field pea is adapted, and being well known is easily cultivated. Many efforts have been made to introduce the German lupine, but with little success.

The principle upon which vegetable fertilizers act is, that the plant draws a part of its sustenance from the atmosphere, and when turned under there rotted it gives to the soil the nitrogen which it had extracted from the atmosphere. Hence any green plant is an excellent fertilizer—even the weeds. But we wait until they become hard and dry, then we rake them together and burn the "pesky things." While clover may draw more nitrogen from the atmosphere than any other plant with whose constituents we are acquainted, yet every weed draws some, and if weeds are ploughed under they will to that extent enrich the soil.

A gentleman asked us how to fertilize his land without manure; we told him: let the weeds grow, plow them under while green and sow lime on them; keep at that for several years and you will have rich land. But he said, I do not want that trouble. Then we said, plant trees and let them stay there forty years. The principle of vegetable manuring is as old as the trees upon our hillsides, but while many have learned this, few have learned how to enrich their soils by the same natural means by which they were first created.

In connection with vegetable manures much may be added, as it is but little more than a deposit of vegetable matter. Hauling muck out upon the land is a short mode of replacing its organic matter, but one which we do not believe to be equalled as plowing under green crops. The latter is more permanent; by it you get into your soil no latent seeds of bad grasses or weeds.

Muck is of but little value except in connection with other vegetable matter and lime. It is an efficient agent in assisting in the decomposition of various mineral matter, and in the manufacture of composts. Sewage might be classed among the vegetable manures. Of this material there are two varieties: one of value as it decomposes, the other bakes hard in the sun. It is extensively used in our Atlantic coast, especially on Long Island, as it contains a large amount of potash.

We might further add to the list of vegetable manures the various oil cakes, but as yet they have been little placed to use in this country. They are rich in nitrogen, and are valuable chiefly for composting with other substances.

To the vegetable fertilizers, in conjunction with mineral and vegetable matters, we look for the redemption of the thousands of acres of soil called worn out all over the land; but however aided, they must be the great agent, for with plaster and clover or peas there is no other so cheap or more sure means of restoring elements of fertility which have been exhausted by excessive cropping and bad cultivation.—E.C.

PLOUGHING AND PREPARING THE SOIL.

In order that stable and chemical manures should produce all their effect, the soil should be well prepared. It has been ascertained that deep ploughing is an essential condition for success in agriculture, and that the mere scraping of the ground is highly objectionable. We cannot do better, in order to point out the advantages of deep ploughing, than reproduce the excellent observations of Mr. Schatterman:—

"In the Bas Rhin, and doubtless in many other departments, ploughing is but superficial, and not deeper than from three to five inches. This depth is evidently insufficient, and should be increased to 12 or 16 inches, in order that the plants may thrive. The proportion of mineral substances in the soil is in the ratio of the thickness of the tillable layer, and will be doubled or trebled by deep ploughing. A system of rotation of crops becomes at the same time more easy. The great majority of agriculturists, who persist in superficial ploughing, do so for fear of bringing to the surface sterile soils. It is a mistake, since a good subsoil plough allows of the simple stirring and gradual incorporation of the under layers without bringing any of them to the surface. Experience has, however, demonstrated that deep ploughing is always advantageous, and without the fancied inconveniences. We should fight such prejudices.

"The arable layer, when its thickness is no greater than from 3 to 6 inches, is insufficient for the development of the roots of plants, and does not protect them against the influence of an excess of dryness or dampness.—As the tendency of plants is to grow as much below as above the surface, it is evident that they cannot expand properly in a thin layer. Therefore, the principal condition of a deeply-thinned ground is seldom met with, principally in plants sending their roots deeply into the ground. Even grain crops, which are believed to vegetate at the surface of the soil, will have deep roots in properly prepared ground.

"With an arable layer of 3 to 6 inches' thickness, the roots of plants will not acquire their natural growth, and will greatly suffer by the inclemency of the weather. An abundant rain will flood the plants, and when the water escapes over the surface of the field, it will carry away the soluble and more fertilizing substances. By drying, the damp earth will become compact, and will compress the roots, the development of which will thus be hindered. After a long drought, the plants which have their roots near the surface of the soil find no dampness, remain stationary, or even perish.

"On the other hand, in arable layers, 12 to 16 inches thick, plants are able to penetrate and to grow properly, and are protected against drought and the inclemency of the weather. An arable layer of this thickness easily absorbs water; during an abundant rain water penetrates, and is drained through the bottom, without carrying away any earth or manure. When the rain ceases, the surface of the soil is quickly dried, and does not become compact, as is the case with too wet grounds.—Should a drought take place, the roots of plants which have penetrated sufficiently deep find there enough dampness to continue to thrive."

[The above article, from the "School of Chemical Manures," states the case in favour of deep ploughing very forcibly. The truth of his observations had been impressed on my own mind from my earliest experience in agriculture. Never, when I was farming pretty extensively in the old country, did I allow the ploughman to cut a furrow less, at the very shallowest, than 8 inches, except in some special cases. The depth of the furrow was generally twelve inches. It is true, a man and pair of horses could not go over as much ground in the day as he does here in America. One hundred rods per day I always considered a fair day's work, when all well out, and turned at

the proper angle, and of a depth of ten to twelve inches. Of this thorough labor I reaped the benefit. Such tillage would be unsuitable to some sandy soil.—As't. Ed.]

AN UNPRECEDENTED SALE OF HORSES.

The sale of the breeding stud of the late Mr. Blenkiron of Middle Park, England, was so remarkable in its results that we cannot omit to place them briefly on record, though we have not the space to enter upon the subject as fully as its importance to some might seem to demand. From the details as they reach us in the London Field of July 27th, it seems that the sale lasted four days, with an attendance of many thousands from first to last, including agents from the governments of Austria, Prussia and France, and representatives of one or more large foreign breeding establishments. No classified summary is given, and we have not counted the lots disposed of on the several days, but the aggregate number is elsewhere stated as 13 stallions, 197 brood mares and 129 foals—330 head in all. The total amount produced was 102,000 guineas, equal in round numbers to \$525,000 in gold—an average on the large number offered, young and old, of about \$1,550 per head!

An association recently organized (chiefly with a view to this sale, we believe), with a capital of £50,000, called the Stud Company, was the largest single bidder and purchaser, and but for this fact it is probable that many of the best lots would have been sold to the Continent. As it was, nearly all the choicest animals will be retained in England, though some high prices were paid by foreigners.

The great feature of the sale was the bidding on the stallion Blair Athol by Stockwell, and Blink Bonny by Melbourne, which began by an offer from the Stud Company of 5,000 guineas, and in two minutes ended, after vigorous competition, in a sale to this association for the enormous and unprecedented sum of 12,500 guineas. Gladiator brought 7,000 guineas, and Breadalbane (by Stockwell) went to the German Stud Company for 6,000 guineas. Saunterer and Mandrake brought 2,100 guineas each. In looking through the list of brood mares, we observe the sale of one at 2,500 guineas, two at 1,600 guineas each, one at 1,550 guineas, and two at 1,000 guineas each.

The Farmer, in commenting on the sum made for Blair Athol, states that he was bought by Mr. Blenkiron for 5,000 guineas, and had earned £4,000 a year since he went to Middle Park. Mr. B.'s annual sales of yearlings were always very successful, and indeed there must have been something exceptionally good or fortunate in his management, as the Farmer asserts that his profits from the stud have been nearly £20,000 per annum, on a capital of less than £100,000. The most important previous sales of horses mentioned in that paper, are—that of the late Mr. Jackson of Fairfield, (when Mr. Blenkiron purchased Blair Athol)—aggregate returns 23,230 guineas—that of Sir Tatton Sykes, aggregate 24,192 guineas—and that of Lord Lonsborough, aggregate 21,000 guineas—but, as will be observed, the three put together are considerably short of the result at Middle Park.

PRESERVING EARLY POTATOES.

A correspondent of the Rural New Yorker gives the following as his method of preserving early potatoes:—

My Early Rose potatoes are ripe, and if I have them in the ground during the hot, dry weather of August, they will be more or less injured, either from the high temperature of the soil, or, if rains occur, a partial second growth may injure the quality of the tubers. Taking all the circumstances into consideration, I think it is best to dig them, and spread in the coolest cellar I have, admitting all the air possible without light. From several years' experience with the Early Rose, I have found it one of the very best potatoes for use in Spring as well as Fall and Winter; but, like all the very early sorts, more difficult to keep through the latter part of the Summer than in Winter, although no loss need occur, provided the tubers are carefully harvested when ripe, and stored in a dry, cool place.

[To these remarks I would append some information on the method I pursued for some years in saving early potatoes for seed. Forcing a very large crop of potatoes, while beneficial to the producer from the large product, injures them for seed. A force growth is not by any means so healthy as a natural growth. And the more healthy the parents

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—animal or vegetable—the more healthy and the better able to resist disease is the offspring. Acting on this principle, I planted potatoes intended for seed for the following season, with little or no manure. As soon as they were ripe, I took them up, and left them spread on the surface till perfectly dry; if they even became green from exposure to the rays of the sun, it is of no injury to them for seed. It would make them unfit for use as food; but for seed it would make them more secure from disease. I then pitted them carefully till spring. For several years I experienced the advantages of pursuing this system. My seed potatoes were always sound, and it was a great preventative from degenerating. I also found that a loam or peat soil gave the best seed potatoes. And I planted them whole and of medium size for my seed crop. As't Ed.]

WHEAT LANDS.

The *Journal of Chemistry* says:—In the eleventh century the average production in wheat per acre in England was stated to have been only six bushels. To-day the average in England is twenty-seven bushels. This progress is due to our having more knowledge about agricultural science. We know more about soils, about implements, manures, &c., than in olden time. One reason for the advancement we see, is the improvement of our agricultural implements. Thus the plow has been wonderfully improved over what it was in Europe in the middle ages.

It is knowledge that men want. The difference between England of five centuries ago and of to-day, is a difference in knowledge. Knowledge has enabled England to multiply many times the product of agricultural operations, and also to multiply the number of human beings she can support. Much of this knowledge is traditional, but it is also preserved in the records—the writing of those who have studied those subjects.

In England to-day there are no exhausted lands; they are not allowed to deteriorate. What is taken off is supplied again, and this is the only true economy. We cannot take away from our land, and not restore, without injuring the soil.

Russia, unlike England, seems to be following in the footsteps of this country in the neglect of her wheat lands, and as a consequence, complaints are already being made that the average yield of her grain crops is constantly growing less. There, as the *Scientific Press* says, as is the case in California, valuable farmyard manure is, in many places, being conducted to the nearest waste ground or stream as a nuisance. Still Russia is buying largely of reaping and thrashing machines, as well as other agricultural machines.

HOW MONEY IS MADE BY FARMING.

Much labor is done on farms that is not farming in the true sense. By such labor no money is ever made. A man may support himself and his family, keep out of debt, and have a few dollars in his pocket by practicing the most stringent economy. If he is otherwise than industrious and sober, he is on the down grade with loose brakes, and the end is soon reached. But farming, in its true sense, is a profession equal to that of the law or medicine, and needs equal study, mental capacity, and intelligent directed labor to command a success in it. The principles which underlie the practice of the true farmer must be well understood, and a steady, consistent course of operations must be followed. Having thoroughly learned the nature and capacity of the soil he possesses, and chosen the rotation most suitable, and the stock to be most profitably kept on it, he does not swerve from his chosen course, but in good markets and bad raises his regular crops, and keeps his land in regular increasing fertility. No special eye tempts or affrights him. He does not talk dairying this season or crops the next, but, doubtless if any particular product be in demand and brings a good price, he has some of it to sell, and reaps a share of the advantages. He saves as much money as some men make by care and economy in purchasing and preserving tools, seeds, manures, and machines, and his business habits and constant readiness for all occasions gives him reasonable security against the effects of adverse seasons and bad weather.

ENGLISH CROP PROSPECTS.

The following extract which we condense from the London Field of July 27th, is interesting and indicative, from another and later source, of the condition of this subject at the present time.

We cannot congratulate the farmers on their prospects. Pastures, it is true, are so full of grass that cattle cannot be bought to graze them down; but, as a rule, cattle, though surrounded with plenty, have not justified expectation—the weather has been too unsettled and the grass too watery. Foot and mouth disease of a severe type is very prevalent and increasing. We want sunshine to mature everything. The last fortnight has shown a great improvement, and immediately the newspaper authorities are speaking hopefully. The sunshine of July is to make good the injury done in May and June. We are thankful for such weather as we have had lately—without it much of the cereal crop would have been worthless; but we cannot delude ourselves into the belief that we can have an average crop of wheat. Barley, which occupies an unusually large area, having been planted instead of wheat in many instances, promises badly on most soils, but especially on strong land. Oats are generally good, and, with fine weather, will be the redeeming feature of our cereal harvest. This crop stands moisture well, hence its growth in the more humid districts in the northwest of England and Scotland. Leguminous crops are promising where clean, but the aphid has made its appearance in some cases, and may do much mischief. Even the root crop, which was generally got in under favorable conditions, and came away from the fly rapidly, has suffered from the rain. Harvest will be later than usual by two or three weeks.

FARMING PROSPECTS IN VANCOUVER ISLAND.

To those engaged in farming everything connected with their pursuit must be interesting, even though it be in a foreign country. The farming in Vancouver Island must be the more interesting as it is part of the Dominion, with every province of which our interest is one. We give the following article on the subject extracted from the report of Mr. James Richardson, geologist:—

The vegetable soil which has been mentioned seems to be of a very productive character, and whether in the forest, the field, or the garden, appears, combined with the favorable climate, to yield large returns. In the Comox district, about 140 miles from Victoria, as already stated, the soil is spread over a very considerable area of prairie country, commonly designated an opening, extending from the coast up the different branches of the Courtenay river for seven or eight miles. The surface of this district, which is naturally free from timber, with the exception of single trees and stumps, chiefly of alders (*Quercus Garryana*) and strips of oaks (*Ainus Oregona*) in the bottoms, may be some twelve square miles, the scenery of which is picturesque and parklike. Its margin is very irregular in shape, and it is surrounded by a growth of very heavy timber, among which are the Douglass pine (*Abies Douglasii*) often attaining ten feet in diameter and 200 feet in height, half of which is free from branches and the cedar (*Thuja gigantea*) often equally large. The open country in its natural state is mostly covered with a growth of ferns, which sometimes attain a height of ten feet, with stems three-quarters of an inch in diameter and roots descending to a depth of three feet. These roots the native Indians prepare in some peculiar way for winter food, and excavate deep trenches to obtain them. The farmers are under the necessity of grubbing up the fern roots before the ground is ready for use, and they are often voluntarily assisted by their pigs in this operation, these animals, it is said, relishing the fern root as food. I was informed by Mr. John Robb and Mr. John McFarlan, two partnership settlers of the district, that the average yield of land after it is cleared and thoroughly under cultivation is of wheat, from 30 to 35 bushels per acre; barley, 40 to 45 bushels; oats, 50 to 60; peas, 40 to 45; potatoes, 150 to 200; turnips, 20 to 25 tons. Some of the turnips exhibited by Mr. Robb at the agricultural show are said to have been remarkably heavy, but those of the Swedish and yellow varieties, seen by me, I consider rather small. The

season, however, was said to be an unusually dry one. The yield of Timothy hay is said to be about two tons per acre.—Clover thrives well and rye grass is valued for its after crop.

The yield of butter per cow after calf feeding is about 150 lbs. annually, the ordinary selling price being 30 cents per lb. Cattle generally require to be home fed from the beginning of December to the middle of April. Snow seldom lies long. Heavy falls sometimes occur, but generally disappear in a few days. Once or twice snow has remained on the ground for two months. Apples, pears, plums, cherries, white and red raspberries, red, white and black currants, and most kinds of fruit thrive remarkably well. Some apples, of which I obtained samples, measured thirteen inches in circumference, and weighed nineteen ounces. They were high flavored and well adapted for eating and cooking.—Of the pears many measured eleven inches in circumference, and were high flavored and juicy.

At Gabriola, prairie land or openings such as those already described at Comox occur. More of them are met with on Saltspring Island, but in neither place of the same extent as at Comox. Mr. Griffith, one of the settlers at Saltspring, informed me that the fall wheat thrives well there, and yields from 35 to 40 bushels per acre. Of other grains the yield seems to be about the same as at Comox. In Mr. Griffith's garden there was a large plot of common winter cabbage, the solid heads of most of which measured from three to four feet in circumference. Red cabbage and cauliflowers were equally large and sound. Carrots and parsnips were large, as well as onions, and there was abundance of tomatoes and of several varieties of gooseberries, which did not seem to thrive so well at Comox. Mr. Griffith informs me that at Saltspring the bushes give in quantity and quality a crop equal with the best English. The crops of all the varieties of currants and raspberries in quantity and quality vied with those of Comox.

Mr. Griffith's orchard occupies about two acres, and has been set out only three or four years. I saw different varieties of apple, pear, peach, plum and cherry trees, and the proprietor informed me that all kinds bore fruit last year. The apples are excellent in quality, and the pears, though not large, were equal in flavor and juiciness to any I have ever tasted.

Mr. Griffith has about 300 barn door fowls, which are fed on the grain of the farm, and enable him to supply a great abundance of eggs to the Victoria and Nanaimo markets, where they sell for 25 to 40 cents per dozen.

At Fulford Harbor, Mr. Theodore Frago showed me a pumpkin which measured 32 inches in length, with a diameter of 15 inches at the small end, and 22 inches at the other; and he informed me that larger ones had been used before my arrival. The Settlements of North and South Saanich, as well as of other districts near and around Victoria, show a good deal of prairie land, "oak openings," as they are called in that part of the country, from the greater abundance of trees of this species than elsewhere. In these oak openings many beautiful farms are met with; the soil and aspect of them resembling those of Comox. In addition to the grain, fruit and vegetables enumerated elsewhere, the hop vine has been introduced in North Saanich, and in the neighborhood of Victoria. In the former place Mr. Isaac Cloake and Mr. Henry Wain, with some others, have each a hop orchard, as it is there termed, of several acres in extent. Mr. Cloake, who spent nine years amongst the hop fields of Kent, England, informs me that his hops are quite equal, if not superior, to the English, which, according to him, was tantamount to saying that they were the best on the face of the earth; and Mr. Wain, who likewise had practical experience, stated that in regard to aroma they were equal to the best he knew. They are of the variety known as

the grape hop. It was introduced from California, and is said to have greatly improved in British Columbia.

The yield of hops is here from 1000 lbs. to 1700 lbs. to the acre, and it brings in the Victoria market from 22 to 60 cents per lb. When railway communication is established, the article may become one of trade between the two provinces, for if I am rightly informed, the hops imported from England are superior to any raised in Canada.

