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THE ONTARIO FARMER,

A MONTHLY JOURNAL OF

Agriculture, Horticulture, Country Life, Emigration, and the Mechanic Arts.

VOL. III.

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No. 7.

The Farm.

HINTS FOR THE MONTH.

July brings the indubitable summer, and is chiefly remarkable in this climate for a degree of heat that, with occasional most welcome relentings, keeps us almost constantly in a sweltering condition, and makes our anticipations and memories of the month, rather painful than otherwise. We hail June, but dread July. "Ike Marvel" says: "I picture July as a stout woman perspiring fearfully; yet she wears a cheery, honest face, and if she have none of the bridal freshness of May and June, she wears the honors of maternity, and leads in a great brood of flowers and fruits in her train."

Thorough cultivation of the soil, unremitting slaughter of weeds, turnip hoeing, hay-making, and wheat harvesting are the chief labors of the month. All crops that admit of it are greatly benefitted by frequent stirring of the soil about them. July is a most favorable time for the extirpation of weeds. Only scratch them out of the ground, and the scorching sun will do for them very quickly. In a damp, cool time it often seems of but little use to hoe among weeds, they take root again so quickly, but the July heat finishes them in no time. Even the Canada thistle will "cave in" if hoed up or mowed down in July. The latter process is highly recommended by many farmers. It is especially likely to be effectual if rain comes shortly after the mowing, as the wet filling the stalks and settling into the roots, induces quick decay. Almost the only bit of advice necessary about haying is to be sure and cut at

the proper time; not too soon, or the fodder will be deficient in substance and nutritious properties; nor too late, or it will be tough, woody, and sapless. Grass ought to be mowed between blossoming and seeding. Very much the same advice may be given about harvesting wheat. The *Illustrated Annual Register of Rural Affairs* says: "Cut wheat a week before full ripe. The grain will weigh more and be better. The straw will be brighter and richer." Early cutting of grass not only improves the hay, but secures a better after-growth for a second mowing, or for pasturage.

A word about the turnips. Early in July is the time to secure a good plant, and attend to proper thinning in the rows. Re-sow if there be extensive failure, through fault in the seed, or depredations of the fly. Gaps in the rows may be filled up either by transplanting or sowing again. When too late for Swedes, Yellow Aberdeens and White Globes may be sown. One great essential to success in turnip-growing is to get the plants thinned at the proper time. If left too long it is almost impossible to retrieve the error. A sharp hoe, about eight inches wide in the blade, is the tool to thin with, and a skilful hand will go over the ground very fast. This well done, and all danger of the fly past, they will grow very fast, quickly shade the ground, and form bulbs.

Though the end of June is the usual time for sowing buckwheat, it does well most seasons if sown early in July. This crop is mainly used for cakes and green manure, but let us not omit to mention its value to bee-keepers. Buckwheat honey is not a choice table article, but it is good enough

winter feed for the bees themselves, and it is easy to rob them of their white clover stores, and compel them to stock up again from buckwheat blossoms. The great drawback to bee-keeping in this country is the want of late summer and early autumn forage. This is removed in localities where buckwheat is largely grown.

Dairy work is still at its height, and with the extra demands made on the female members of the household by haying and harvesting, will be found pretty oppressive in many cases. The factory system, already so largely established in this country gives relief to a great extent from the toils of the dairy, and this is one of its great recommendations. Without extra kitchen help during the dairy season, it is hardly possible for all the work to be thoroughly done, if cheese be made on the farmers own premises.

Happy is the farmer who has green corn, vetches, or other soiling crops, wherewith to eke out the pasturage so apt to fail under the fervid heats of July. His milk pails shall still be full to overflowing, his butter and cheese rich as in June, his young stock shall grow without check, and his teams continue fat, sleek, and strong to labor. He that has no patch of green fodder for a time of need in July, may yet have one for a similar time in September. A rich bit of ground near the barn should be chosen for this purpose, and sown forthwith.