Other settlements of a similar character to those described are established between Saanich and Nanaimo, which I had no opportunity of visiting. Near and around settlements possessing farms such as mentioned, in many places rocky hills rise up to heights of 1000, 2000 or even 3000 feet and more, the surface of which is in some parts craggy, but in others they present patches with a thin soil, covered with a firm short bunch grass on which sheep and cattle thrive well, for such of them as I saw there appeared to be in good condition. The temperature is cooler in such places than in the lower and more level country, and during the heat of summer they afford excellent pasturage, which will much assist the industry of agriculturists. Along the coast and in the interior of Vancouver Island, as well as on those of the archipelago surrounding it, many localities for farms similar to those which have been here described will be discovered and hereafter become the homes of thousands of a hardy and industrious people.

RYE FOR PASTURAGE.

A correspondent writing to an exchange on the above subject, says:—

I would like to make a few suggestions, through your valuable paper, to my brother farmers upon the value of rye for fall and spring pasture. In this part of the State, where we have so little tame grass, our pasturage in Sept. and Oct. is as short as it is abundant at this season. Every farmer feels the want of something green for his stock, especially milk cows. I think rye will supply the want to a very great extent. I think it will pay the farmer well to sow as early as August, as he can use it fall and spring, and then plow up and cultivate to corn if he does not wish it for the crop.

SHEEP ON LOW GROUNDS.

It is generally believed by farmers that low wet land is very unfavorable for sheep. I have kept a flock for four years in a pasture of this description—for the first two years with unfavorable results. My sheep were unhealthy, and many of them died. I ascribed it to the wetness of my pasturage. Upon the recommendation of an old farmer, I gave the sheep charcoal mixed with salt. The beneficial effects of this mixture were soon apparent. My sheep presented a more healthy appearance. I have continued the treatment and the animals have continued to thrive. I suppose the medicinal qualities of this mixture consist in the disinfecting property of the charcoal. And in the invaluable tonic and alterative properties of the salt, we may add; for, like many other remedial agents, this article, when given in small doses, augments the digestive functions. In larger doses it is cathartic.

SOILS—HOW EXHAUSTED.

We frequently see in Eastern Agricultural journals long dissertations on the subjects of deep and shallow plowing, and in most cases the attempt is made to show that the general deterioration so common to most of the soils of those long cultivated parts of the country, is owing to a persistent course of shallow plowing.

It is a mistake to imagine that this alone has produced the unwelcome result, rendering large districts of country unfit for the culture of wheat, which fifty years ago gave an average of from 15 to 20 bushels to the acre. If shallow plowing has had the effect to lessen the annual yield devoted to constant tillage, without the return of some fertilizer—which we will not dispute—it might be inferred that we believed had the field been deeply plowed, there would have been more deterioration.

We believe experience has shown that plowing serves to increase the produce of the soil, and half a century ago the system of deep plowing was not so common as it is now. It is an injury to the soil, and produces a deep plow, without a return of some elements, the soil is impoverished.

Upon this theory of manure, alone caused with in the soil. It is an injury to the soil, and produces a deep plow, without a return of some elements, the soil is impoverished. Upon this theory of manure, alone caused with in the soil. It is an injury to the soil, and produces a deep plow, without a return of some elements, the soil is impoverished.

It does not seem to me that there is any ground for the belief that the soil is impoverished by shallow plowing. The soil is not impoverished by shallow plowing, but by the want of manure. The soil is not impoverished by shallow plowing, but by the want of manure. The soil is not impoverished by shallow plowing, but by the want of manure.

IMPROVEMENT.

Thousands of acres of land are now being improved by the use of manure. The soil is not impoverished by shallow plowing, but by the want of manure. The soil is not impoverished by shallow plowing, but by the want of manure. The soil is not impoverished by shallow plowing, but by the want of manure.

We believe no such thing; because experience has shown that though deep plowing serves almost invariably to increase the product, it is equally at the expense of the fertility of the soil; the only difference is, that one, by shallow plowing and half a crop has exhausted the soil to half the depth that another field is by a system of deeper tillage. So that without some renovating process or the application of fertilizers, or something besides simply deep plowing, though larger crops may be procured for the time being, it is only at the expense of a deeper exhaustion of the soil.

It is ille then to harp upon the favorite theory of many, that shallow plowing has alone caused the sterility too often met with in the older sections of the Union. It is an injudicious cultivation quite apart from either shallow or deep plowing that produces barrenness. No soil, however deeply plowed, can forever maintain its pristine fertility under constant cropping, without a return in some measure of the elements, that the crop produced, extracts therefrom.

Upon this important point in good husbandry, too little attention is paid. Shallow plowing and constant cropping without manuring has very aptly been termed the "skimming" process; but deep plowing under like circumstances takes not only the "skin," but the very tallow from the soil.

STIR THE SURFACE.

It does not follow that although we have plenty of rain the soil will remain moist. Evaporation is very active beneath our hot summer suns. Heavy showers tend to compact the soil and render it impervious to water which remains on the surface until evaporation. Little benefit, then, accrues, unless the hard crust baked by the sun is broken up and the soil mellowed by cultivation. It is then rendered porous and absorbent at the demand of the scorching heat, while at night, cooling more rapidly than the air, it recondenses and retakes in abundance the moisture it has been forced to give up during the day. Thus the crop never suffers during a succeeding drouth, for the soil is always in a condition to supply its needs from the atmosphere when denied a supply from the clouds.—*N. Y. Tribune.*

IMPROVEMENT OF GRASS LANDS.

Thousands of meadow and upland pastures are producing less than half the quantity of hay and feed which the land is capable of, from a deficiency of plants of those kinds which are more productive and suitable for the soil. In some cases, where the pasture is very foul with weeds and moss, it is advisable to pare and burn the old sward, and renew the land entirely, as above directed. In some other instances it may be desirable to drain and manure the land; but in most cases great improvement may be effected by merely sowing renovating seeds (which should consist of the finest and most nutritive kinds of perennial grasses and clovers) in the following manner.—Heavy harrows should be drawn over the old turf early in the spring, to loosen the soil for the admission of seeds, which, if sown freely, will occupy the numerous small spaces between the grasses already growing, and supersede the coarse grasses and noxious weeds. After the seeds are sown the land should be carefully rolled. It is a good practice to sow these seeds at the same time as the top-dressing, if any is applied; but this is by no means necessary. The months of February, March and April, are proper for sowing the seeds; the earlier the better, as the old grass will protect the young from frost. It is also useful to sow in July and August, immediately after carrying the hay. Should the old turf be very full of moss, this is generally an indication that draining would be beneficial. The following is, however, an almost infallible remedy for the moss, not only destroying it, but preventing the growth in

future.—Mix two cartloads of quicklime with eight cartloads of good light loam, turning the compost several times that it may be thoroughly mixed and the lime slacked, and spread this quantity per acre over the pasture, dragging the turf well with iron harrows.—*Land and Water.*

DOES FARMING PAY?

This is a question that has been repeatedly asked, and although I have carefully examined all the statements of those who think it does, and of those who think it does not pay, none of them seem to have come to any definite conclusion as yet. Suppose we take a fair look at it, and then compare it with other branches of industry, and see if it falls any below them. I know that it is a prevailing idea with a great many people, that farming is a poor, good-for-nothing business, and nobody but some poor know-nothing will engage in it. Now, in this they are greatly mistaken, for farmers rank among the first-classes for intelligence and judgment, with a very few exceptions. But to the question.

Here is a certain Mr. A. He goes to work in the spring on his farm; he half ploughs his land, half manures and half plants it; then in hoeing time he half hoes it. What is the result? It is this: when he comes to dig his potatoes, he only gets half a crop; that don't suit; he grumbles and whines over it terribly, and says that "He can't see for the life of 'im what ailed them pertaters why they didn't grow better." Now which is to blame, the man or the farm? Of this you may judge for yourselves; but one thing is certain, farming of this sort "don't pay."

Let us take another case. Here is a Mr. B. He goes to work and carefully prepares his ground, and endeavors to do all in his power to insure success. What is the result, allowing the season to be a fair one? It is this: he gets a good crop, one that sufficiently pays him for all his work and something over. Does not farming of this sort pay? To be sure it does not pay so large dividends as a successful mercantile business would, neither does it enable him to become a millionaire; but it pays him good fair wages, sufficient to enable him to live in comfortable circumstances.

But some people will say, "Look here; here is a man that is a mechanic, he gets from \$2 to \$3 a day; don't that pay better than farming?" Well, at first glance, it seems to appear that it would; but let us look a little further. You say that he gets \$3 a day. Well, to do this, he has got to work; and, mind you, it is work, not play. And to get it every day he has to work every day, no matter what the weather is; for if the work stops the pay stops. If he happens to be sick a day, so much is lost. Then, more than all this, he has got to be under a master, and spend all his life working for somebody else. Then he has got to buy everything, or nearly everything that his family consumes. He can raise nothing—even if he has a small garden, that amounts to little—but he has got to buy everything; therefore, it will take the greater part of his pay to enable him to live.

Now how is it with the farmer? True, he has to work hard at times, but everybody has to do this. After he has got his seed into the ground, if he wants to lie still a day or a week he can do so; and in the meantime his seed is growing, and grows just as well as if he was at work. If there is a stormy day (and there are quite a number in the course of a year) he can sit in the house and read the newspapers, and lose nothing by it. Then he can raise nearly everything that his family consumes, his flour, if he wishes to, his potatoes, pork, etc., and not have to pay out a cent. Perhaps some will say, "Supposing everybody should go to farming, what then?" Why, they would get a living, anyhow, if nothing more; but if everybody should leave farming and take a trade, it would be a hard matter to get even a living. Don't think that I am running down the trades, for I am not, they are all necessary to wealth and comfort. There

is another thing in favor of the farmer; his farm is not liable to be swept away in a day and leave him penniless, as a merchant's fortune often is. But to come to the point, farming is the backbone of all trades and crafts. Without it, ships would rot in the harbors, locomotives would rust on the rails. Now is it not as honorable an employment as that of a mechanic? Does it not pay as well, take it every way? No intelligent person will deny that farming is an honorable, profitable and paying employment.—*"G. H. S." in New England Homestead.*

Agricultural Paragraphs.

A correspondent of the Dubuque Times writing from Pocahontas county, says:—"The almost entire absence of timber in this part of the country has brought the farming community to see the necessity of setting out timber. The consequence is that thousands of acres of timber have been set out this spring in Northwestern Iowa, which in a few years will be very ornamental to the country, and also take the sharp edges off our prairie winds."

One of the most important principles established by Liebig, is the rotation of ammonia-collecting with ammonia-dispersing crops—that is, root and green crops alternating with cereals.

Stirring the soil frequently with an iron rake about all garden crops, cannot be too strongly urged. Let it be done frequently and well. Two thorough stirrings are as good as one rain, and when the rain comes the soil is in the best possible condition to receive it.

Novices commonly allow weeds to get several inches high before they think of clearing them out and destroying them. Now, the great secret of cheap and successful culture is to kill the weeds before they come up. Go over the bare surface of earth as often as once a week, and pulverize it thoroughly with a rake or skim-hoe. This will kill every weed just as it is starting, with less than one tenth the labor required to kill them when several inches high. Do it often and thoroughly.

The London Architect says that France has the largest number of landed proprietors in the world, as well as the most minute sub-divisions of the land. Corn cobs are an article of merchandise in request at Paris, and several New England firms gather them for shipment. After saturation with tar and resin they are used for kindlings.

A VERY GOOD COMPOST.

A very good fertilizing compost is manufactured by using the following substances according to the directions given. The mixture has been called "Leibig's great fertilizer," as it is stated that it originated with him. This is doubtful, but it is a very judicious and sensible combination nevertheless, easy to prepare and cheap. It will prove serviceable for corn, wheat, and the other cereal grains, and also for grapes:

This amount will do well, applied to one or two acres, and it will cost not far from \$10:—

1. Dry peat, twenty bushels.
2. Unleached ashes, three bushels.
3. Fine bone dust, three bushels.
4. Calcined plaster, three bushels.
5. Nitrate of soda, forty pounds.
6. Sulphate of ammonia, thirty-three pounds.
7. Sulphate of soda, forty pounds.

Mix numbers one, two and three together; then mix numbers five, six and seven in five buckets of water. When dissolved, add the liquid to the first, second and third article.—*Journal of Chemistry.*

GIRTH OF ENGLISH SHORTHORNS.

At a late Essex County cattle show the first prize short horn bull was 8 feet 10 inches in girth; the first prize short horn cow, four years old, was 7 feet 10 inches;

first prize cow two years old, 7 feet 4 inches.

CORN FODDER.

Mr. Alexander Reed, of Rockhaven, Clinton County, Pennsylvania, reports that his practice is to cut up his corn as late as he can, and avoid frost. After hushing, the stalks are bound and carefully shocked till cured, then stowed in barn. They are prepared for feed as follows:—

Each morning and evening the quantity needed is cut with a "power cutter," put in a tight box with a mixture of meal and bran sprinkled in; boiling water is then poured on, and the box closed with a tight lid, so as to shut in both heat and steam. That steamed at night is warm when fed in the morning, and that in the morning when fed in the afternoon. Mr. Reed states that, prepared in this way, the cows eat all the butts, and a ton will produce more and much better milk for butter than a ton of hay prepared in the same way.

A GOOD YIELD.

Mr. H. W. Wales, of Oakland, reports that a grade Durham cow owned by him, during seven days in the month of June last gave an average of 55 pounds of rich milk each day on pasture feed alone.

CROPS IN EUROPE.—Recent reports from Central Europe state the crop prospects are favorable. In Austria the crops are reported as very heavy. The abundant harvest in Europe will affect the price of American wheat.

Prospects of the Home Markets.

The reports of the crops in France are all promising. From all we can learn on the subject, the crops in that country have been unusually good, in fact the wheat crop is reported as being the best grown in that country for some years, and the breadth of land under this, the most valuable of all our cereals, has been much greater than usual. The consequence is, that France will have a large quantity of wheat for the supply of other countries during the coming season. France has, for some years, been unable to supply her own inhabitants with breadstuffs, and had to be an importer to a considerable extent. This, of course, had an effect on the English markets, and, as England draws her supplies so largely from America, American breadstuffs were in good demand, and brought good prices. The term American we use here in its true meaning, as comprehending the continent. Canadian markets are influenced by the markets of the home country; so that we are of the opinion that from present appearances, we need not look forward to very high markets. It is too early yet to form a definite judgment on the markets. Unforeseen circumstances may at any time effect the markets. From the proximity of France to England, and the rates for freight across the channel, the advantages are greatly in favor of the French producer.

The great fields of labour opened out throughout the Dominion, and the influx of immigrants will give us, at all times, a good home demand. A good home market is always best for the country. Manufactories, new lines of railway, additional industrial pursuits—these are our best markets.—*Ass't Ed.*

—The philosophic Billings graphically illustrates the difference between a blunder and a mistake:—"When a man puts down a bad umbrella and takes up a good one," saith Josh, "he makes a mistake; but when he puts down a good one and takes up a bad one, he makes a blunder."

—A little girl of five summers was the happy recipient of a velvet cloak, of which she was very proud. One day, soon after, she was discussing her dresses, their beauty, style, etc., when her mother, by way of nipping her vanity in the bud, said, "My dear, do you not know there are more important things to talk about than dresses?" Quickly she replied, "Oh yes, mamma, velvet cloaks."

Entomology.

THE ARMY WORM.

From Report of the Commissioner of Agriculture and Arts for the Province of Ontario, 1871:—

"This is another redoubtable foe that the wheat grower has to combat in many parts of the United States. The insect is very familiar to us here; we have frequently taken dozens of the moths by the process of 'sugaring' on a warm summer's evening. But, though abundant, we have never heard of its larvæ appearing in Canada as they do in the United States, in countless myriads, marching on in regular column and devouring everything in the shape of grain or grass that comes in their way."

REV. C. J. S. BETHUNE.

The following description of the insect is taken from the *American Entomologist*:—

"The eggs hatch during the early part of May, in the latitude of South Illinois and Missouri, and the young ones may feed by millions in a meadow without attracting attention; but when they have become nearly full grown and have stripped bare the fields in which they were born, they are forced from necessity to travel in search of fresh fields, and it is at such times that they first attract general attention. A curious instinct leads them to travel in vast armies, and as they are now exceedingly voracious, devouring more during the last three or four days of their worm-life than they had done during the whole of their previous existence, they are very apt to strip the leaves from the blade of grass or grain on their way. On the other hand they are attacked by at least five different parasites, and when we understand how persistent the latter are in their attacks and how thoroughly they accomplish their murderous work, we cease to wonder at the almost total annihilation of the army worm the year following its appearance in such hosts."

"Furthermore, there may be influences at work, other than parasitic, which cause an increase or decrease in the numbers of this pest. It is a significant fact that almost all the great army worm years have been unusually wet, with the preceding year unusually dry, as Dr. Finch has proved by record. The year 1869, wherever they have appeared, forms no exception, for the summer of 1868 was unusually dry and hot, while 1869 was decidedly wet."

"The army worm, like all other insects, hatches from an egg, and this egg is evidently deposited by the parent moth at the base of perennial grass stalks. The worm varies but little from the time it hatches to the time when it is full grown. Some specimens are a shade darker than others, but on many thousands of specimens examined we have found the markings very uniform. When full fed, which is generally about four weeks after hatching, it descends into the ground where it forms an oval chamber and changes to a shiny mahogany-colored chrysalis. Sometimes it scarcely penetrates beneath the surface, but forms a rude cocoon under what dry herbage there happens to be on the ground. Then the worms vanish from sight very suddenly, and this sudden disappearance is as mysterious to those who have little knowledge of natural history, as was their abrupt advent."

"After remaining in the chrysalis state about two weeks, the perfect moth appears. The general color of the moth is light-reddish brown or fawn color, and it is principally characterized by, and receives its name from a white spot near the centre of its fore-wings, there being a dusky oblique line running inwardly from their tips."

"[This description and the circumstances attending their appearance correspond to the voracious insect that has destroyed Mr. Chalmers' barley. Last year, 1871, was unusually dry, and though this year is not wet, we only read of them here as

making havoc in his field, which is, he says, 'low, principally black muck,' and we may reasonably infer it is moist, thus affording them, though in a dry season, that moisture suited to their habits. Their mode of forming their retreat before changing into the chrysalis state teaches us how effectually they may be exterminated by burning, as we have suggested.—Ass't Ed.]

BIRDS AND INSECTS.

Dr. E. S. Hull, of Alton, Ill., is credited with having said that no bird was ever seen devouring any one of the ten or twelve most injurious insects. At the July meeting of the Alton, Ill., Horticultural Society, C. V. Riley, State Entomologist of Missouri, referred to this statement at some length.

"He is reported to have expressed himself as not blind to the faults of some birds, and he thought perhaps the Blue Jay, Crow, Blackbird, Red-Winged Blackbird, Robin, Golden Robin, Cedar bird, and Kingbird deserved to be classed as our enemies—although much might be said in favor of even these."

The statement attributed to Dr. Hull he pronounced incorrect, stating that the Quail devoured great numbers of Chinch bugs, especially in winter, and he believed the prairie chickens also ate the bugs.—The Baltimore Oriole, it has been proved, eats the Curculio. The Titmouse and Downy Woodpecker and other birds devour the Codling Moth. The Kingbird has been seen devouring the Rose Chafer and Cabbage worm. The Jay, American Cuckoo, and the Baltimore Oriole devour the Tent Caterpillar. The Canker-worm is eaten by different varieties of birds.

He said it was true that birds sometimes destroyed beneficial insects, but stated that most of the predacious insects—valuable to man because of their attacks on injurious insects—were defended from the attacks of birds by some disagreeable odor or other peculiar attribute.

LARGE BUT NOT VALUABLE YIELD.

The Whitewater, Wis., reports J. Griffin, of Palmyra, near that place, as authority for the statement that in one day he had picked from his potato field of four or five acres, two and one-half bushels of Colorado potato beetles. In one week he picked nine bushels by actual measure.

Poultry.

POULTRY-KEEPING AS A BUSINESS.

H. H. Stoddard, Hartford, Conn., writes: Poultry can be kept by wholesale, and at a great profit. Progress, always bringing about division of labor in every department of industry, will surely make poultry-keeping as a speciality quite a common pursuit, or at least as common as some other specialities in farming are, which were unknown a few years ago. The practical establishments are now few, and in the earlier stages. There is a lack of successful precedents to serve for guidance, so that the task of planning and managing such an enterprise demands altogether more thought and skill than is needed in ordinary farming, manufacturing, or mercantile business. Money has been lost in attempting this pursuit in almost every county in the northern seaboard States within the past twenty years. In most instances that we have investigated, the causes whereby the enthusiasts came to grief were the very greatest amount of labor required and the prevalence of crop among the adult fowls and of "mortality" among the chickens. By this last we mean a tendency to "kick the bucket" without any apparent disease, the real cause being a dearth of insect fuge—the trouble when many chicks are pastured upon a small area. A common mistake is to look to the raising of chickens for their flesh as a chief branch of the business. But eggs are more profitable, except in case of early chickens and fancy fowls, which are not staples, but stand in the same relation to the main business of the market poulterer that early potatoes, for instance do to the main potato crop of the country. The market will also be better supplied with poultry than with eggs, for the super-numerary young cocks and old hens yearly turned off always keep that side ahead of the

egg department, and therefore fresh eggs will continue, as now, the most profitable labor considered. Labor is so high in this country that it is of the first importance. To reduce it to the minimum, keep principally the non-sitting breeds. The amount of trouble they cause is surprisingly little compared to a lot of fussy, contrary "chickens." All the laying stock should be (with the exception of those set apart to lay eggs for the hatchling) forced from the beginning to the quickest growth and greatest laying, and killed at from 16 to 20 months' old. The flocks should consist of 30 to 50 birds; in larger flocks laying is checked, and in the care of smaller ones labor is increased. Dry-pulverized loam, placed several inches thick in the houses in winter, and the use of movable buildings, with no floors, in summer, secures perfect cleanliness with the utmost economy of work. Cleaning floors every day or two would be a fearful outlay of labor, and if cleaned hourly they would not be in as good a condition as when covered with dry earth. The houses must be placed on a ridge or terrace of earth to secure dryness, if there are no floors. A ditch for surface drainage during heavy rains should surround every poultry house and yard. We would have no yards, however, if attempting to raise for the food market. There is no such thing as a cheap yard. But if food is to be raised cheaply, the fixtures must be cheap. A yard made of inch slat-work, with substantial rails and posts, takes a great deal of lumber. If an attempt is made to dodge the outlay by using lath and a frail sort of posts and horizontal rails, March winds and September gales make playthings of all such burles, and make the owners wish they were anywhere but flat upon the ground or swaying or bedding in disorder. How can the flocks be kept from mixing without inclosures? is the question we fancy is heard on every side by those who care enough by this matter to have followed us thus far.—Go to a country farming village, where the house and barns of each individual on a well-peopled street are about six or eight rods off from those of his neighbors on either hand, and you will find that flocks of fowls can be kept year after year without mixing with those adjoining. This is because fowls, like children (when the proper native bashfulness of the latter hasn't had its edge worn off), dislike to associate with strangers. Adjoining flocks must be strangers, to commence with, and must not be fed together, and they will not mix any more than will oil and water. We have kept four distinct flocks on less than two acres of ground, with no yards, just to prove what could be done.

These rambling remarks are written very hastily, and contain an imperfect account of "what I know about" poultry. For a full and thorough treatise on poultry farming, I refer to the articles upon the subject by Mr. H. Van Denschoten, in *The Poultry World*. That an average fowl produces more than enough to pay for the food it consumes, is a fact proved over and over again where accounts have been kept. How to so systematize operations that when many hundred head are managed, the cost of buildings and attendants shall not devour the margin of profit, is by no means a despicable industrial problem, but one worthy of careful study.—*New York Tribune*.

Progress in Canada.

A fine steamer, intended for the pioneer boat of a new line between St. John's, N. B., and Boston, has just been completed at the port first named.—*Canadian Illustrated News*.

LUMBERING IN THE OTTAWA VALLEY.

The total amount of timber passed through the Ottawa slides and cleared between the 20th July and 1st August, or ten days, amounts to 69,093 pieces, which, if taken at an average of 50 cubic feet each, will give the enormous quantity of 3,454,650 cubic feet, or in round numbers, nearly three millions and a half. If a statement of the number of sawlogs which have arrived for the Chaudiere mills during the same period could be obtained, it would add very largely to this amount.

TRADE OF THE DOMINION.

By far the greater part of the commerce of the Dominion is carried on with Great Britain and the United States. Of our total exports of \$74,173,618 shipped last year, we sold \$24,850,925 to Great Britain and \$32,984,652 to the United States. The importations into the Dominion are also principally obtained from the same two great nations, the mother country, however, selling us considerably the larger share of our purchases. The remainder of the annual trade of the Dominion is carried on with the West Indies, British, Spanish and Danish, Newfoundland and Prince Edward Island, France, Germany, South America, Spain, Belgium, China, and about twenty other countries, to the extent of something like twenty millions of dollars.

MONTREAL.

The *New York Bulletin* calls attention to the significant relations of the exports of grain from the United States and from Canada. It shows that Montreal is now the second commercial city on the continent. She has forty-one regular steamers plying to Europe, and her receipts of grain have risen from 6,750,000 in 1860 to 16,000,000 in 1871, while New York, even with reduced canal tolls, scarcely maintain the position of a dozen years ago.

COMMERCE OF ST. JOHN, N. B.

For the year ending 30th June, 1872, 939 vessels, making a total tonnage of 102,896 tons, and carrying 4,376 men, cleared from St. John, N. B., with cargoes for British and foreign ports.

Ship building is being carried on with much vigor in the Lower Provinces. We learn from the Halifax papers that several new vessels have recently been launched, and more will be ready before long.

The shipping of coal at Caledonia is brisk, and bids far to treble the largest quantity shipped there in any former year. Three vessels lately launched at the Glasgow and Cape Breton Company's pier, contained machinery of over the value of £30,000 sterling.

OUR EXPORTS OF DAIRY PRODUCE.

The increase which has taken place in our exports of dairy produce during the last few years has been marked and striking. In no other department of agriculture has there been such a rapid expansion—a fact for which we are largely indebted to the numerous cheese factories, and the result flowing therefrom, which have been established in almost every part of the country. Up to as late a period as 1864-5, we were large importers of cheese. In 1861 we imported 2,152,000 lbs., and in the year 1864-5, just aided to, our importations were 2,530,950 lbs. The great change which has since taken place will at once be seen by placing side by side our exports and imports of cheese during the last two years:—

YEAR.	IMPORTS.	EXPORTS.
1869-70.....	59,494 lbs.	3,827,784 lbs.
1870-71.....	66,475 lbs.	8,271,439 lbs.

These figures indicate a complete revolution in this branch of our trade, and we are happy to perceive that, in the kindred article of butter, there has been a large increase in the amount of our shipments to other countries. Our importations of butter may be said to be nil, for they have dwindled down to from ten thousand to five thousand pounds annually, a quantity so trifling as not to be worth consideration. In order to show the rapid increase in our production of butter, we append the following statement as our exports for several years prior to confederation:—

1860 we exported.....	5,512,500 lbs.
1861.....	7,275,427 "
1862.....	8,905,578 "
1863.....	7,053,808 "
1864 (1/2 yr).....	1,030,655 "
1864 5.....	6,941,063 "

The progress which we have made will be appreciated when we state that our exports in 1869-70 amounted to no less than 12,259,887 lbs., and for the last year for which we have the returns (1870-71) to 15,439,266 lbs.

The number of cheese factories in Ontario is about seventy, and their production of cheese close upon five and a half millions of pounds. Quebec has also a considerable number of factories, more particularly in the Eastern Townships, and they are steadily on the increase. Although gratified by recent progress, there is no good reason why the annual value and quantity of our dairy products could not be still more largely expanded. It is one of the best paying branches of farming when properly managed, whilst it tends to check that unwise system of our cropping which has been so general and so disastrous to Ontario farmers. With proper encouragement the Dominion may easily double its present exports, both of cheese and butter, before the close of the present decade.—*Monthly Times*.

RAILWAY TRAFFIC.—The traffic of the different railways in Canada shows a steady increase from month to month. Returns for June indicate an expansion of total traffic receipts in every case over the corresponding month of 1871. The Northern receipts for the month amounted to a total of \$86,357, against \$76,699; the Midland, \$34,782, against \$32,881.

The follow making, as p at the presen Gentleman: The produ essentially there is th ever: For c the quantity Cows must b purposes, th quality of f treatment of milk in both soon after m From this the milk to butter, we m possible, and not allow it t feet the rest will rise. It is still a the cream ris But it is cr-t of vessel, if The tendenc pans and in l There is n cooling the m atmosphere prevents the and making f tial to develo The temp lowed to go l We would n for butter, an keep it at C churning is a the latter for ther, ma-ing as the proper may require The cream sh sour, if a go care should l get too old Sweet cream but the yield well. The best been determ been present have been an dash cream causes the milk. Some that it is the cream. Cert sary. Forci agitating it but it injures some m thod cream alike, once, and of thod yet dev sides, corner much churni yield, and m a half hour Where the change sou larger, but i therefore, in churn with. If the but arates freely will be requi less it is wor got out and i is better to v much without butter m k the flavor an is asserted th indefinitely s not be produ salt must l quantity use from one-hal of butter, go entirely b be used to and water i lose its flavo Butter fa are becomi cream they or calves, and make t make skim there is but

The incre ducts, both been steady milk produ dents such

Stock and Dairy.

BUTTER-MAKING.

The following condensed exposition of butter making, as practised by our best butter makers at the present time, we copy from the Country Gentleman:

The production of milk for butter making is essentially the same as that for cheese making. There is this difference to be observed, however: For cheese, we must look principally to the quantity of casein in the milk; for butter, we must consider the yield of cream entirely. Cows must be selected accordingly. For both purposes, the same care as to cleanliness, quality of feed, purity of water, and gentle treatment of the cows should be observed. The milk in both cases needs to be aired and cooled soon after milking.

From this point, quite different handling is required. For cheese, we constantly agitate the milk to keep the cream from rising; for butter, we must set the milk to rest as soon as possible, and not only avoid all stirring, but not allow it to be even jarred. The more perfect the rest, the more completely the cream will rise.

It is still a subject of debate as to whether the cream rises better in deep or shallow dishes. But it is certain that it will rise in either kind of vessel, if all the other conditions are right. The tendency is toward setting milk in deep pans and in large masses.

There is no dispute as to the propriety of cooling the milk, or of keeping it in a moist atmosphere and in a light room. Moisture prevents the cream from drying on the surface and making flaky butter, while light is essential to develop the color so much desired.

The temperature, it is asserted, may be allowed to go lower for butter than for cheese. We would not allow it to go below 55 degrees for butter, and believe it would be better to keep it at 60°. The best temperature for churning is admitted to be between 60 and 65°, the latter for cold and the former for hot weather, making a mean temperature of 62 to 63° as the proper point. Possibly different dairies may require a slightly different temperature. The cream should be allowed to become slightly sour, if a good keeping quality is required, but care should be taken that the cream does not get too old and seriously injure the flavor. Sweet cream makes the best flavored butter, but the yield is smaller and it does not keep so well.

The best method of churning has not yet been determined. Many patent churns have been presented to the public, but none of them have been an improvement on the old-fashioned dash churn. There is some dispute as to what causes the separation of the butter from the milk. Some say it is the concussion; some that it is the incorporation of the air with the cream. Certain it is that agitation is necessary. Forcing air through the cream while agitating it makes the butter separate quicker, but it injures the quality. What is wanted is some method that will agitate every particle of cream alike, making the butter all come at once, and of the same texture. By every method yet devised, there is some cream at the sides, corners or ends, that does not get so much churning as the rest. This lessens the yield, and makes the quality uneven. At least a half hour should be consumed in churning. Where the milk is churned it is allowed to change somewhat. The yield of butter is larger, but it contains more casein, and is, therefore, inferior. More power is required to churn with.

If the butter comes firm and solid, and separates freely from the milk, but little working will be required to expel the buttermilk. The less it is worked the better, if the buttermilk is got out and the salt is evenly incorporated. It is better to wash the butter than to work it too much without; but whether worked or not, the buttermilk must be expelled, or it will injure the flavor and the keeping quality. Indeed, it is asserted that pure butter will keep almost indefinitely without salt. But such butter can not be produced by the ordinary process. So salt must be added to make it keep. The quantity used by our best butter-makers varies from one-half to one ounce of salt to one pound of butter. Some salt considerably higher and go entirely by the taste. Enough salt should be used to convert the remaining buttermilk and water into brine, or the butter will soon lose its flavor and become rancid.

Butter factories, as well as cheese factories, are becoming popular. Some skim all the cream they can, and then feed the milk to hogs or calves. Some skim only the night's milk, and make the milk into cheese. A very few make skim-milk cheese, for which, however, there is but a very limited demand.

FACTS IN DAIRYING.

The increase in the demand for dairy products, both in this country and in England, has been steady through a series of years. The milk product per year is little affected by accidents such as have an influence on other crops;

and the dairyman's lands also improve from year to year. The system of associated dairies, (suggested first by Jesse Williams, of Rome, in 1850) in spite of the enormous production it has thrown upon the market, seems to have built up a demand faster than can be supplied. Formerly this country exported butter, but of late it is all consumed at home, and the price is higher than in London. The export of cheese has increased but little since 1861, but the home production has increased from 103,000,000 lbs. in that year, to 249,000,000 in 1899, an average annual increase of about 13,000,000 lbs.

In making fancy butter, there are three essentials, color, texture and flavor. The color must be a rich golden yellow; the texture, firm, tenacious, waxy; and that nutty flavor and smell which imparts so high a degree of pleasure in eating it. Butter of the very highest quality will bring one dollar a pound readily. A Philadelphia maker who receives this price gave Mr. J. B. Lyman these facts as to his management: He feeds on clover or early mown hay, cuts fine, moistens, and mixes in corn meal and wheaten shorts; feeds often and a little at a time; uses no roots except carrots; keeps his pastures free from weeds; keeps the temperature of the milk room at about 58°; skims clean; stirs the cream in the cream pot; churns once a week; just before the butter gathers he puts a bucket of ice-cold water into the churn; in working he works out all the buttermilk without the use of the hand, absorbing the drops with a fine linen cloth wrung from cold water, and at the second working handles delicately with fingers as cold as my be; salts nearly an ounce to the pound; packs in one pound balls.

An important point in cheese-making is to keep the temperature at 70°, as nearly as possible. The variations of the seasons have an important effect—that of 1839 was particularly favorable. That of 1871 was unfavorable, as was that of 1868 in England. An invention which would regulate the temperature of factories at 70° would be of great value to the dairy interest.—Homestead.

HOW TO MAKE A CHEAP CELLAR-BOTTOM.

In sections of the country where there is an abundance of cobble-stones, collect a few loads of them about four or five inches in diameter, grade the bottom of the cellar, lay the cobbles in rows, and ram them down one-third their thickness into the ground, so that they will not rock or be sunk below the line of the rows by any heavy superincumbent pressure, such as the weight of a hoghead of molasses or tierce of vinegar. The bottom of the cellar should be graded so that the outside will be at least two inches lower than the middle. A mistake sometimes occurs by grading the cellar-bottom in such a manner that the centre will be two or three inches lower than the outside. When this is the case, should water enter from the outside, it will flow directly towards the middle. A straightened board should be placed frequently on each row of stones as they are being rammed, so that the upper sides may be in a line with each other. After the stones are laid and well rammed down, place a few boards on the pavement to walk on; then make a grouting of clear sand and water lime, or fine marble cement, and pour it on the stones until all the interstices are filled. As soon as the grouting has set, spread a layer of good cement mortar one inch thick over the top of the pavement, and trowel the surface off smoothly. In order to spread the mortar true and even on the surface, lay an inch board one foot from the wall on the surface of the pavement, stand on the board, and fill the space with mortar even with the top of the board; after which move the board one foot, fill the space with mortar and trowel it off smoothly. Such a floor will cost less than a board floor, and will endure as long as the superstructure is kept in repair.

A floor made in the foregoing manner on the ground in the basement of a barn, a pigery, or a stable, would be rat proof, and would be found cheaper and more serviceable than a plank floor. The work should be done in the former part of the growing season, so that the cement may have sufficient time to become dry and hard before cold weather. Industrial Monthly.

DIFFERENCE IN MILK.

That the cream of different cows, when mixed, does not produce butter at the same time, with the same amount of churning, has been fairly illustrated in the family of Mark Hughes, West Grove, Pa., recently. They had an Alderney heifer in a good flow of milk, and an old cow, a stripper; their cream, when worked together, in was observed, did not make butter enough for the bulk of the cream. The buttermilk looked rich, and seemed to collect a cream upon it. They put the buttermilk in the churn again, after having the butter first come and make about five pounds. They churned two or three pounds more butter in the churn, showing that the heifer's cream had made butter first, and that the cream of the old cow needed more churning.

ADVANTAGES OF THROUGH-BRED OVER COMMON STOCK.