Orchards will be grateful for a stirring of the soil this month. Over-production of fruit should also be guarded against, and care taken that the trees are not broken down through being over-loaded. Now is the time for thumb-pruning of young fruit-trees, and thereby giving beauty of shape, vigor and fruitfulness to them. Budding may be done so soon as the terminal buds are well formed. Grape vines may be layered this month, and well-rooted plants obtained by winter. The duties of the garden in July are more than can be well enumerated. In fact their name is "legion"

at all times when work is practicable. Extermination of weeds is the chief thing to be done this month. This must be thoroughly accomplished year by year. "Eternal vigilance is the price of" a garden, as well as "price of liberty."

July is the Apiarian's harvest. Now, if at all, the surplus honey boxes are to be filled, and such arrangements made as will maintain stocks in full number and strength. Put on boxes forthwith, if they have not yet been supplied. Prevent late swarming, or unite two or three to make vigorous colonies. There is nothing more conducive to successful bee-keeping than to see to it that colonies are strong. Weak stocks are liable to many evils that never trouble strong ones. Some bee-keepers imagine that strong stocks consume far more honey in proportion than weak ones, and are therefore harder to winter. This, however, is a mistake, as is every other argument in favor of weak rather than strong colonies. The value of an apiary is to be estimated, not by the number, but by the weight of the hives composing it.

BLANK PLACES IN THE TURNIP FIELD.

Owing to defect in the seed, or to fly ravages, there will often be blank places in the turnip field. These to a farmer of neat instincts and habits are a great eyesore. Moreover, they involve waste of rich lands, valuable manures, and costly labor. When these blank places amount to a considerable proportion of the field, the loss of crop thereby occasioned becomes a serious item. It is therefore every way desirable that these blank places should be filled up and turned to some useful account. This may be done in a variety of ways. The best, were it practicable, would be to transplant from rows that have an excess of plants, and so occupy the vacancies and make the field complete. But this can hardly be said to be practicable, though we believe it is done to some extent by British farmers. The turnip does not transplant kindly, and only submits to the process in a humid climate, or during a remarkably wet time. Even under such conditions, the plant is checked and the bulb stunted. Mangolds are much more docile under transplantation. Indeed, during a spell of moist weather, they can be transplanted almost without their knowing it. Hence there need

be no blank spaces in a mangold patch—ought to be none.

Blanks in the turnip field may be filled up by sowing Yellow Aberdeens, White Globes, Stubble or White Stone turnips. These mature in a much briefer time than the Swede, and though not so valuable, are by no means to be despised. They may be fed in the late fall or early winter, and made to help materially in eking out the supply of roots. The Yellow Aberdeen is the best of these late varieties, and will come to a very respectable size if the season be good, though sown three or four weeks after the general crop of Swedes. A good supply of White Stones is by no means bad filling for a bin in the cellar, or for the pot on days when there is a "boiled dinner" preparing in the kitchen. It is very little trouble, when the turnip crop is gathered to separate the different kinds, and convey them to their proper destination.

There is another mode of filling these vacancies which may be mentioned, though the suggestion is rather late to be of practical value the present season. It can, however, be made note of, and acted on another year. We refer to filling up with another kind of foliage crop, namely the cabbage. There is no better expedient than this, and none that can be more easily carried out. Moreover, cabbages are greatly relished by cattle in the winter time, and are especially valuable for milch cows. Being of easy culture, the wonder is that they are not more extensively grown as a field crop. The plants require to be grown until fit for transplantation in a seed bed, which should be located in some sheltered and sunny spot, and the seed sown in early spring. The soil of the seed bed should be very rich, well-worked and mellow. In sowing a quantity for field culture, of course a good-sized bed will be required, and it is the better plan to sow in drills, as the plants can then be more readily hoed and weeded. They will also require thinning, and if the plants can be used at different intervals, it will be well to take the larger and stronger ones first, leaving the feebler ones to grow into more vigorous condition. A moist time should be chosen for transplanting, and the work done with a tool known among gardeners as a "dibble." This tool is usually made of an old broken spade handle. The top part of the handle, about eighteen inches in length, is what is used for the purpose. A gradually tapering point is made to it, which is pushed into the soil, and withdrawn with a turn of the hand. Into this dibble-hole the young plant is set and the dirt firmly pressed around it. The most expeditious way of doing the work is for one person to make the hole and drop the plant beside it, while another set the plant. This is an operation in which the "young folks at home" can be employed to

advantage, as their backs are short and their fingers nimble.