A correspondent of the American Live Stock Journal says: "No man can properly estimate the advantages which will accrue to the farmer by keeping good in preference to poor stock. In 1831, my father removed from Bourbon county, Kentucky, to this (Vermilion county). At that time there were very few Short-Horns in the State; but we had an English stock of cattle even then—the Teeswater and Longhorns. My father, when he came to Illinois, brought twenty-one cows and heifers, said to have been the finest herd of cattle which up to that time had ever crossed the Ohio river at Cincinnati. The produce of this stock gradually spread all over this part of the country, and certainly made a grand improvement on the common stock. Then land was worth \$1.25 an acre, and we could afford to raise common stock, and with a free and unlimited range, and corn at ten cents per bushel, we could afford to raise common stock. But now our farms are worth from \$60 to \$100 per acre, and we are compelled to resort to better stock. When the interest on one acre is \$10, and it takes two to two and a half acres to graze a two or three year old steer, we must have the best stock to secure a reasonable compensation, and cannot afford to fool away our time on mongers. There is a vast difference between the compact massive Short Horns or their grades, and the leggy, lathy steers with which the country abounds. The former will come in one year earlier for market, besides bringing a better price, because they have in regard to meat in the right place, and of infinitely better quality. I have heifers at two years old which weigh 1450 pounds, and some a little under two years which weigh 1300 pounds, and have cows which weigh from 1900 to 1986 pounds, (this last being Jessie Hopewell.) Now, no one can approximate such weights, in such time, with common stock; and even for beef purposes, if a man is going to raise cattle merely for beef, it will pay handsomely to provide himself with thoroughbred stock.

ASHES AS A CATTLE FEED.

One of our substantial subscribers, in a recent conversation, gave his experience in training neat stock affected with the habit of eating wood, chewing bones, &c. His cattle were one spring affected this way; they became thin in flesh, refused to eat hay, and presented a sickly appearance. He had no impression that their food lacked the constituents for making bone, but his neighbours used bone meal without noticing any good results whatever. At last, he put about four bushels of leached ashes in his barnyard, and threw out to them about a shovelful each day. They all ate as if with evident relish. After turning them out to pasture, he put one peck of dry ashes per week on the ground in the pasture. They ate all up, and gnawed off the grass where it had been lying. The cattle began to improve, gaining flesh and looking better than they had done for several years. He says this morbid appearance was unnoticed years ago, from the fact that the ground was new and ashy from the burning of the woods and land clearings. Lately he gives one quart of ashes mixed with the same quantity of salt to twelve head of cattle, about once a week.

Horticultural.

SOIL FOR POT PLANTS.

Any one intending to keep plants in the house the coming winter should have a pile of earth getting ready for use. A very good plan is to cut sods in early summer, and pile them up in the garden or back yard; on this heap I throw all the suds and waste water from the house, and when it gets dry, I soak it with water from the well or cistern, so as to cause the sods to rot. People passing by ask me what is that big mound in the garden. I tell them that is plant-food of the very best kind. Have a pile of manure, and also soak that well so as to rot it, and prevent burning dry. Then in the fall I will collect leaf mould from the woods, mix the rotten sods, manure, mould, and some sand together, chop the mixture as fine as possible, and run it through a sieve to take out all the lumps, sticks and unbroken stuff; and if plants won't grow and flourish in that soil, there is no use trying. The older the sod heap is, the better it becomes, for then the grass roots get completely rotted, making a rich, light, open

soil, in which the plants delight to revel. Any one that has kept over one pot-plant knows that common unmanured soil soon becomes hard with frequent watering, so that fine, delicate roots cannot push through it well. So if you want your plants to grow well, give them good food. This mixture is splendid for flower-beds and borders; although too late for this season, it would be well to remember the operations for another year. Mix up a heap of suds, manure, and leaf-mould now, soak it with suds and water through the summer, leave it out all winter, and it will be fit for use next spring.—E.C.

SEEDS FOR MULCHING.

All know how the soil in flower-beds becomes packed by frequent watering in hot weather to keep the plants in good growing condition, and that it is not always convenient to stir the ground every day to keep it open. So some resort must be had to mulching, or covering the ground with something to keep the moisture from escaping. Dry leaves, manure, straw or hay are mostly used for this purpose; but these are often unsightly, especially in front yards, the observed of all observers. This season I have used sods, skimmed thin off the surface and turned upside down among the growing plants. Have plunged pots into the ground containing carnations, roses and others, covering the pots with inverted sods, and they do not require near so much watering as if left bare, and there is not the appearance of a straw heap around them. Strewing the ground with grass, hay or rotted manure is liable to seed down the flower-bed with noxious weeds—the dislike of every careful and tasteful gardener.—E.C.

THE CURRANT.

This excellent fruit is so easily propagated and so universally met with, that it very seldom receives that attention that it merits. There is no more healthy fruit than the currant; some that we may enjoy for a longer time, and some more agreeable to the palate. In the early summer, when other fresh fruits are almost unknown, we know something of its value in the pie and tart. Throughout the entire summer, when every fruit at all in season is so highly relished, none is more acceptable and none more highly prized by the good mistress of the household. On through the whole of August, and even later still, we may have its bright red and white berries as an ornament to our gardens and a luxury on our tables, especially as regards the black currant, which is the latest. And currant preserves, jams, wines and jellies are among the most precious stores of the prudent housewife. Black currants preserved either as jam or jelly is invaluable in the chamber of sickness. There is nothing better for the chest, lungs and lumbago. A careful cultivation of the border or bed planted with currants will repay the owner manifold.

We give from an exchange the method of a correspondent in cultivating his currants:

"About fifteen years ago, I received as a present cuttings of the following varieties: White Grape, White Dutch, White Crystal, Cherry Mays, Victoria, Large Red Dutch, and Black Naples. After planting in the usual manner, I took particular pains to cultivate them well. Every spring, the ground has been top-dressed profusely with ashes, leached and unteached, well incorporated with the soil under and around the bushes, and has been kept from grass and weeds. Immediately after this application they are mulched with barayard or chip manure. The result has been that I have never failed of a large crop of the finest and largest fruit, and entirely free from the worm. Near these bushes (perhaps 16 rods away) I have some of the old common varieties, which have not been similarly treated, but left to take care of themselves, and, as a consequence, they are nearly destroyed by the worms, the leaves during the past two summers being entirely destroyed. I have come to the conclusion, therefore, that the larvae of the currant worm lie dormant during winter in the ground near the bush they intend to attack the next season, and that mixing wood-ashes with the soil destroys them. I do not profess to be an entomologist, but I certainly arrive at no other conclusion. I am now growing quite a number of bushes in the tree form, namely, one bush only in each place, six feet apart each way. The advantages consist of easier cultivation, easier gathering, and larger and finer fruit."

attention to reports of grain in Canada. It is the second crop. She has forty-trope, and her 6,750,000 in the New York, scarcely main-ago.

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PRODUCE.

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EXPORTS.

3,827,784 lbs. 8,271,439 lbs. complete revolu-ide, and we are e kindred article e increase in o other countries. e may be said to e own to from ten ds annually, a e worth com- the rapid in-utter, we append our experts for ration:— 5,512,500 lbs. 7,275,427 " 8,905,578 " 7,053,868 " 1,030,655 " 6,941,063 "

ve made will be that our exports less than 12,239, for which we 15,439,266 lbs. ries in Ontario ir production of a half millions of considerable num- particularly in the y are steadily on atified by recent e reason why the of our dairy pre- largely expand- ing branches of aged, whilst it e system of our s. With proper onion may easily both of cheese of the present de-

e traffic of the shows a steady th. Returns for of total traffic re- the corresponding chem receipts for total of \$86,357, 1, \$34,782, against

PLASTER AS A SPECIAL MANURE FOR STRAWBERRIES.

The place is near South Pass, Union Co., Ill., on a high, dry ridge. Soil is very finely comminuted, highly silicious loam, for years in cultivation without manure, and pretty thoroughly worn; too poor to raise corn; not capable of raising a crop, as proved by trial, producing but a meagre show of stalks and nubbins.

Knowing it would not be worth the labor of setting in strawberries without special care, I had it subsoiled with a Mapes subsoil plow, which follows in the furrow of a common plow and lifts the subsoil without turning it on top, the whole worked fourteen or fifteen inches deep. Plants set in spring, as soon as plowed, and a very little rotted barnyard manure added on the surface after the plants were set. More would have been better.

I applied land plaster at the rate of half a table-spoon full to each plant.

They were set in rows three and one-half feet apart and fifteen inches in the row. Rows four feet apart is a better distance. Kept clean with cultivator and hoe. What few runners appeared, cut off. As the season was dry, they were set late, and didn't make much progress. One year after they were set out, a second application of plaster was made, rather less than before; would have also applied

barnyard manure had it been obtainable. Cultivated as before, and this season, 1870, they make a splendid growth, runners well clipped; and the following year, 1871, or two years from time of priming, was rewarded with the finest yield probably ever seen in that section.

The whole quantity of land as measured was one acre and nine tenths, (1 9-10.) Of this amount, about one-half an acre did not receive as good treatment as the balance, and produced comparatively less. It probably did not yield more than twenty bushels.

The whole quantity produced 242 6-10 bushels.

Variety is Wilson's Albany. The bed was not properly cultivated last year, and a full yield is not expected this season, but might have been got from it with good attention.

At the same time plaster was applied to a piece of corn of six acres. The yield was largely increased, both in size of stalks and ears. Not being there at the time of the gathering, no reliable figures as to the amount were obtained.

To those who are not familiar with the use of plaster I would say, its best efforts are apparent on light soils and those much worn, and to have a continued good result, manure must also be added, or the land will stimulate into a splendid.

As a means of renovating worn lands, with the aid of clover, it is very valuable. Sow clover and stimulate its growth with plaster; sown lightly broadcast over it, and when fully grown, turn it under. This may be done late enough to make the clover re-seed the land, and when it is anew the following spring, plaster again. There is no way as cheap as this to renovate old land, or to improve the quality of good land.—*Cor. Prairie Farmer.*

PREMIUMS OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

The Directors of the Association offer the following prizes for the year 1872:—

1. AN HONORARY MEDAL to the originator of any new fruit, which, having been thoroughly tested, is found to be worthy of being placed among the fruits of its class for cultivation in Ontario.

2nd. The sum of FIFTY DOLLARS for the best new Canadian seedling, late winter apple.

THIRTY DOLLARS for the best Canadian seedling, harvest apple.

All these to be at least equal to the old popular varieties now in cultivation. Not less than two dozen specimens of the fruit must be sent when in condition for examination to the President of the Association, Rev. R. Bennet, Hamilton, accompanied by a letter

setting forth what, in the opinion of the sender, are the excellencies of the fruit sent, whether for cooking or for the dessert, &c., &c., also stating the origin of the tree, if known, its vigour, hardihood, productiveness, and the like.

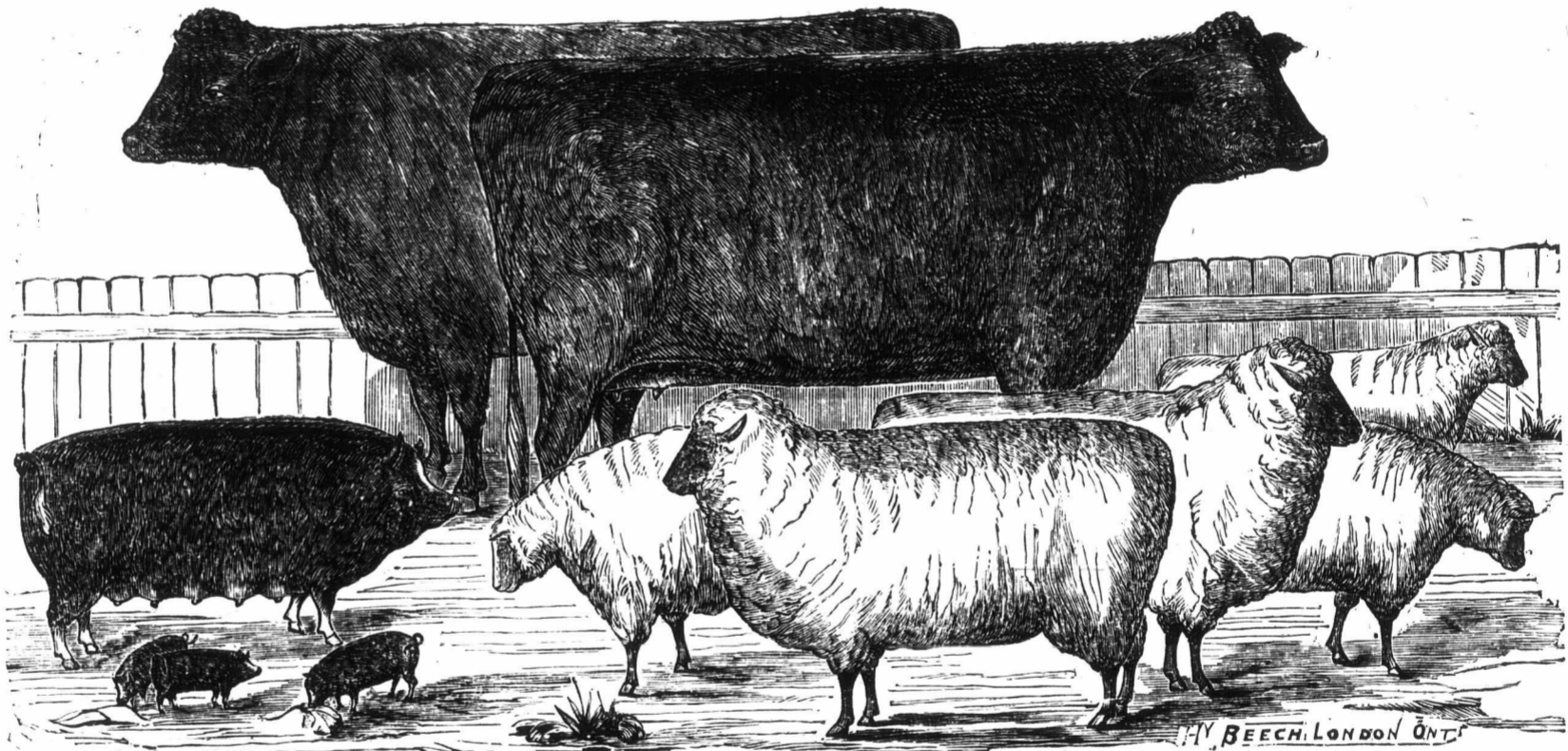
3rd. The sum of TWENTY FIVE DOLLARS for the best essay on the cultivation of the plum, including a short description of the varieties which the writer has grown and his opinion on the merits of each.

FIFTEEN DOLLARS for the second best essay thereon.

4th. The sum of TWENTY-FIVE DOLLARS for the best essay on mildew of the gooseberry and the grape, with drawing of the appearance of the mildew in several stages of development, as seen under the microscope by the writer.

FIFTEEN DOLLARS for the second best essay thereon. Each essay must be forwarded to the Secretary, D. W. Beadle, St. Catharines, on or before the fifteenth day September, 1872, and bear a motto, and be accompanied with a sealed note having the same motto indorsed on the outside, and containing within the name of the author of the essay.

5th. To any person sending to William Saunders, Esq., London, transportation prepaid, five thousand of the plum curculio in the



Group of Southdowns, Galloways and Berkshires, the Property of H. E. Irving, Esq., Hamilton, Ont.

beetle state, the sum of TWENTY DOLLARS; or sending three thousand, the sum of FIVE DOLLARS. The Treasurer will pay these sums to any person furnishing him with a certificate from Mr. Saunders, stating that he is entitled thereto.

[We would wish the directors, after the award of the prizes, to publish the lists of the competitors successful, and unsuccessful. A word to the wise is sufficient for them.]

Horticultural Notes.

Sulphozone is the name of the preparation that has been found most effectual for the destruction of mildew and blight on grape vines, hops, and roses. Sulphozone contains much free sulphurous acid, and common sulphur sometimes is altogether free from this acid, and is therefore worthless.

A hyacinth, the *Hyacinthus candicans*, lately introduced into England from South Africa, bears a flowering stem nearly three feet high, decorated with a score of massive, pure white pendent bells.

The Harbinger Pea has a certificate from the Royal Horticultural Society, as being the earliest pea grown, also for its enormous pods which are the largest of all the early sorts.

Seedling Deodars grow faster and make handsomer trees than those produced from grafts or cuttings.

Mulching is recommended for peas and potatoes. Any kind of short grass laid between the rows will answer. The mulch on a dry soil is the best labor saver, and always increases the crop.

An experienced fig-grower recommends figs planted in pots and then plunged into the ground, as the best method of growing this plant.

It is said by an eminent rose-grower that *Dupuy Jamain* is a variety that every rose-grower ought to have. It stood among the very first at the Birmingham exhibition.

Among the new cucumbers that are recommended, the "Marquis of Lorne" stands very high as an excellent variety.

Myatts' Prolific is the potato that is recommended by the English gardeners as the best for an early crop.

The *Revue Horticole* commends seven varieties of the Maple from Japan, which have been introduced and found perfectly hardy in the vicinity of Paris. The beauty and elegance of the Japanese trees are beyond description.

A friend recently called our attention to a new curculio cure. He has a peach tree over which a hop-vine climbeth, and the curculio, he says, always avoids that tree. We have always had our doubts about the curculio being scared by any smell, however nauseous, since the days of the great gas-tar remedy, when we saw curculio trave'ing over dry gas-tarred boards. Our friend, however, is so sure the hop vine is a full protection, that we are willing to record what he says, although we cannot but recollect that the gas-tar man was quite as sure once as he is now.

AMONG THE ROSES.

From an article on Roses, by D. W. Beadle, we cull the following extract:—

In this varying climate of ours, a climate of such great extremes, where the winter's frost penetrates the uncovered earth to such searching depths, and the scorching July sun pours down upon the soil with such intense power, the lover of roses will have resort to constant mulching. A muck of six inches in depth, winter and summer, will prove of lasting benefit. It should be formed of well decom-

posed manure, brought chiefly from the cow stable, and spread on the surface of soil, over the entire bed devoted to the roses, to the depth of four inches, and over this may be spread in fall a covering of coarse straw—little to the depth of two or three inches more, in the month of June, covered with grass freshly cut from the lawn or meadow. Such a muck will prevent the frosts from penetrating the soil to any great depth in winter, and will enable the roses to resist the destructive power of the drying frosty winter winds, and come forth in spring time in full freshness and vigor. And in summer, such a mulch will keep the roots cool and full of sap, when the sun is pouring in his mid-day fervor upon the parched ground, and the rapid evaporation that is going on at every leaf pore will be constantly and abundantly supplied.

Mr. Irving's Farm.

We paid a visit to Mr. Irving's farm, and were much pleased with his stock.—Perhaps the most remarkable and useful hint to record was the following:—When

we entered Down sheep of 24 bells, used so many purpose of had found well if Cou present act dogs, by re quarter, or at least on

Mr. H. I. as one of Down she about 80 even, she been paid stock to b quite as sy seen in a stands pre thorough-classes of the pures are more carriage i The quali for culina their lar lambs of

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we entered the field containing his South Down sheep we were saluted by the music of 24 bells. We asked Mr. I. what he used so many bells for, and he said for the purpose of keeping the dogs away. He had found it efficient. Would it not be well if County Councils were to alter their present act of payment for sheep killed by dogs, by reducing the payment to half, or quarter, or nothing, unless the owner kept at least one bell on every tenth sheep.

Mr. H. E. Irving has long been known as one of the best breeders of South Down sheep, and his flock numbering about 80 head, are very uniform and even, showing the attention that has been paid to them in selecting the best stock to breed from, many of them being quite as symmetrical as any we have ever seen in a show yard. This class of sheep stands perhaps, in the same proportion as the thorough-bred horse does to the other classes of horses. They are considered the purest-blooded sheep; other classes are more or less mixed or crossed. Their carriage is more erect, and the ears set up. The quality of the wool is fine, the flesh for culinary purposes is unsurpassed, and their lambs mature quicker than the lambs of other varieties.

This class of sheep most probably will come into greater demand.

The great demand for combing wool has caused breeders to turn their attention to the Lincolns, Cotswolds, and Leicesters, yet there are many that prefer the South Downs.

Mr. Irving sold 14 South Down rams last year to a breeder in Colorado. The Galloway cattle have been too much neglected lately, partly, no doubt, on account of the enormous prices that have been realized from Durhams. It is a pretty well established fact that the Galloways will make a quality of beef unsurpassed by the Durhams, many say superior. They are considered a much harder class, and are excellent thrivers.

We were at Mr. S. White's (President of the Provincial Agricultural Association) farm a short time since, we noticed an animal like a Galloway; it was much sleeker than any of the other cattle, and we were so much struck with its superior appearance that we enquired as to its breed. Mr. White said it was a half-bred Galloway, that it fared just the same as the other cattle, but had thriven much better than any other in his herd, which consists principally of part bred Durhams. We do not pretend to say that in one breed all the superior qualities are combined; each breed has its advantages and disadvantages. All valuable breeds should be maintained in our country.

The above cut is intended to represent "Heather Bell" and "Bonny Bell," two fine Galloway heifers belonging to Mr. Irving, who has a very nice young herd of this class, and five shearling ewes from the flock of Southdowns. His stock of Berkshire pigs is really good and equal to any we have seen in Ontario. Mr. Irving, who is proprietor of the Royal Hotel, Hamilton, is about giving up one of his farms, and therefore must sell half of his present stock. His farms are near Hamilton, and any person calling at the Hotel would obtain any information they may require.

The Exhibitions.

THE THREE WEEKS OF AGRICULTURAL EXHIBITIONS AT HAMILTON, LONDON AND GUELPH.

The question that should suggest itself to us is: What improvements can be made to make our Exhibitions of greater benefit to the country than they now are? No one will pretend to say that perfection is obtained. We must all admire the improvements that have taken place, when we see so many and such really fine exhibitions as are now held in our midst. The foundations of these exhibitions have been laid for us; we are building on the plans of others.

Would it not be well to devote more of the evenings to discussions about agricultural affairs? The fruit growers generally

hold a meeting during the Exhibition week, and the bee-keepers also hold a meeting to discuss their plans. The delegates to the Provincial Exhibition from the counties, together with the Board, hold their annual meeting on one of the Exhibition evenings. This meeting is generally largely attended, but, strange to say, only one stereotyped question is ever brought before the meeting in which there is an interest or voice given; that is: Where shall the Exhibition be held the following year?

The hearing of the reports and the delivery of the President's address, together with the voting on the location of the next Exhibition, is about all that is done. These delegates are sent to the Provincial Exhibition at considerable expense to the county societies, and when they are at the meeting only one question is submitted, and only one meeting is held. Would it not be well to devote more evenings than one to discussions? Are there no other subjects on which such a large and influential body of gentlemen might express their views?

Would it not be well to take the views of these gentlemen in regard to the establishment of the Agricultural College? whether they believe such an institution would be of advantage or disadvantage to them; or, in fact, would it be worth its cost? Would the importation of stock by the Government interfere with our present stock breeders' establishments? Is the agricultural information spread throughout the country correct or sufficient for the requirements of the people? Would it be of advantage if the Government would grant loans to individuals at a low rate of interest for the purpose of draining their farms? Is the new Canada Thistle law practicable or of use? Can any improvement be suggested on it or in regard to the extermination of the plant? Should stock be imported into Canada during the prevalence of the Cattle Disease in Europe, or would a quarantine farm be of advantage?

Discussions in regard to cereals, modes of cultivation, &c., might be advantageously brought forward. We hope some of our readers may take up the above subject and send in their opinions. We do not ask you all to agree with our remarks; condemn if you choose, but we hope to have more communications from you, now the harvest is over. Do not be afraid of expressing your views through the paper; that is what this paper is for. You speak to many thousands, and your remarks, if beneficial, will pretty surely fall on good ground somewhere.

Every farmer should devote at least one day to either of these Exhibitions, if they are living within driving distance. Do not think the money is lost that is expended in such a way.

The ladies should also attend, and by all means let the boys and girls have an opportunity of seeing what the country can produce. One day given to the young to wander through the different departments of the Exhibition will do them more good than a month's hard ploughing at school. By all means let them go.—Boys and girls, ask your parents to take you or let you go yourselves.

Fruit—A Timely Hint.

We see from our exchange papers that the fruit crop in England this year is one of the worst ever known. Many of our readers have good fruit fit for shipment. We believe you will find it will pay better if you provide barrels and hand-pick your fruit in time to put up only No. 1 quality. There will be money made by some who engage in the shipping of fruit this year. It is a business that will be opened to a greater extent this year than ever before. The prices in England offer a very wide and handsome margin for profit. We believe it would pay better than editing this journal, but we are in a treadmill and must work our way out of it. Some of you that are looking around for a spec. to make a few dollars, just turn your attention to the fruit crop and compare prices here and in England.

The Elections.

We are pleased to say, are at length nearly all over for the Dominion Parliament.—The long-continued excitement has very materially interfered with our business—not that we have taken an active part in it, but at each and every place we have been for some weeks past the minds of nearly all were so agitated or absorbed by electioneering, that other businesses were, to a greater or less extent, neglected. We hope that if we have another election in the busy harvest season, it will be completed in one week throughout the Dominion, as it has very materially interfered with our obtaining and giving as much information as we otherwise would have done in regard to Fall Wheat.

OUR POSITION.

We asked our readers which course we should adopt to maintain the ADVOCATE on its safest foundation. The reply from the majority was in conformity with the views on which we first commenced, viz.: to keep the ADVOCATE independent of party, and that it should be conducted independent of party politics. We believe that by so doing we can always make the ADVOCATE a more effectual instrument for promoting the interests of agriculture and agriculturists. Strong temptations were laid in our way to induce us to turn aside from this unbiassed course, but we resisted temptation and refused even to give our support for either party.

We would again refer to a subject that we lately brought before you—a FARMERS' ADVOCATE joint stock company. If any of you be willing to be shareholders in this company, and have a voice and influence in the management of the only true FARMERS' ADVOCATE, and non-political and non-sectarian or party paper in the Dominion, it would add to the usefulness and influence of the paper to have a Board of Directors, gentlemen actuated solely by a desire for the improvement of agriculture and the prosperity of the country, and to have the paper independent of party and party politics. The shares might be put from \$25 to \$100, each shareholder to vote personally or by proxy at the election of Directors in proportion to the amount of stock taken. No payment for stock taken to be required until the company be thoroughly and properly organized. The first and leading object would be to improve the paper, extend its influence and maintain its independence. We would like to hear from you on the subject.

Were this object accomplished we could then devote our time and energy more to the testing and disseminating of seeds, and the general business of the Agricultural Emporium.

Our correspondent "Rambler," writing to us from the Eastern Townships, says:—Potatoes look well, and they have no appearance of the Colorado bug; but while they are exempt from this pest, they have an insect that is almost as bad, one that I never saw before: it is a black bug or fly (as it has wings); it is in myriads on the potatoes, and eats them as bare as the Colorado bug; but the heavy rains this year appear to have drowned them.—In our American exchanges we meet with an account of the same bug. Paris green will be equally as effectual in destroying them as the other.

Good Health.

SALT RHEUM REMEDY.

Several years since I was very much afflicted with salt rheum. I procured such roots as dandelion, burdock, red clover, both root and tops, a little blood root, a very little mandrake, sarsaparilla, some black maple leaves and a little prickly ash bark. These were boiled until the strength was extracted, and then the liquor was boiled down so as to be quite a strong syrup. It was then sweetened with loaf sugar, and enough Bourbon whiskey added to keep it from turning sour. This taken

three times a day, a teaspoonful before each meal, effectually cured me, and I have never had salt rheum since. One need not have all the above named ingredients unless convenient; the sarsaparilla and red clover, with burdock and dandelion, would alone make a good syrup.—*Farmer's Wife, in Rural New Yorker.*

DYSPEPSIA REMEDY.

Camomile flowers, one ounce; one quart cold water; put in at night and it is fit for use in the morning. Dose, one wine glass a day. When the bottle is about half used, fill it up again. The patient will be cured before he has used many bottles.—*Home and Health.*

LEMON SYRUP.

When lemons are abundant and cheap, it is a good plan to purchase several dozen at once, and prepare them for use in the warm, weak days of spring and summer, when acids, especially citric and malic, or the acids of lemons and ripe fruit are so grateful and so useful.

Press your hand on the lemon and roll it back and forth briskly on the table to make it squeeze more easily, then press the juice into bowl or tumbler, never into tin; strain out all the seeds, as they give a bad taste. Remove all pulp from the peels and boil in water, a pint for a dozen pulps to extract the acid. A few minutes boiling is enough, then strain the water with the juice of the lemons, put a pound of white sugar to a pint of the juice; boil ten minutes, bottle it, and your lemonade is ready. Put a tablespoonful or two of this lemon syrup in a glass of water, and you have a cooling, healthful drink.

FRUIT JAMS.

Boiling fruit a long time, and skimming it well without the sugar and without a cover to the preserving pan, is a very economical and excellent way—economical because the bulk of the scum rises from the fruit and not from the sugar, if the latter is good, and boiling it without a cover allows the evaporation of all the watery particles therefrom; the preserves keep firm and well flavored. The proportions are three-quarters of a pound of sugar to a pound of fruit. Jam made in this way of currants, strawberries, raspberries or gooseberries is excellent.—*Cor. Germantown Telegraph.*

NECESSITY FOR THICK SOLES.

The bottom of the boot for summer should be of the medium thickness, but if anything, rather thicker than thinner, so that the surface of the sole of the foot be thoroughly protected from the ground and stones.

The disadvantage of a thin sole is that it produces callosities at the bottom of the foot, at the parts corresponding to the bones where they are attached to the nails. The hard part of the foot is produced by the chaffing of the skin, which at the sole of the foot is very thin. This skin has to resist every pressure of the foot between it and the sole of the boot, which is always hard, and the bones every time the foot touches the ground. Hence it hardens at every one of the toes. It follows that one has more fatigue or inconvenience from pressure with the same amount of walking when the sole is too thin. For this reason we require for summer boots a thick sole.

For winter boots we require that the sole should be very thick. A thick double sole or clump will be found best. As all the parts of the sole are made of leather, not liable to ruck or hollow under pressure, the insoles should not be of leather entirely impervious to water, or rather perspiration, for if they are, the dampness of the foot will feel cold, and by this remaining for days, the result will be chills, swellings of the throat, glands, and other maladies incident to boyhood.—*Moniteur de la Cordonnerie, Paris.*

Two communications have just arrived as we go to press, too late. They will appear in next issue.

The Song of a Summer.

I picked an apple from off a tree,
Golden and rosy and fair to see—
The sunshine had fed it with warmth and light,
The dews had freshened it night by night,
And while the mornings were soft and young,
The wilds circled and soared and sung;
There in the storm and calm and shine,
It ripened and brightened, this apple of mine,
Till the day I plucked it from off the tree,
Golden and rosy and fair to see.

How could I guess, 'neath that daintiest rind,
That the case of sweetness I hoped to find,—
The innermost hidden heart of the bliss,
With dew's and wind's and the sunshine's kiss
Had tended and fostered by day and night—
Was black with mildew and bitter with blight,
Golden and rosy and fair of skin,
Nothing but ashes and ruin within?
Ah! now again with toil and pain
Will I strive the topmost bough to gain,
Though the wind-swung apples are fair to see,
On a lower branch is the fruit for me.

—Scribner's.

Youth and Age.

BY ANNA B. AVERILL.

O day so gray, you could not chill me,
In that sweet time, far off and fair,
Though loud winds shrieked and echoed shrilly,
And wild rains washed the woodlands bare!
Though sodden fields stretched cold, unvaried,
And birds flew south on weary wing;
For in my happy heart I carried
The hope and promise of the Spring.

O day so gay, you cannot thrill me!
Your light and perfume, shower and song,
Your bloom and brightness, only fill me
With old-time memories, sweet and strong.
I do not bid your swift hours tarry,
I do not hasten at your call;
For in my thankful heart I carry
The joy and fruitage of the Fall.

—The Atlantic.

The Apiary.

WHEN BEES WILL NOT STING.

It was a matter of conjecture why the bees did not sting. They certainly did show great respect for the literary visitors, and passed unnoted the pugilistic manifestation of some of the timid gentlemen. One lady, viewing the handling of the bees from a safe distance, believed they must have been tamed, else the smoke would not so easily subdue them. This idea seemed to be rather general among the party; and, indeed, many persons prefer to purchase a domesticated swarm, rather than procure one from the forest that has never been under man's control—believing that, by so doing, they will get more tractable bees, or, in other words, educated swarms. However common these beliefs may be, they are incorrect. It is well known, by those who are acquainted with the habits of this insect, that, when filled with honey, it will rarely sting—the load of honey seeming to render it so docile that, unless irritated, it has no desire to sting. And another fact is known: that, when frightened, a bee will seek to fill itself with honey. The whole secret of handling bees with impunity lies in taking advantage of these two instincts, namely:—1. A bee, when alarmed, will fill itself with honey.—2. And, when filled with honey, it will seldom sting, unless provoked by rough handling or unkind treatment. Therefore, in order to subdue bees, some means are employed, previous to handling them, to induce them to fill their sacks with honey from the stores in the hive; and, having accomplished this, the operator can proceed with safety, providing his motions be slow and quiet; jarring up the combs and hasty motions they always feel disposed to punish. In this instance, smoke was the means employed to attain this result of rendering the bees tractable, and would have succeeded as well with a swarm never before handled. The smoke was produced by lighting a piece of wood that was sufficiently rotten, so that in burning there would simply be a smouldering fire in the wood. This smoke alone, however, would not suffice to subdue the insects; but, after the removal of the honey-board, the puff of smoke that was blown into the hive alarmed the few bees that had been attracted to the top by the slight noise made in lifting off the cap of the hive, and they hastily communicated the intelligence of danger to the other inmates, and more smoke caused them all to rush to the honey cells, when we then had a swarm that was under control, and those unacquainted with the habits of the bee were disposed to attribute their ready subjection to a previous course of taming.

Some bee-keepers stupify their swarms with chloroform, previous to investigating or dividing them; but such a process does not recommend itself to the intelligent bee-keeper, who believes that success can only be attained by a judicious use of a knowledge of their natural habits and

instincts. He does not consider intelligence and common sense as wasted when applied to this pursuit. Such a person, while walking among flowers that are being visited by numbers of these busy workers, does not feel timid in the least, for he knows that the bees consider the flowers as common property, and never sting when from home, save in self-defence.

As persons acquaint themselves with facts concerning the honey bee, they have much less of that fear which arises mostly from ignorance, and, like a commander when well-informed of the characteristics of the enemy, they acquire greater confidence in the presence of these insects that have such powers of giving both pain and pleasure.—*Western Farmer.*

THE HONEY CROP.

Mrs. Tupper, in the *State Register*, says that bees in Iowa usually store large quantities of honey in September, and advises bee-keepers to hope for a late supply to make up for the deficiency of the early part of the season. She says:—"Already the buckwheat is showing its delicate blooms; these rains have insured an abundance of smart weed, golden rod and astors, which will bloom till frost; and those who are prepared to take honey from their bees in a sensible way, will have no reason to complain of a poor season at its close."

Orchard and Forest.

LOW-TRAINED FRUIT TREES.

Mr. D. B. Wier, of Lacon, Ill., published an article in the *Prairie Farmer* of June 29, in which he asserts with great positiveness that apple and pear trees trained low, that is, down to the ground or within eighteen inches of it, will bear vastly more fruit than if trained high. He says that apple trees will bear from four to twenty times more on account of low training, and pear trees from four to one hundred times as much.

He also says that the blight will not seriously injure such trees, and that they will never need much pruning or thinning out of the limbs to let in light and air; that they will bear earlier and better fruit, and that too much pruning has so injured the trees of certain popular varieties of apples, that the varieties have fallen into disrepute, when they are among the best in cultivation. To enable him to prove his statements (which include many more than we have quoted), he invites everybody to visit his place and be convinced.

We doubt whether Mr. Wier can establish his statements to the extent claimed by him; and yet we are not among the admirers of high trained fruit trees. The common reasons for high training is that of convenience alone, with no sort of relation to the nature or habits of the tree, or to the question whether its fruitfulness is or is not affected by it. The most common reason for it is that the branches may be out of the reach of cattle or horses—as if fruit trees were not of sufficient importance to be grown by themselves.

Another reason is that the limbs shall not be in the way of cultivation—another very poor reason of itself, which will appear manifest if we remember of how much bearing capacity we have deprived the tree merely to cultivate a little space which, with the tree branched to the ground, would need little or no culture. Thousands of these persons who insist on high training are shocked at the idea of pruning a grape-vine, because it "interferes with the natural habits of the vine;" but they can see nothing wrong whatever in fighting the nature of an apple, a pear, or absurdest of all, sometimes even an evergreen tree! We have no fear about opposing nature sometimes, but there should be good and substantial reasons for it.

There is one powerful reason against high training which Mr. Wier does not bring forward, which is the increased danger to both the tree and its fruit in a high wind. A tree with a massive head at from eight to twelve or fifteen feet above the ground, stands to the wind in much the same relation that a sloop or ship would with her sails all aloft merely to make it pleasanter for passengers and crew to move about the deck!