A POTATO BUG PARASITE.

A correspondent of the *Patrie Farmer* says:—

"I have found an enemy to the potato bug in my patch. I hesitated to speak until I caught the fellow three different times with his lance into a young potato bug. The first two times, the P. B. was dead before I saw him, but the last time I saw the whole affair. The Doctor advanced, and made an attack on the young P. B., when P. B. rolled himself up into a round ball, making quick movements with his legs. The Doctor kept backing up and down the vine, as long as there was any movement. When the movements ceased on the part of P. B., Doctor stood still and drank his fill. I took Mr. Doctor around among my friends to see if they could tell me what kind of a bug he was. Some thought it the squash bug; all the boys who saw him said it was the pumpkin bug. I went to my squash vine and found a bug resembling him very much, with this difference: Mr. Squash Bug was much larger, and very dark both on breast and back, while my Doctor is of a light drab color on the back, and still lighter, with a golden tinge on the breast."

INSPIRATION FROM THE STEAM PLOW.

A writer in the far South, enthused by the hopeful account of Thompson's Traction Engine and Steam Plow, breaks forth into singing thus:

Ho! weary sinews! Rest!
In the East and in the West!—
For the labor-pang is past!
For the child is born at last!
For the colt is folded, whose tread
Transmutes your dust to bread!

Aha! the seed of steel,
With the gutta percha heel!
With the limbs that never tire,
And the lungs of brass and fire,
To tug our planet straight
On to Eden's gate!

Let the valleys dance and sing,
Let the hills of harvest ring
With a triumph peal, before
The swordless conqueror,
Whose scepter shall not cease—
The Mitrailleur of Peace.

A GOOD UNPATENTED HARROW.

An Iowa farmer claims to have used for five years, with very good results, a harrow made by attaching four arms at each side of a double-hinged centre piece. These are placed a foot apart, and have teeth made of one-half inch iron, eight inches

long, driving in, sloping backward an angle of forty-five degrees. They are six inches apart in the first pair; five in the second, four in the third, and three in the last. This is not patented, and he says such a harrow can be made for from \$5 to \$10. From this description any workman in wood ought to know how to make one.

ORCHARD GRASS.

The following by L. F. Allen, of Black Rock, is copied from the *Tribune* :

We have known this grass constantly—not in large quantities, to be sure—for the past 30 years, and know its value for the various purposes we have mentioned; but for soiling stock in the summer season, we consider its qualities the most eminent. A few of its qualities will be stated :

1. It starts early in the spring, with a broad-oval leaf growing rapidly and arriving at its highest condition of excellence when in early bloom, which is about the time of the blossoming of the common red clover, and, if made into hay, fit to cut at the same time. Yet, for soiling purposes, it may be cut some days, or even some weeks, earlier. It is better, however, for the full amount of nutriment it will afford, to wait until the flower is fairly developed. Its qualities are sweet, nutritious, abundant in production, tall as ordinary oats in growth, and a heavy burden to the area on which it is produced. If suffered to stand long enough to mature its seeds, the stalk fibre becomes hardy harsh and unpalatable to stock: therefore it must be cut before it arrives at its seed-ripening condition, as is the case with most other grasses for dry forage purposes. No grass which we have ever grown has yielded so heavy swath as this, nor one from which so much cattle food to the acre can be grown, aside from Lucerne or Trefoil, which our American climates will not consecutively, year after year produce. No grass, not even red clover, springs up so rapidly after cutting as this. We have known it in showery weather start fully three inches within a week after cutting, and so continue for repeated cuttings throughout the season, retaining its verdure into the latest frosts, and then affording a pasturage sweet and nutritious inviting to all kinds of farm stock inclined to grazing.

2. As hay, its quality is good, when cut in its early flower, but inferior when gone to seed, attaining then a woody fibre, as before remarked, yet when cut and steamed, equal in nutritious quality to other late cut grasses. The steaming and cooking process reduces its fibrous stalk to comparative pulp, rendering it palatable to the taste of animals, and congenial to the action of the stomach for nutritious uses. As hay, it cures readily; its long growth renders it easy to rake and handle; it stores compactly in either stack or mow; cuts easily with the hay-knife in the mow when fed dry in winter, and is every way as convenient a long fodder as any other. Such are its qualities for hay.

3. As soiling stock through the summer month is now coming rapidly into practice, we can do no better service to the farmer more particularly to the dairymen—then to recommend the orchard grass for that purpose; and for the following reasons: It is early. It grows continuously throughout the summer and fall seasons. It is permanent in its

occupation of the soil, having a strong fibrous root; maintains its hold in clumps, or tussocks, against any and all grasses, even the blue grass—which crowds, out almost every other—making no inroads on its possession, when once fairly rooted. We have a field of it, on a strong clayed loam, which has stood for more than 30 years. It has been cut for soiling; it has been cut for hay; it has been pastured; it was first sown with red clover and timothy, which it long ago run out; and, although the white clover and blue grass venture their presence to a limited extent among it, the orchard grass retains its supremacy, and, breast high at maturity, lords it over its diminutive trespassers in a bounteous crop, while its humbler attendants good in their place, modestly fill up a great, nutritious undergrowth at the bottom.

It has been objected to the orchard grass that it grows too much in stools or tussocks. If it has a fault, that is one of them; but full seeding will measurably remedy that. It does not stool or spread so universally as the blue grass, or perhaps some others, but it forms a strong, compact root, and that root it holds firmly, enduringly, and, if given a moderate amount of fertilizing matter, its roots fill the surface, and there they stay, yielding to nothing but the utmost abuse by treading out in spring by heavy cattle—which should never be allowed on any grasses—or the plough itself.

The seed of the orchard grass, from its absence of general cultivation, is not found in abundant quantity at the seed stores of our towns and cities, and the price may be dear compared with timothy, and the clovers; yet not so dear as to prevent the farmers from obtaining it in sufficient quantity for trial, and from a small area of ground, to supply his own wants in seed hereafter. It yields bountifully, and when ripe, which is easily known by its assuming a yellowish colour, it may be cut and bound in sheaves like oats, or mowed cured and threshed out, like timothy. The entire process of its cultivation is as simple as any of our ordinary grasses.

HOW TO IMPROVE SANDY SOIL.—About twenty-five years since I came into possession of about nine acres of thin, sandy land. There had been, within say three or four years previous, two crops of corn taken from it that did not exceed ten bushels per acre. I had it ploughed deeply, and sowed heavily to oats. As soon as they began to ripen we ploughed them in, and applied about 70 bushels of lime-kiln ashes to the acre; we then seeded it with rye, and also sowed clover and timothy. We cut a splendid crop of rye, and for several years mowed a good swath of grass, since which we have kept up a rotation of corn, then wheat or rye, followed by grass which has been either mowed or pastured; two of the years potatoes have taken the place of corn. The corn has averaged from 50 to 60 bushels per acre of shelled corn, and the other crops have been above the average of the balance of a good farm. We have put little or no manure upon it, except a moderate amount with potatoes. I may add that a large portion of this lot is so sandy that it does well for building purposes.—*Cor. Country Gentleman.*

THE BUCKWHEAT CROP.—Judging from what we can learn, the culture of buckwheat is increasing

among the farmers of the United States. The *Germantown Telegraph* says: "Buckwheat will grow and produce a fair crop on land so rugged and hilly that scarcely anything else worth the tillage will grow. Indeed on steep hillsides and land nearly covered with small stones, where it is difficult to get any other crop, it not merely does well, but these apparent drawbacks add to the quality and value of the grain. Buckwheat is raised throughout Europe and Asia, and has been known for many centuries. It forms a crop to some extent upon almost every farm, either for market, domestic consumption, or both. The crop is sown in the Middle States about the first week in July, and if drilled in, a half bushel to three pecks of seed are required per acre; but if sown broadcast, about one bushel. It is, next to red clover, the best green crop to plough under as a manure. When so intended the crop should be put in from the 15th to the 20 of June, the ground being ploughed deep and pretty liberally manured. The seed should be sown broadcast with a bushel and a peck of seed to the acre. It should be ploughed down when it has its full growth. Some farmers roll it well before turning under, and others use a chain attached to the clevis of a plough. Bone-dust or bone-phosphate is recommended as an excellent fertilizer for this crop.