The operation of planting a tree at all is an unnatural one in one sense; and in addition, to denude it of its lower limbs, and then expect it to support a top which is top heavy, and that its roots can readily establish themselves against our violent winds without causing it to incline one way or the other, is a presumption possible only to men who do not think very closely. We shall be glad to hear of the two systems being thoroughly tested as to fruitfulness, longevity and profit, all things

considered; and while we are hardly sanguine enough to suppose that the difference can be what Mr. Wier claims it is, still we have little doubt but that the result will be in favor of low training.—*Country Gent.*

PARIS GREEN—THE CODLING MOTH.

I am glad to notice that the use of Paris Green can now be recommended for the destruction of the Colorado potato beetle and other insects, without some jackass with a title warns people against its use as dangerous to human life and ruinous to the quality of the potato, as has formerly been the case when Paris Green was mentioned. The potato grower will undoubtedly have occasion to use this poison so long as the beetles remain with us, and I think they can surely be considered permanent residents and always ready in the spring to go for the young potato plants as soon as they appear above ground. It is well therefore to know the best way of meeting the enemy.

The smallest possible quantity of poison that can be used and be effectual is of course the best. I see that the usual proportions recommended is one pound to twenty of flour. This is unnecessarily strong—if flour is used, one to thirty or forty is sufficient. The past and present season I have mixed the green with plaster, one pound to sixty or seventy—applying it freely when the vines are dry—and find it effectual; besides, the application of the plaster is so beneficial to the potatoes as to pay the expense of the material and labor involved in applying it.

I use a two-quart can with the bottom perforated and a bail two and one-half or three feet made of three-eighths half round iron with the round side turned in and rivetted to the can. With this the mixture can be put on without stooping or inhaling the dust. Apply as often as necessary, and bear in mind that every application benefits the crop.

Any insect which feeds on the leaf of plant or tree can be destroyed by this mixture, and if ever I should be visited by the canker worm, I should fasten the can to a pole and give the trees an application of the poisonous mixture and see how they liked it, and am inclined to think their numbers would be less before they had done with the tree.

The codling moth is busy and spoiling most of the apples in this vicinity. I find in the last six weeks I have entrapped uncounted numbers in diluted vinegar, put in shallow cans or vessels and hung in the trees. A few mornings since, I hunted over thirty millers in one can, where the vinegar had been renewed the day before.

We are suffering immensely in this vicinity for the want of rain, as our showers for the last two months have been light. G. N. S. Berlin, Wis., U. S.

THE RED ASTRACAN APPLE.

In the report of the Fruit Grower's Association of Ontario, the Red Astracan Apple is thus spoken of:—"This Apple was first brought to England, from Sweden, in 1816, and from thence it has been scattered abroad; in course of time crossing the Atlantic, until it has become an established variety throughout the apple regions of America. Yet, true to the instincts of its Northern home, it refuses to give forth its excellencies beneath the unclouded skies of Southern latitudes, too coy to yield to the wooing of their balmy breezes. But in our stern climate, it finds itself at home; its ruddy cheeks glow with the brightest blushes, when kissed by the rough winds of the North; under our clouded skies, and to our chilly air, it yields its fine aroma and richest juices.

The fruit is exceedingly handsome, the color being a rich, deep crimson, beautifully heightened by a light white bloom spread over the surface. In size, it is above medium in our climate, very smooth and fair, also, the flesh white and juicy, with a fine, rich acid flavor. It ripens during the month of August, not all at once, but in gradual succession, and may be used as a culinary fruit, but its true place is at the desert, where it pleases the eye with its beauty, and the palate with refreshing flavor. It sells readily in our markets, taking precedence of every other apple of its season, and could doubtless be sent with profit from Canada to the markets of New York or Chicago.

The tree has proved itself to be exceedingly hardy, a vigorous and erect grower, bearing while yet quite young, and very abundantly. It flourishes in nearly all parts of Canada, and, even here, the fruit is, if anything, of better flavor, in the colder, than in the warmer districts of the country, being more juicy, and not so liable to become mealy as soon as it is a little over ripe. It can be safely recommended to every planter as a variety that is well worthy of a trial, even in the most unfavorable locations, and one that will very rarely fail to give entire satisfaction.

The New York *Agriculturist* expresses astonishment at the excellence of Canadian fruit, and the extent and variety of the fruit production of this country.

FOWLS AND ORCHARDS.

The public have yet to learn the full advantages of keeping poultry. Few seem to appreciate what they may do among trees in an orchard. Let any one try them in an orchard of a quarter of an acre, where they may be kept by a picket fence four or five feet high; put in, say 125 fowls, and observe the result. They will avoid annoyance in the garden, of which so many complain, while they work among the trees, doing just what is needed, and destroying everything that can injure the fruit trees, in the shape of bugs, worms or other insects, and lay a large number of eggs, which are a cash article, to say nothing of the chickens, which pay well for raising at the present time. I have tried it, and know it is so. I have about 100 fowls which have worked admirably among my trees, keeping the ground in good condition, keeping off the insects, and promoting the growth of the orchard. I am satisfied that we have yet to learn the full benefit which may be derived from the proper management of fowls; and it is quite possible that the method I have suggested may offer the best way of getting our apple orchard in good bearing condition.

THINNING FRUIT.

Whenever we tell a friend he should thin his fruit, he talks about the curculio, the codling moth, the birds, and the boys, and "guesses there will be thinning enough before the season gets through." This is true in its way. Whenever these troubles exist to any great extent, it is not of much use to grow fruit at all. But there are some who do not leave all their gardening to insects and vermin—some who dispute the right of these pests to interfere at all, and wage war, successful war against them; but even they do not half appreciate the value of thinning their fruit.

The evil of overbearing is particularly apparent in dwarf pears and grapes. As a general thing there is rarely a grape vine but would be benefited by having half its bunches cut away, and some of the fruit bearing dwarf pears might have from one-third to one-half. The grapes may be cut away as soon as they can be seen; but the pears should be left until somewhat grown, as they often fall after they are pretty well advanced. It not only helps the size of the fruit but is a gain to the future health of the tree.—*German-town Telegraph.*

THE APPLE TREE BORER.

Having seen a great many remedies and a great many plans for destroying the apple tree borer, and none of them very satisfactory, suppose I give a case of actual knowledge of my own. My neighbor put out an orchard of fifty trees. They were four years old from the graft, and as they had not been very well pruned in the nursery, pruning was done at the time of transplanting. The trees started all right in the spring, but alas, the borer! The trees were punctured from root to branch, and took on the usual sickly appearance. The owner concluded to try an experiment, for it was nothing but death anyhow, so he prepared a whitewash as follows: fresh slacked lime and coal oil sufficient to make a good whitewash, and put it on with a brush from root to branch, or as high as the borer had been working. This has proved a perfect success, for the trees cast off their sickly appearance the same season, for I examined them the same fall (the whitewash still on them) and I think I never saw more healthy and vigorous trees.—*Ec.*

SNOW IN MAINE.—A few days ago a party of gentlemen from this city went fishing in Maine, a hundred miles or so north of Portland. On Friday past the heat was almost intolerable. That day the party left on their return. After riding a few miles they engaged in a game of snow-ball, at a drift of enormous dimensions. The drift in question was seventy-five feet high when it formed in the winter, and it bids fair to last the rest of the summer.—*New York paper.*

Agricultural Items.

PLOWING TWICE FOR WHEAT.

A correspondent of the Cincinnati *Gazette* writes:—If anyone will break his ground deeply and thoroughly two or three times during the spring and summer the extra amount of wheat per acre will pay for plowing, and leave a handsome profit besides. I have tested this practice several times, with the most satisfactory results. In 1868 I had a field of 16 acres of like fertility. I expected to plant half of the field in corn, but for some reason I did not. In the half that had been plowed for corn after the ground had been broke, the weeds grew more rapidly. Consequently I broke it again the 20th June. On the 1st of September following, I plowed the entire field, and sowed in wheat. The result was as follows:—The half which had only received a single plowing yielded per acre 13 bushels and 18 pounds; the half that received breakings yielded per acre 23 bushels and 40 pounds, which made a difference of more than 10 bushels per acre. At one dollar per bushel this would pay for the extra plowing, and leave a net extra profit of six dollars per acre besides.

VALUE OF NIGHT SOIL.

Liebig reports that in the fortress of Rastadt and in the soldiers' barracks of Baden, generally, the privies are so constructed that the seats open, through wide funnels, into casks fixed upon carts. By this means the whole of the excrement, both fluid and solid, is collected without the least loss. When the casks are full they are replaced by empty ones. The farmers about Rastadt and other garrison towns having found out by experience the powerful fertilizing effects of these excrements upon the fields, now pay for every full cask a certain sum (still rising in price every year,) which not only has long since repaid the original outlay, besides covering the annual cost of maintenance, repairs, &c., but actually leaves a handsome profit to the department. The results brought about in these districts are highly interesting. Sandy wastes, more particularly in the vicinity of Rastadt and Karlsruhe, have been turned into smiling corn-fields of great fertility.

THE SUBSOIL PLOW.

A correspondent of the Cincinnati *Gazette* writes:—It should be used in the spring, following in the furrow of the breaking plow, and loosening the soil six or eight inches deeper. The breaking plow should turn the soil up six inches deep, making the entire loose ground twelve or fourteen inches deep. A crop of corn is best to grow on the sod; and the effect of subsoiling will be seen in the crop by the time it is two feet high. The heat of the sun and the exposure of the soil to the air, together with the presence of the corn roots, prepare the subsoil for turning up to the surface. The following spring, the field should be plowed so as to place one-half of the subsoil on the earth's surface. At the next plowing all this loosened subsoil can be turned to the surface. By this process the soil and subsoil are mixed, and the latter becomes naturalized to the raising of grains. In breaking up the last two times, care should be taken of course not to plow when the soil is too wet.

RAID OF GRASSHOPPERS.

A correspondent of the Boston *Journal* writes as follows from Oxford, N. H.:—In the lower part of this town the grasshoppers are making great havoc on the grass, grain, corn, &c. For a space of about one and one-half miles square they are destroying almost everything. Clover is trimmed up all but the heads, oat fields look like fields of rushes coming up to the height of 16 to 18 inches, without leaf or head. In wheat fields the leaf is eaten and the kernel eaten out. These hoppers move back and forth two or three times a day. As we were looking at a field a day or two since, the whole section where we were looking became almost alive. The hoppers began to move to some other field. At night the fences are black, and in spots in the field where they congregate at this time they may be gathered in large quantities.

The Perth *Courier* thus speaks of the grasshoppers in Lanark:—“We regret to learn that the grasshoppers are on the war path in some parts of the rear townships of this county, and are committing wholesale depredation among the grain and hay crops. An eye-witness informs us that between the 5th and 7th lines of Lanark township he observed countless numbers of the destructive insects in the fields and on the fences along the road, holding a general picnic at the expense of the growing hay and grain. In some instances whole fields nearly ready for the mower or reaper, had been eaten down as close as sheep pasture.

INSECTS IN OHIO.

Secretary Klippord reports as follows in relation to insects in Ohio:—The Colorado potato beetle (*doryphora decemlineata*) is found in every county, but as a rule is doing very little damage, on account of the vigilance of the farmers. Hessian fly in many counties, and the weevil (*cecidomye tritici*) is again making its appearance, having come into the State in 1850 and disappeared in 1859.

THE SUGAR BEET.

The efforts to introduce the culture of the sugar beet in this country merits more encouragement than they have yet received, though there can be little doubt that this root will ultimately become an important product of our agricultural industry. At an agricultural meeting in Valenciennes, France, a few years ago, a triumphal arch was erected, bearing the inscription:—“The growth of wheat in this district before the production of beet root sugar was only 973,000 bushels; the number of oxen was seven hundred. Since the introduction of sugar manufacture the growth of wheat has been 1,168,000 bushels, and the number of oxen 11,500.” There is probably no crop that returns so much to the soil as this. Wherever its culture has been introduced in Europe, the product of wheat and cattle has greatly increased. The same results would undoubtedly follow its cultivation here.

IMPORTANT TO FARMERS.

An old farmer says, that now is the time to sow plaster on the turnips, or just as soon as the leaves pretty well cover the ground; and that wherever the article is used at least one-fourth more crop will be obtained, as his own experience has proved. Plaster is also a protection against the caterpillar, and if used to the extent of 100 lbs. per acre will prove very profitable. The same gentleman also suggests that turnips should be sown earlier in the season to protect them from the drouth and fly, much of the failure of this year's crop being caused by the former. The prevalent idea that early turnips do not keep well is an erroneous one, whilst the size and yield of the early sown root is greatly in advance of the late crop.

The Westminster Township Council at their last meeting, on the 3rd July, passed a by-law to authorize the pathmasters of that township to enforce the Statute for preventing the spread of Canadian thistles.

DIGGING EARLY POTATOES.

My Early Rose potatoes are ripe, and if I leave them in the ground during the hot, dry weather of August, they will be more or less injured, either from the high temperature of the soil, or, if rains occur, a partial second growth may injure the quality of the tubers. Taking all into consideration, I think it is best to dig them and spread in the coolest cellar I have, admitting all the air possible without light. From several years experience with the Early Rose, I have found it one of the very best potatoes for use in Spring as well as Fall and Winter, but one, like all the very early sorts, more difficult to keep through the latter part of Summer than in Winter, although no loss need occur, provided the tubers are carefully harvested when ripe and stored in a dry, cool place. —*Cor. Rural New Yorker.*

SUGAR BEET.

The California *Farmer* says:—The sugar beet crop belonging to the Sacramento Sugar Company looks splendidly, and the product will be very large per acre. They have one thousand acres in beets, in the bottom lands of the American river, in the lower end of Brighton township, and are cultivating them closely.

THE POTATO BUG.

A gentleman, addicted to scientific inquiry, has discovered that 33 days complete the cycle of the potato bug generation; that 700 of the critters are the average product of one female, from which the family grows in the second generation to 245,000, and in the third to 85,700,000. There are not ciphers enough in any existing type foundry to express the number in the tenth generation.

SYRIAN WHEAT.

The *Sonora Independent* says:—A new variety of wheat bearing this name has made its appearance in our market. Only a small lot has been offered for seed, which was bought at twenty-five cents per pound. The wheat was raised by R. M. Cheneworth, and weighs sixty-four pounds to the bushel, and is said to be so prolific as to yield eighty-four bushels to the acre. This wheat greatly resembles the “Hungarian wheat,” so popular in some parts of California about ten years ago.

CALIFORNIA WHEAT.

D. L. Williamson, whose ranch is located near Salisbury's Station, in this county, says the *Folsom Telegraph*, last year obtained a new

kind of wheat from the East, called the Soft Siberian. He sowed half a pound, which yielded two hundred and forty pounds. This season he put in five acres, which it is believed will produce not less than seventy bushels to the acre. This is an enormous yield, and the new wheat is creating quite an excitement among the farmers in the vicinity. The yield of ordinary wheat on the same land is thirty bushels to the acre.

CORN FORAGE.

Persons who condemn corn fodder as “innutritious,” and of no consequence, are invited by Paschall Morris to consider the ways of a prominent dairyman, “whose butter is excelled by no other in Philadelphia market,” and who “pretty much sustained 58 cows on sowed corn from the middle of last July to the middle of October, and that, too, from the product of three acres.” He estimates that he took 90 tons of this “innutritious” substance from the space indicated, and he knows that his cows did not fall off in their milk during these three months of drouth, but that some increased the flow, and that the butter was fully up to the standard.

CRIMEAN WHEAT.

A correspondent of the *Mass. Ploughman* writes that the farmers in Central Iowa are feeling very well over the fact that one of their number, during the visit of the Duke Alexis at Chicago, received a present of nine bushels of Crimean Wheat, which has been well sown and is now promising a good crop. This farmer is an educated German, and was a classmate of one of the aids of Alexis. This wheat was intended for the Agricultural Department at Washington, but owing to the little “unpleasantness,” it was diverted from its destination, and will be highly advantageous to the wheat growing farmers of the State of Iowa. The weight of this wheat is seventy pounds to the bushel.

Useful Recipes.

A GOOD CEMENT.

The following has been tested for cementing wood, iron, leather, glass, paper, and almost all kinds of household materials: Best isinglass, half an ounce; rub it between the hands until it breaks down into a powder, put in a bottle, and put as much common acetic acid to it as will just wet the mass through, stand the bottle in some boiling water, and the paste will dissolve and be fit to use at once; it will be solid when cold, but is easily warmed up the same as before. Leave the cork out when warming, or there is danger of bursting the bottle.

TO PRESERVE PEGGED BOOTS AND SHOES.

If pegged boots and shoes are occasionally dressed with petroleum between the soles and the upper leather, they will not rip. If the soles of boots are dressed with petroleum, they will resist wet and wear well. The pegs, it is said, are not affected by dryness after being well saturated with the liquid.

PREPARATION OF WHITEWASH.

Whitewash is one of the most valuable articles in the world, when properly applied. It prevents not only the decay of wood, but conduces greatly to the healthiness of all out-buildings, whether wood or stone. Out-buildings and fences, when not painted, should be supplied once or twice every year with a good coat of whitewash, which should be prepared in the following way: Take a clean, water-tight barrel, or other suitable cask, and put into it half a bushel of lime. Shake it by pouring water over it, boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly till thoroughly saked. When the slacking has been effected, dissolve it in water, add two pounds sulphate of zinc, and one of common salt. These will cause the wash to harden, and prevent it cracking, which gives an unseemly appearance to the work. If desirable, a beautiful cream color may be communicated to the above wash, by adding three pounds of yellow ochre; or a good pearl or lead color by the addition of lamp, vine, or ivory black. For fawn color, add four pounds of Turkish or American (the latter is the cheapest) — one pound Indian red and one pound common lampblack. For common stone color, add four pounds raw umber and two pounds of lampblack. This wash may be applied with a common whitewash brush, and will be found much superior, both in appearance and durability, to common whitewash.—*E.c.*

WATERPROOF GLUE.

The following is a good recipe for a very useful form of cement for wooden or other similar articles which are employed for holding

water or non-alcoholic liquids. Although the formula is not a very novel one, we know it to be useful, and likely to suit the requirements of some of our readers. It stands as follows: Alcohol (spirit of wine), one pint; sandarac, 1 ounce; mastic, 1 ounce; common white turpentine, 1 ounce; gule and isinglass, sufficient; water, sufficient. Dissolve the two resins—sandarac and mastic—in the spirit, and then add the turpentine to the solution. Make some very strong glue, and add to it a good pinch of isinglass. Now heat the alcoholic varnish until the liquid begins to boil, then very slowly stir in the warm glue. The amount of the liquid glue to be added is determined by noting the point at which, after thorough mixture, a magma or thin paste is formed, capable of being easily strained through cloth. When required for use, the strained mixture is to be warmed, and applied like ordinary glue to the articles to be united. A strong junction is effected, which is not destroyed by cold water, and only after a comparatively considerable time by hot water or ordinary saline solutions.—*British Journal of Photography.*

CURRENT WINE.