SUBSTITUTES FOR HAY.

A dry May makes a short hay crop. We have experienced the former, and shall suffer from the latter in all probability. Farmers who bestir themselves in time may secure abundant crops of hay, or substitutes for the general hay crops thus cut short. That which will first suggest itself to most persons is

FODDER CORN.—This requires soil in a fair state of fertility, a fresh sod or manure. It may be sowed at any time before the 10th of July. There are three kinds of corn commonly used for seed, viz., any large sweet corn like the Evergreen or R. I. Asylum, the southern White Dent or Yellow Western Dent; besides, any tall-growing variety will do. It is sown in drills, 24 to 30 inches apart, or broadcast. Drill-culture requires less seed; a better and even stand is usually secured; cultivation with horse-hoe is possible, and usually remunerative, and, with green fodder in small quantities is required, the rows may be easily thinned.

In planting, the ground should be laid off with a marker, furrows opened, manure dropped in them, and the corn scattered by hand, or by a sowing machine, at the rate of about eighteen to twenty kernels to the foot. This requires three to five bushels to the acre, according to the size of the kernels, and the distance the rows are apart. In furrowing, if a common one-horse plow be used, the furrows should be alternate, turned together in pairs, the plowing being done back and forth across the field in the most natural way. Then, if one has a Shares' cultivator, the teeth being removed, and the wings opened, two drills may be covered by once passing through, which will greatly expedite matters. Corn sowed broadcast, if the ground be rich enough, and the stand be thick enough, gives an excellent return of fine, tender fodder. It is hardly possible, however, to get so heavy a yield, and it requires fully one-third more seed,

which, when seed-corn is worth two dollars per bushel, is an item worth considering.

MILLET is another summer crop, which affords an excellent substitute for hay. This will grow well on light, rather dry soils, bears drouth well, and produces on ordinary land some two to two-and-a-half tons of excellent hay to the acre, if cut before it is fully ripe; indeed, while the ripest of the grain is still in the milk. There are several kinds of millet, of which

HUNGARIAN GRASS, since its introduction some fifteen years ago, has grown in favor, and in many sections is cultivated to the entire neglect of other varieties of millet. It is really only a delicate variety of the Italian millet, having a closer, shorter head, and more abundant foliage. It is usually sown after the hay-crop is known to have been cut short, rarely before the middle of June, and very good crops may be obtained, if sowed as late as July 10th to 15th, as it needs only about sixty days to mature. Of course, it needs moist weather to promote the germination of the seed, but after it has a good start, it will bear dry, hot weather well. A rich, sandy loam is best for it, but it will make a crop on any tolerably clean land, with a top-dressing of some good fertilizer. It should be cut before the seed approaches ripeness, as the hard shell, which incloses the ripe seeds, is so indigestible, that injury sometimes comes from feeding the unthrashed straw of the ripe millet. Horses, and all other domestic animals, are very fond of hay from Hungarian grass, and, if cut early, it may be fed with impunity.—*American Agriculturist*.

THRASH THE GRAIN EARLY.

It is always economical to thrash early. We would advise every farmer, who can possibly do it, to thrash his wheat, rye, or oats, as the crop is drawn from the field. There are many considerations in favor of doing this, 1st. By reason of the state of dryness in which it is hauled off the field, the grain is in better condition for the thrashing machine (or certainly as good), than at any other time. 2d. Only one handling is necessary, and thus labor is saved. 3d. At harvest-time grain is, almost always in better demand by millers, and in the general market often brings a higher price than at other times. Take one year with another, it will be found that this is the most advantageous time to market grain. If the farmer holds his grain for speculation, very well: he has a right to become a speculator if any one has; but we hold as a general rule, that so soon as a farmer has his produce ready for market, then is his best time to sell. The earliest markets are almost invariably the best. We were once enabled to sell the whole of our crop of wheat at a high price, for seed, because we had thrashed in time and none of our neighbors had. Lastly and most worthy of consideration is the fact that, by thus early thrashing and marketing, the destruction by vermin—mice, rats, weevil, etc.—is prevented. We believe that ten per cent at least of the grain put into barns is put there, unintentionally or course, but not the least surely,—for the benefit of rats, and mice. A granary may be made rat-proof, but a barn cannot, and if it could, would soon be stocked by the animals carried in from the field among the sheaves.

If four horses are kept on the farm, one pair may be haling while the other is at the machine. If only a single team is kept, they can be unhitched from the waggon, put into the machine, and as soon as the load is thrashed, taken to the field for another load. While loading two extra hands may be profitably engaged putting away the straw or cleaning up and bagging grain, or storing it in the granary.

If it is impracticable to thrash the grain as it is drawn, we would stack it close to the barn, make the top secure for a few days, and as soon as possible, thrash it out. Even this mode would tend to save labor as well as grain, and on a small or new farm where machines are not yet introduced, any plan whereby labor can be saved is worthy of consideration and adoption.—*American Agriculturist*.

SEED WHEAT.

By the time this number of the *Agriculturist* is in the hands of the farmers all over the United States, they will be casting about where to get their seed wheat. We would suggest that it would be advisable to experiment a little with fresh seed. It has been found that seed procured from a distance—either greater or less—has been used with profit, and generally it has been found that seeds brought from a northern locality have been more profitable than those from a southern one. Doubtless the continued use of the same seed on the same ground leads surely, though gradually, to deterioration in the crops. Farmers have changed seed with neighbors only a few miles distant, with advantage.

As to varieties there is abundant room for choice. The white or amber varieties furnish a valuable grain for the first quality of flour, and millers are glad to see such wheats coming to them; but they require good soil and good preparation, as well as early sowing, or drilling in, all of which will prevent heaving by frost in ordinary winters. We have found the Treadwell a very profitable wheat, stooling thickly, and proof against the midge, but very subject to heaving on undrained ground. It has yielded with us over twenty-five bushels per acre on what was two years previously a badly used up field. This wheat has the peculiarity of producing smooth and bearded heads from the same stool, and a field of it would look to the uninitiated as if it were badly mixed. The grain is small and therefore heavy, weighing 60 lbs. to the struck bushel. The Diehl is also a favorite wheat with us; it, too, requires good farming to secure a good crop. In fact, we cannot mention a wheat that does not require good culture, though some varieties seem to stand neglect better than others. The old Lancaster Red is a favorite in some districts, and we have seen fair crops on what we should call poor farms. Aim to get a trial piece well prepared this fall, and sow it with some new, well recommended wheat. In every neighborhood there is usually some go-ahead farmer who has been experimenting, and has some seed to offer. Encourage him by trying his seed if of promising quality, he will then make other trials.—*Id.*

CHEMICAL CONSTITUENTS OF PLANTS AND SOILS.—
The *Marleboro Gazette* says: The ashes of nearly

all agricultural plants have been frequently analyzed by different chemists; but, perhaps, more thoroughly in Germany than in any other country. And the following substances are found to be invariably present in plants, and in nearly all parts of them, viz:

BASES	}	Potash,	Acids	}	Chloride,
		Soda,			Sulph. acid,
		Lime,			Phos. acid,
		Magnesia,			Silicic acid,
		Oxide of iron.			Carb. acid.

It is true that the quantities of these different constituent parts of the ashes have varied much in the analyses made by different men, and under various circumstances, but the prominent fact remains that they have all been found present where the proper tests have been applied.

Potash, lime, magnesia, phosphoric acid, and sulphuric acid, are now deemed absolutely necessary to the life of agricultural plants, as has been demonstrated by various experiments.

In reply to a correspondent the *Maryland Farmer* says:

Cotton seed is peculiarly rich in bone earth—phosphate of lime, potash and soda. An analysis of 36½ grains of cotton seed ash gave the following result.