Wine can be made from currants of any kind, or all of them, but red currants are the best, and the wine improved with age. In using red currants, let the fruit be dead ripe—nearly ready to drop off, and be stripped from the stems. They should be picked when dry, and then spread for several hours, or even days, in the sun. They need not be washed, but all pieces of stems, leaves, or anything not a currant, should be assorted out. They can next be subjected to a pressure in a mill or press, but not pressed so much as to break the seeds, or a bitter taste will be imparted to the wine. The juice should be strained and put into a vessel large enough to hold an equal quantity of pure soft water; then to four pounds of this mixture add one pound of sugar, or a pound and a-half, “if a durable, sweet and strong wine is desired” half a pound will do when the wine is for speedy consumption. Let the liquor stand until some months after fermentation; then rack off into a clean cask, or bottle. Rack with great care, so as not to draw off the settlings. If bottled, rinse the bottles first with water and then with brandy, and draw from the barrel through a goose quill, in preference to a cock—though why does not appear. The wine had better be filtered before the bottling. Fill the bottles up to the neck, and not higher; then cork carefully, and there will be not so much danger of bursting.

Before being bottled, however, several rackings are recommended, to avoid the after fermentation, which may break the bottles.—*Wine and Fruit Reporter.*

Correspondence.

THE ARMY WORM.

The following letter from our subscriber, Mr. Chalmers, we received too late for our August edition. We could only reply to it briefly on its receipt, as we did:—

Parma, July 28, 1872.

Sir,—I enclose you some worms in this box. Would you be kind enough to inform me what they are. Are they the army worm I have read so much about? They have destroyed thirteen acres of barley for me this summer. They eat the leaf and cut off the head. The field is low, principally black muck. They eat the grass along the fences as well as the barley. I have raised very large crops of grain on the same field. I never saw any of them before this year. The ground is nearly covered with them. I would like very much to have your opinion about them. Would it be advisable to burn the field over.

I remain, &c.,

W. CHALMERS.

[The insect enclosed to us by Mr. Chalmers is indeed the terrible army worm, so well known in the United States as a formidable enemy to the farmer. It is not so much here; but we have known it in the township of Delaware, where they made their appearance in vast numbers, and they there destroyed one half of a field of oats belonging to Mr. Hammond. We advise their extermination by burning over the stubbles or weeds if the devourers have left enough for the flames to feed on. Some farmers dig long ditches in the ground, into which they put straw stubble, and any thing combustible, and after a

time setting them on fire. We would wish to know what effect Paris green would have on these destructive pests. With others of the insect pests it is very effectual. Would any of our farmer friends, who may have the opportunity, give them a good sprinkling with it, and let us know the result. In another column, under the head Entomology, we give the description of the army worm with further remarks.—Asst. Ed.

WHAT OUR SUBSCRIBERS THINK OF THE FARMER'S ADVOCATE.

SIR,—The FARMER'S ADVOCATE should cost twice what it does. I would not be without it.
Yours, &c., PETER BOFTAN.
Russell, August 13, 1872.

SIR,—I am much pleased with your paper. I always receive the FARMER'S ADVOCATE as a treat. It really is the FARMER'S ADVOCATE.
Yours, &c., HENRY WILLIAMS.
Manotick, Aug. 12, 1872.

SIR,—I like the FARMER'S ADVOCATE first-rate, and will take much pleasure in recommending it to the farmers in this vicinity.
Yours, &c., WM. SCOTT.
Manchester, July 17, 1872.

SIR,—I am exceedingly well pleased with the ADVOCATE, and had I known that a paper so well suited to the farming community was to be had, and at such a sum, I most certainly would have become a subscriber for it long ere this time, believing as I do that no farmer should be without it. I may possibly induce some of my fellow-farmers to subscribe, for I am almost positive that when they see the paper they can easily be induced to subscribe.
Yours, &c., JOHN PATTERSON.
Collingwood, July 28th, 1872.

SIR,—I tried a bushel of your Bresee No. 4 potatoes with a view to trying whether they were earlier or superior to Early Rose; the conclusion I have come to is they are neither. A party in this village gave them a fair trial. Four rows of each were planted side by side on the same day and received the same attention; the Early Rose were far ahead of the others. From what I have seen there is nothing yet to beat the Early Rose.
Yours, &c., THOS. MCCONKEY.
Lefroy, Aug. 21, 1872.

[Thanks to Mr. McConkey for letting us know the result of his experiments with the early varieties of the potatoes. We always insert such communications with pleasure. Bliss & Son, in their catalogue of seeds, say, in reference to Bresee's No. 4 (King of the Earlies):—"This is, without exception, the earliest variety in cultivation, having been carefully tested by many prominent agriculturists in various parts of the country during the past two years, and pronounced by them from five to ten days earlier than the celebrated Early Rose, and fully its equal in quality and productiveness, and general appearance." I have not myself had the opportunity of testing the qualities of this potato, but it is spoken of in high terms of commendation. The Early Rose we have planted for three years, and are perfectly satisfied with it. It is the best early variety I have met with west of the Atlantic.
Asst. Ed.]

SIR,—I am highly pleased with your paper. I would think myself lost without it. Success to the FARMER'S ADVOCATE. The crops four miles west of Guelph are the poorest I have seen in the last six years from the cause of dry weather.
Yours, &c., JOHN ELLIS,
Marden P.O., Guelph Township.
August 12, 1872.

SIR,—In remitting you the subscription for the ADVOCATE, I would say that I believe you have done more for the farmer than all the agricultural papers in the Dominion put together. I know I have received a great benefit from it as a farmer. Wishing you every success, I am, &c.,
WM. WHITAKER,

Veterinary.

TREATMENT OF DISTEMPER.

The treatment of a common scale of distemper, says the *National Live Stock Journal*, is very simple, and requires internal medicines only, when the fever is high, the mucous membrane much reddened, and the respiration difficult. In all other cases, but especially as soon as the cough has become loose and easy, the discharges from the nostrils thick, and the abscesses have been opened, a mercurial and dietetical treatment is quite sufficient. Respecting those we have to avoid any exposure of the patient to wet and cold, have to keep as much as possible a uniform temperature in the stable, and to give easy digestible food, such as bran mashes, milk, drier vat, carrots, and if it can be had, young grass and other green provender.

If there is considerable swelling beneath the jaw or in the throat, the horse should not be allowed to eat from the ground—consequently he should not be kept in the pasture—for that most likely increases the swelling. Food and water—the latter in the cold season a little warmed—must be put into the manger within easy reach of the animal. The application of a good fly-blisters on the swelling beneath the jaw, that is between the two branches of the lower jaw bone, hastens considerably the ripening of the abscess, which should be lanced at its lowest point, and, if possible, near the centre, as soon as the pressure of matter can be detected. Steam baths and all that kind of nonsense incommode the patient, and do a great deal more harm than they can do good. If internal medicines are required, a dose of tartar emetic, two scruples of salammonia, two drachms with a little licorice root powder, either mixed with a little water or made into pills, may be given to a full grown horse three times a day till the respiration has become less difficult, the cough easier, and the discharge from the nostrils thick.

WHIPPING HORSES.

I would caution all who train or use horses against exciting the ill-will of the animal. Many think they are doing finely, and are proud of their success in horse training, by means of severe whipping, or otherwise rousing and stimulating the passions, and then, from necessity, crushing the will through which resistance is prompted. No mistake can be greater than this; and there is nothing that so fully exhibits the ability, and judgment, and skill of the real horseman as the care and tact displayed in winning instead of repelling the action of the mind. Although it may be necessary to use the whip some times, it should always be applied judiciously, and care should be taken not to rouse the passions or excite the will to insubordination. The legitimate and proper use of the whip is calculated to operate on the sense of fear almost entirely. The affections and better nature must be appealed to in training a horse as well as in training a child, but if only the passions are excited, the effect depraving and injurious. This is a vital principle, and can be disregarded in the management of sensitive courageous horses, only at the imminent risk of spoiling them. I have known many horses of naturally gentle character to be spoiled by being whipped once, and one horse that was made vicious by being struck with a whip once while standing in his stall. I have referred to these instances to show the danger of rough treatment, and its effect may be easily produced by ill-usage, especially with fine blood horses, and those of a highly nervous temperament. Many other cases may be cited, as such are by no means uncommon. Sensitive horses should never be left a ter they have been excited by the whip or other means until calmed down by rubbing or patting the hand on the neck and giving a ples, sugar, or something of which the animal is fond. Remember, the whip must be used with great care, or it is liable to do mischief, and cause irreparable injury.—Exchange.

Youths' Department.

UNCLE TOM'S COLUMN.

This month I have a couple of stories for you, and a game and some puzzles, all contributed by FARMER'S ADVOCATE boys and girls. John Gibson, jun., of Markham sends answers to last month's Enigma, Acrostic and Rebus.—James Ryan, of Culloden, sends answer to Enigma. My niece May sends answers to Enigma and Acrostic, and also sends an original Double Acrostic and Miscellaneous Enigma. Well done, May; let me hear from you

again.—R. McGregor, Ailsa Craig, sends answers to Illustrated Rebus, Enigma and Acrostic. In the most friendly spirit I would mention to this last correspondent that if he desires to practise pea flourishes, he had better take another piece of paper, and not do so around his signature, as that is there for use more than for ornament.—Helen Thorncliffe, Berlin, gives correct answers to Enigma and Acrostic. Her answer to Illustrated Rebus is not quite right, as she will see by the answer below. I hope to hear from my niece Helen again, and I wish her to send me some puzzles or nice little stories herself.—J. B. Trawets, Princeton, has fairly puzzled me, and if I can find room in the next number I will let him puzzle you also. And now, my dear nieces and nephews, get to work, write some good puzzles or stories, and send them on to
UNCLE TOM.

ANSWERS TO RIZZLES IN AUG. NO.

ENIGMA—The Potato Bug.
ACROSTIC—August.
REBUS—Speak well of your friends, of your enemies say naught.

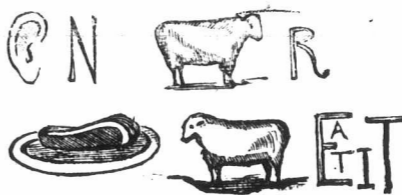
MISCELLANEOUS ENIGMA.

My 1, 11, 24, 8, is a bird.
My 16, 7, 3, 5, 31, is a kind of white calcareous earth.
My 33, 29, 24, 23, is a number.
My 24, 25, 26, 31, 4, 13, is a word often used in the Bible.
My 21, 19, 30, is a boy's nickname.
My 33, 2, 26, 9, 23, 25, is to lose the remembrance of.
My 16, 10, 2, 4, is opposite to heat.
My 28, 14, 15, 29, 12, is a species of dog.
My 17, 26, 6, 33, 15, 4, means skilful.
My 27, 32, 18, is a weight.
My 22, 32, 6, 16, is a character in music.
My whole was often repeated by Dickens in his "Advice to Boys."
MAY.

DOUBLE ACROSTIC.

1. A Northern State.
2. A river in Ontario.
3. Same as for 2.
4. One of the Southern States.
5. A city in Poland.
6. A town north of Toronto.
The initials form the name of a city, the finales the river on which it is built.
MAY.

REBUS.



One of my nephews sends the following story of "The Boy of the Period":—
A lady walking along the street was attracted by the bright eyes of a little urchin seated on the sidewalk. She asked if he was a newsboy? "No, ma'am, I ain't nothink." "Have you no home?" "No." "Wouldn't you like to have one?" "You bet!" "Would you like to have me for a mother?" The little fellow scanned her from head to foot for a moment, and then inquired, "Would you whip me?" "Not unless you were bad." "Let me go barefoot?" "No." "Pull the cat's tail?" "No." "Lick the puddin' dish?" "No." "Cuss?" "No." "Chaw tobacco?" "No." "Smoke?" "No." "Then go along with you. I reckon next you'd say a fellow shouldn't cross his legs and sing, 'Up in a balloon, boys!'" and the little fellow's face glowed with a look of ineffable contempt.

A fond mother sends the following cradle song, which has almost been too much for us, so we will spread the information:—
Inkery, pinkery, toe-toe!
Tooserv, poosery, shoe-shoe!
Hie to papa,
Kiss, kissy mamma—
Tckelty, pickelty, mamma!
We don't require any more like this for some time.

A friend from Chatham sends the following: This spring, when there was so much excitement about small-pox, a starchy-dressed individual called at an out-of-the-way shop, over which hung the sign of, let us call it, Dr. Jeffers. "Is the doctor in?" he enquired of a dilapidated darkey who answered his summons. "He am dat, sur!" was the reply. "Tell him I think I have symptoms of the small-pox, and wish to consult him." The whites of the darkey's eyes grew intense, and his dusky complexion assumed a creamy hue. "Golly, boss, what you say?" "Tell the doctor I'm sick with the small-pox, and wish to see him." The astonished African gave a wild leap, and, darting through an inner door, cried out:—"Leave dis yer house; I don't want no small-pox!" "But the doctor?" "Golly, boss, I see the doctor, but I ain't good at small-pox."

THE GAME OF "CHARACTERS."

One of the company is selected to leave the room. When he is out of hearing the others assign him a character. They agree, for instance, that he is to represent Benjamin Franklin. Then he is called in, and treated and addressed as though he was Franklin, care being taken to conceal from him the character which has been assigned him, as that is what he is expected to discover. For example, one asks, "Did you enjoy that loaf of bread?" in allusion to Franklin's walking the streets of Philadelphia eating a loaf of bread. Another asks, "Were you not afraid that people would laugh at you?" "The ladies still keep up that house-cleaning against which you made such a funny protest." "Did you feel badly when your mother didn't recognise you?" "There have been great developments in electricity recently." "We boys enjoy flying kites, too." "That document you helped to get up, is a brave old paper," &c. When he has finally discovered the character assigned him, the one whose question or remark led to the discovery leaves the room, another character is chosen for him, and the game proceeds as before.

London Market—Sept. 27.

White Fall Wheat, per bush.	\$1 20 to 1 25
Red Winter Wheat	1 25 to 1 25
Barley	0 40 to 0 50
Peas	0 45 to 0 50
Oats	0 34 to 0 37

Emporium Price List for Sep.

Carter's Patent Improved Ditching Machine.
Carter's Patent Improved Tile Machine.
Patent Stump Extractors, \$50, \$75, \$100.
Billington's New Empire Nine Rowed Seed Drill, \$70.
Little Giant Thresher, \$185.
Forfar's new Churn, Pride of the Dairy, \$450.
Churns, other varieties.
Improved Grain Crushers, \$30, \$35, \$40.
Made Leaf and other Ploughs, from \$16.
Walsley's Patent Potato Digger, \$18.

SCOTT WHEAT!

No. 1, twice hand-picked,

Per bushel, \$2.50. A small quantity only.

No. 2, Selected Seed,

\$1.75 per bushel.

No. 3, Common Seed,

\$1.50 per bushel.

In quantities of not less than 10 bushels.

The two last varieties may be shipped from another Station.

Weeks' Wheat, \$1.75.

Treadwell, \$1.75.

W. WELD.

London, Aug. 26, 1872.

GOOD FARM FOR SALE.—Seven miles from city (180 acres; 4 acres wood; new two-story brick house; 3 barns and driving shed; two good wells; a spring creek runs through the farm; soil clay and loam; splendid wheat land; cannot be beat in Canada; good orchard; gravel road running past the house.—Apply at this office.
August 27, 1872. 8-1f

J. BILLINGER, Richmond Hill, Ont., dealer in

Canadian Bred Stallions.

Best prices given for good Horses, and some first-class Horses for sale. 8-1f

YEARLING DURHAM BULLS FOR SALE.

TWO FIRST-CLASS YOUNG BULLS at reasonable prices and best pedigrees.

Also some Cows and Heifers.

Apply to JOHN B. TAYLOR, Springfield, LONDON, ONT. 8-1f

New Business Notice.

"THE FARMER'S STORE,"

Cor. Dundas and Talbot Sts.,

LOVDOV.

Dry Goods, Groceries, Hardware, Boots and Shoes.

H. CHISHOLM.

Formerly Lawrason & Chisholm. 8-2

HEIKES NURSERIES

DAYTON, O., July 29, 1872.
To NURSERYMEN AND DEALERS:
Gentlemen—It gives me great pleasure to be able to inform you that the prosperity of this establishment has been such as to warrant me in offering my goods, hereafter, at wholesale only.

CHEESE FACTORY TO RENT ON SHARES.

AN EXCELLENT CHEESE FACTORY AND FARM to rent.
Thirty-five cows are kept on the farm.
The milk from 225 cows is manufactured in the factory.
The tenant must pay half the value of the stock and implements now on the farm.

CENTRAL EXHIBITION, 1872

\$8,000 OFFERED IN PREMIUMS.
WILL BE HELD
In the TOWN OF GUELPH
ON THE
1st, 2nd, 3rd and 4th of October,
OPEN TO ALL.
PRIZE LISTS AND ENTRY PAPERS can be had at the Secretary's Office, Guelph, and also from Secretaries of other Societies throughout the Province.

THE
Western Fair!
Will be held in the
CITY OF LONDON
On the 8th, 9th, 10th, 11th Oct., '72
When the sum of
\$10,000
will be awarded as Prizes!
All Entries to be made by the 25th of September.
W. McBRIDE, Secretary.
London, Sept. 1872.

BERKSHIRE PIGS
HAVE AN ESTABLISHED REPUTATION as the best breed in the world. They are quiet, easily kept, fatten at any age, and weigh from 400 to 600 lbs at maturity.

40 Spring Pigs For Sale,
Boars and Sows, from 1st prize imported Boars and first-class Sows. Can supply pairs not asking; also a few excellent breeding Sows.

LEICESTER EWES.
25 excellent young Breeding Ewes, 10 of which are Shearlings by an imported Ram, and all bred from imported stock.
A few Rams, Ram Lambs, and Ewe Lambs.

4 First-Class Durham Bull Calves.
For particulars come and see or address
JOHN SNELL & SONS,
Edmonton P. O., Ont.

START A NURSERY HOW TO. August number. Price 25c. Price List of Trees, Plants, Seedlings, Root grafts, &c., free. Heikes Nurseries, Dayton, O. (Established 1822)

Blood Leaved Peach.

A COLORED LITHOGRAPH of this startling novelty will be mailed free to every Nurseryman and Dealer if applied for at once. Applicants will please state whether they are Nurserymen or Dealers.
Heikes Nurseries, W. F. HEIKES,
Established 1822. Dayton, O.

TREES, Plants & Bulbous Roots For AUTUMN of 1872.

ELLWANGER & BARRY offer to Planters and Dealers the largest and most complete stock in the country of
Standard and Dwarf Fruit Trees, Grape Vines, Small Fruits, Ornamental Trees, Shrubs, Evergreens, New & Rare Fruit & Ornamental Trees, New & Rare Green & Hot House Plants, Enthus Flowering Roots.
Small parcels forwarded by mail when desired.
Descriptive and Illustrated Priced Catalogues sent pre-paid on receipt of stamps, as follows:
No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholesale [Just Published] Free. No. 5—Bulbs, Free.
Establish'd 1840.
Address,
ELLWANGER & BARRY
Mount Hope Nurseries, ROCHESTER, N.Y.

FRUIT RECORDER AND COTTAGE GARDENER

A MONTHLY of 16 pages, at \$1.50 per year, edited by A. M. Purdy, a leading horticulturist and nurseryman, published by the Fruit Recorder and Cottage Gardener, 111 East Broadway, N.Y. It contains the latest news of the fruit and vegetable world, and is a valuable reference work for all who are interested in the culture of the soil. It is published by the Fruit Recorder and Cottage Gardener, 111 East Broadway, N.Y.

SMALL FRUITS! SMALL FRUITS!
THE largest stock in the Dominion of the best quality of Small Fruits, including Raspberries, Strawberries, Blackberries, and Currants, is now on hand at the Fruit Recorder and Cottage Gardener, 111 East Broadway, N.Y.

W. BELL & CO., GUELPH, ONT.
PRIZE MEDAL
Cabinet Organs! AND MELODEONS.
Sole Proprietors and Manufacturers of "THE ORGANETTE," Containing Scribner's Patent Qualifying Tubes.

AWARDED THE ONLY MEDAL! Ever given to makers of Reed Instruments at Provincial Exhibitions, besides Diplomas and First Prizes at other Exhibitions too numerous to specify.
CAUTION!
As we have purchased the sole right of manufacturing Scribner's Patent Qualifying Tubes, for the Dominion of Canada, we hereby caution all parties from purchasing them elsewhere, as they will be liable to prosecution. We have copyrighted the name of the "ORGANETTE."

For our instruments containing this wonderful improvement. Any manufacturer infringing on this copyright will be prosecuted.
Illustrated Catalogues furnished by addressing
W. BELL & CO., Guelph.

ROBUST DUTCH BILBS AND FLOWER ROOTS, direct from the grower, Overgreen, near Haarlem, Holland. Elaborate and instructive Catalogues are now ready, and will be sent free to all applicants. Apply—Agent, A. V. ROOZEN & SON, Box 48 D, London, Ont.

Gardener Wanted.

ONE who will take charge of a market garden of about fourteen acres; one who will work it on shares is preferred. References as to character and ability will be required. For further particulars apply to W. WELD, Esq., of Farmer's Advocate, London, Ont, or to the undersigned,
A. A. BURNHAM, jr.
Cobourg, Ont.

The Dominion File Works, St. Gabriel's Locks, Montreal.

J. OUTRAM & CO., Proprietors.
FILES and RASPS constantly on hand or made to order. N.B.—Old Files recut. Save money and save your old files.

THE ANNUAL EXHIBITION of the AGRICULTURAL SOCIETY, Will be held in the VILLAGE OF WARKWORTH, In the township of Perey, on the 3rd and 4th days of October, 1872. By order, R. T. HURLBURT, Sec.

NORTH-WEST TERRITORIES.

AFTER the 25th of June next, emigrants will be sent to Fort Garry at the following rates:—
TORONTO TO FORT WILLIAM.
Adults, \$5; Children under 12 years, \$2.50; 150 lbs. personal baggage free. Extra luggage, 35 cents per 100 lbs.
FORT WILLIAM TO FORT GARRY.
Emigrants, \$15; Children under 12 years, \$8; 150 lbs. personal baggage free. Extra luggage, \$2 per 100 lbs. (No horses, oxen, wagons, or heavy farming implements can be taken.)
THE MODE OF CONVEYANCE.
By Railroad from Toronto to Collingwood or Sarnia.
By Steamers from Collingwood or Sarnia to Port William.
45 miles by wagon from Port William to Shebandowan Lake.
310 miles broken navigation in open boats, from Shebandowan Lake to the North-West Angle of the Lake of the Woods.
35 miles by Cart or Wagon from North-West Angle, Lake of the Woods to Fort Garry.
Between Fort William and Fort Garry, huts and tents will be provided for the accommodation of Emigrants on the Portages. Passengers should take their own supplies. Provisions will, however, be furnished at cost price at Shebandowan Lake, Port Frances, and the North-West Angle, Lake of the Woods.

THROUGH TICKETS TO FORT GARRY VIA FORT WILLIAM
Can be had at Toronto, at the stations of the Northern, Great Western and Grand Trunk Railways.
Emigrants are requested to take notice that packages are limited to 150 lbs. weight for convenience of transport on the portages, and that baggage and supplies must not exceed 450 lbs. for any one emigrant.
After the 1st day of August next, the Red River Route will be in a condition to admit of the transport of heavy articles.
By direction, F. BRAUN, Secretary.
Dept. of Public Works, Ottawa, 30th May, 1872.

PROVINCIAL Ploughing Matches.

NOTICE is hereby given that it is the intention of the Council of the Agricultural and Arts Association of Ontario to hold Two Grand Provincial Ploughing Matches this Autumn, on such days as may hereafter be decided upon, subsequent to the date of the Provincial Exhibition, one in the Eastern and the other in the Western Section of the Province.
The sum of Four Hundred Dollars will be offered in prizes by the Association in each locality that may be selected. Competent manufacturers and others are invited to offer supplementary special prizes if they desire to do so. Prizes will be received up to 1st August of Fields, of not less than 20 acres of land for each Match, the Eastern to be within 20 miles of Belleville, or between Belleville and Kingston, and the Western within 20 miles of London, if practicable. Full particulars will be published hereafter.
HUGH C. THOMSON, Sec'y Agr. & Arts Association. Toronto, June 27, 1872.

TYTLER & ROSE, Family Grocers & Seedsmen.

TIMOTHY and CLOVER SEED; all KINDS of FIELD SEED, TURNIP, MANGEL, &c. &c., imported direct by themselves, and of the very best quality.—LAND PLANTER.
TYTLER & ROSE, WINE MERCHANTS AND SEEDSMEN, DUNDAS STREET, London, April, 1872.

The King of Sewing Machines

THE MACHINE FOR THE FARMERS OF CANADA. THE MACHINE FOR THE ARTIZANS OF CANADA.
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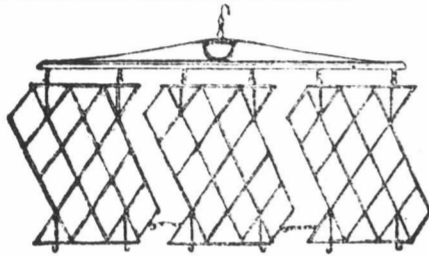
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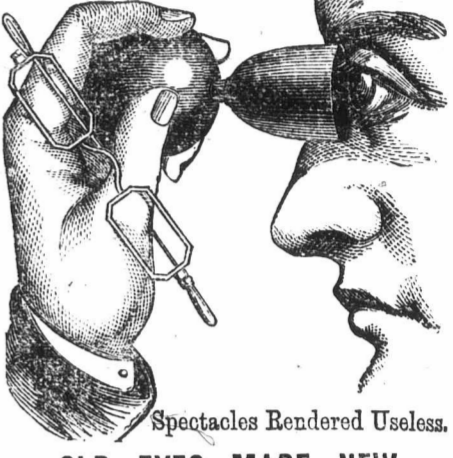
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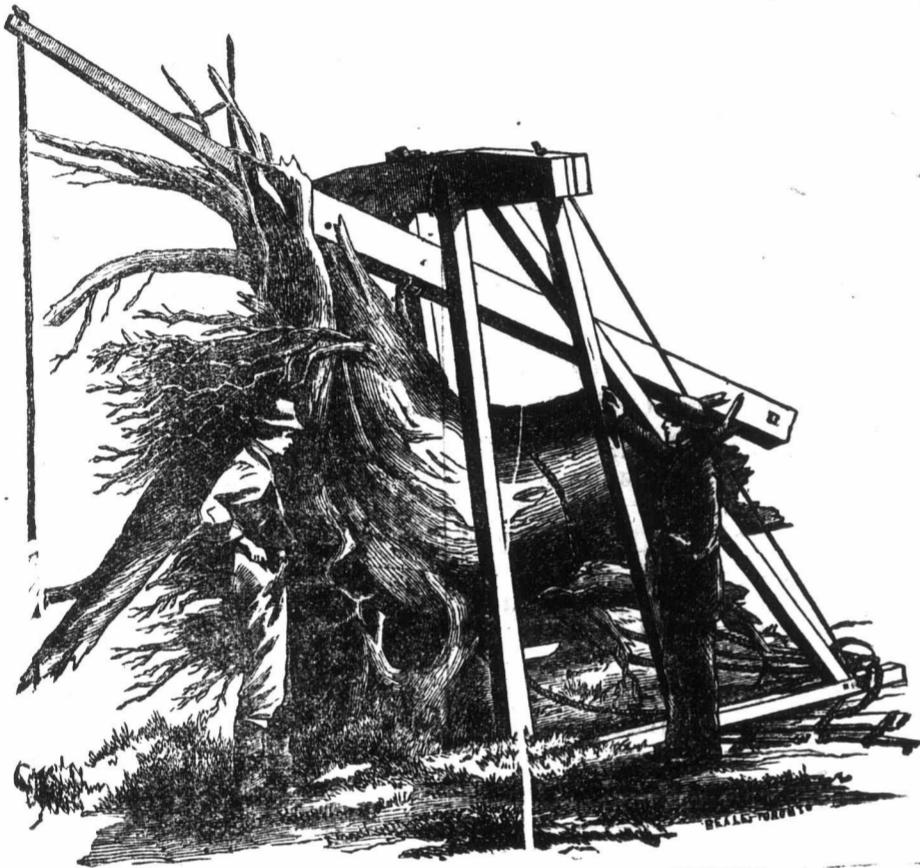
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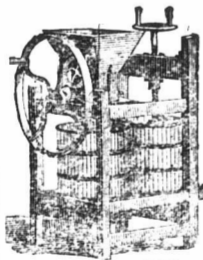
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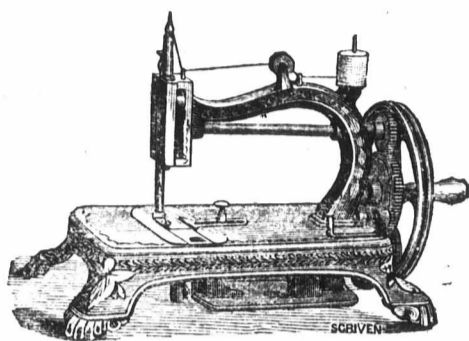
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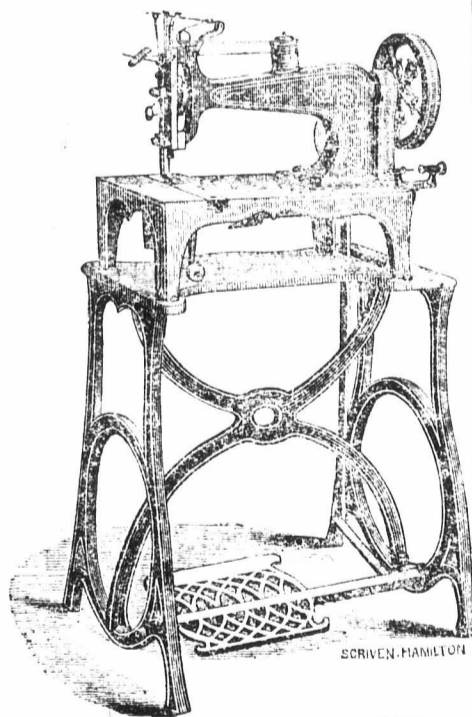
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MOLSONS BANK.

Paid-up Capital, \$1,000,000. Reserves, 60,000. Contingent Fund, 13,000.

THE LONDON BRANCH OF MOLSONS BANK, Dundas Street, one door west of the New Arcade. Issues Drafts on London, England New York, U.S., St. John, N.B., and all the principal Cities and Towns in Ontario and Quebec. Offers unusual facilities to those engaged in the produce business. Deals liberally with merchants and manufacturers. Discounts for the Farming community. Buys and Sells Sterling Exchange, New York Exchange, Greenbacks, &c., at very close rates. Makes Advances on United States Currency and Securities on reasonable terms. Savings Bank Department. Affords opportunity for safe and remunerative investments of accumulative savings. JOSEPH JEFFERY, Manager. London, Sept 14, 1870.

THE AGRICULTURAL MUTUAL ASSURANCE ASSOCIATION OF CANADA.

HEAD OFFICE, LONDON, ONT. Licensed by the Dominion Government.

CAPITAL FIRST JAN., 1871, \$231,242 25.

Cash and Cash Items, \$72,289 55.

THIS COMPANY continues to grow in the public confidence. On 1st January, 1871, it had in force 31,628 POLICIES.

Having, during the year 1870, issued the immense number of 12,319 Policies.

Intending insurers will note—

- 1st—That this is the only Fire Mutual in Canada that has shown its ability to comply with the law of the Dominion, and deposit a portion of its surplus funds for the security of its members.
2nd—That being purely mutual, all the assets and profits belong solely to the members, and accumulate for their sole benefit, and are not paid away in the shape of dividends to shareholders as in the case of proprietary companies.
3rd—That nothing more hazardous than farm property and isolated dwelling houses are insured by this Company, and that it has no branch for the insurance of more dangerous property, nor has it any connection with any other company whatsoever.
4th—That all losses are settled and paid for without any unnecessary delay.
5th—That the rates of this Company are as low as those of any well established Company, and lower than those of a great many.
6th—That nearly four hundred thousand dollars have been distributed by this Company in satisfaction of losses to the farmers of Canada during the last ten years.
7th—That the "Agricultural" has never made a second call on their members for payment on their premium notes.
8th—Farmers insure your own Canadian Company that has done good service amongst you. Address the Secretary, London, Ont., or apply to any of the Agents.

JOHN ELLIOTT, PHENIX FOUNDRY.

MANUFACTURER OF Stoves, Ploughs, Reaping machines, Thrashing Machines, Lap Furrow Ploughs, Cultivators, and Gauge Ploughs, &c. &c. Also, at Stratford.

TIME AND LABOR SAVED THE OSCILLATING WASHING MACHINE

Patented on the 18th of July, 1870, by WILLIAM MATHEWSON, OF BROOKLIN, ONT.

THE Patentee challenges any other Washing Machine now in use to compete against his, for any sum they may name. The Machine has been thoroughly tested, and used by nearly all the principal hotels and leading farmers in the County, who pronounce it the best now in use. It will wash from a muslin pocket-handkerchief to a bed-quilt. A trial will satisfy any person as to its merits. County Rights and Machines for sale. Apply to WM. MATHEWSON, Brooklin, Ont.

This Machine can be seen and procured at the Agricultural Emporium Waterworks, London. Brooklin, March, 1871.

DANA'S PATENT SHEEP MARKS.

THESE MARKS ARE THE CHEAPEST, the most lasting, the least troublesome, and most complete ever invented. They are used and recommended by many of the best breeders in the United States and Canada, such as G. B. Loring, Salem, Mass., President New England Wool Growers' Society; John S. Ross, Hennepin, Ill.; Professor M. Miles, of the State Agricultural College, Lansing, Mich.; Hon. George Brown, Toronto, Ont.; John Snell, Edmonton, Ont. On each Mark is stamped the owner's name and the sheep's number. They will be sent free, by mail or express, for only FOUR CENTS EACH, and will last for twenty years. Cash must accompany all orders. ARCHIBALD YOUNG, JR., Sarina, Ont. Orders addressed to the "Farmer's Advocate" Office for any quantity will be filled at the above-mentioned price, as quickly as the Marks can be made and sent. W. WELD.

DRAIN TILE MACHINES, BRICK MACHINES, COMBINED TILE AND BRICK MACHINES, AND HAND TILE MACHINES.

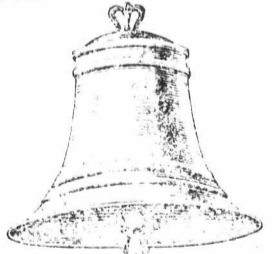
Apply to D. DARVILL, London, Ont. London, April 28, 1872.

USE SIMPSON'S CATTLE SPIGE

It is the finest Condition Powder in the World FOR HORSES.

It fattens Cattle, Sheep, Hogs and all animals. It gives a relish to the coarsest Food. It fattens Cattle in half the usual time, and at a great saving of expense.

For sale by the principal Chemists and Merchants in every town. PRICE 25c. per lb. Wholesale by C. GARLICK, 135 St. James Street, MONTREAL. 11-1871 W. WELD, Agent, London.



MARKHAM BELL FOUNDRY.

Table listing various bell models and their specifications, including diameter, weight, and price.

There are about 1800 of the above bells now in use and giving the best of satisfaction, costing only one third the amount of ordinary bells, and are all warranted one year. Encourage home manufacture and purchase a warranted article. Farmers! throw aside those dinner horns, which cause the ladies to get swelled necks by blowing. JONES & CO., Markham P. O., Ont. W. WELD, Agent, London.

FOR SALE. THE THOROUGH-BRED JERSEY BULL "DANDIE," 3 years old, highly commended at Provincial Fair last year. Price \$125.—Address JOSEPH BAYDEN, Elmston, Ont.

THE SUBSCRIBER IS PREPARED TO fit up Public Buildings, Churches, and Private Residences with Velvet, Tapestry, Brussels, 3-ply Kidderminster Carpets, Floor Oil Cloths and matting at short notice and very moderate prices. R. S. MURRAY, July

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DAWS & CO. Lechins, P. Q., Importers and Breeders of Ayrshire Cattle.
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JOHN SNELL & SONS, Edmonton, Breeders of Short-Horn Cattle, Leicester and Cotswold Sheep, and improved Berkshire Pigs. Winner of the Prince of Wales prize for the best Bull and five of his Calves at Provincial Exhibition, Kingston, 1871.
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JNO. KENNEDY, Mont John, Hyde Park P. O., Breeder of Short Horn Cattle, Leicester Sheep and Berkshire Pigs.
GEO. ROACH, Hamilton, Importer and Breeder of Berkshire, Suffolk and Essex Swine.
J. R. HUNTER, Alton, Breeder of Short Horn Cattle.
D. S. ROBERTSON, Wanstead, breeder of pure bred Berkshire Pigs.
EDW. JEFFES, Bond Head, Breeder of Short Horns, Leicester Sheep, Berkshire and Chester White Pigs.
THOS. GUY, Sydenham Farm, Oshawa, Breeder of Ayrshire and Devon Cattle.