Silica.....	0.1000
Carbonic acid.....	0.3504
Chlorine.....	0.3940
Sulphuric acid.....	0.0980
Phosphoric acid.....	11.3618
Lime.....	1.0784
Magnesia.....	6.0839
Potash.....	13.3566
Soda.....	3.1070
	36.6000

It will be seen by the above that 36½ grains of the ash of cotton, or 1,000 grains of the pure seed before being reduced to an ash, gave 33 grains of the phosphoric acid, potash, magnesia and soda. The seed is also rich in nitrogen.

FARM GLEANINGS.

Salt is said to be very distasteful to cut-worms. A tea-spoonful put at the foot of an infested plant is recommended.

H. H. McAfee, Superintendent of the Wisconsin University Experimental Farm, recently wrote to the *Western Farmer* that he counted twenty-six perfect Colorado potato beetles emerging from an area of one square foot of ground.

The *St. Louis Rural World* gives an account of the death of a son of Mr. Schofield, of Fall Creek, Indiana, by inhaling Paris green which he was preparing for application to potato vines. He died in a few hours after inhaling the poison.

The *Rural New Yorker* recommends applying ashes to grass lands by sowing broadcast the fall after the crop is off. The amount per acre may be twenty five to two hundred bushels.

The *Geneva (Ill.) Republican* says that the potato bugs have entirely disappeared from that neighbor-

hood, and attributes this freak of fortune to the salutary influence of the seventeen year locusts.

One pound of Paris green, five of flour, or, better yet, ten pounds of common land plaster, mixed and sifted upon the hills infested is a sure thing on potato bugs. It needs to be renewed when washed off by a rain.

It is said that the improved lands in South Carolina are worth \$20,000,000, while the fences that enclose them have actually cost \$16,000,000. When a man gets where his clothes are the most valuable part of him, he had better strip or turn his energies to some higher purpose.

Mr. S. F. Lane, of Raymond, N. H., informs the *Mirror and Farmer* that he has cut acres of bushes in some of the longest days of June, say about the middle of the month, and finds that is the best season to prevent their sprouting.

A correspondent of the *Iowa Homestead* recommends tending corn late and well, and to crowd it with a few tons of turnips, by having the late weeds and grass exterminated; keep the ground mellow, he says, and sow therein a few pounds of turnip seed about the 20th of August.

Joseph Harris, of Moreton Farm, near Rochester, N. Y., has ploughed up an oat stubble field, and on the advice of an English friend, purposes sowing it with cole-seed and white mustard—to be fed off by sheep next fall—seeding it to grass and clover at the same time.

In Iowa the planting of trees is encouraged by law. Every acre of forest trees planted releases from taxation for ten years on one hundred dollars valuation, and for each acre of fruit trees planted tax is exempted on fifty dollars valuation for five years; and the same for shade trees and hedges along the highways. There are now maple forests in several counties, from which sugar is made, where fifteen years since was nothing but wild prairie, grass and hazel shrubs.

Those who take an interest in comparing the condition of different countries may be interested by the following statement of the number of farms throughout the United States, taken from the returns of the late census. Beginning with the smallest, there are 23,642 farms of three acres and under ten acres; 157,810 of ten acres and under twenty; 612,245 of twenty acres and under fifty acres; 609,486 of fifty acres and under one hundred acres; 886,249 of one hundred acres and under five hundred acres; 20,280 of five hundred acres, and under one thousand acres; and 5,348 of one thousand acres and upward. The total number of farms is 1,942,241.

The statement having been made that it was proposed to put up machinery to manufacture sugar on the Massachusetts Agricultural College Farm, the *Massachusetts Ploughman* says:—"We do not believe the Massachusetts Agricultural College, or the Executive Committee have been or will be such fools as to authorize the establishment of a Beet Sugar Factory at the College Farm. It would require half a million dollars to try the experiment and then it would sink every dollar of the capital put into it. The college has not that amount to invest in any such folly, and it has legitimate work enough to do without going so far out of its way."

The Live Stock.

THE FOOT AND MOUTH DISEASE.

BY JAMES P. SWAIN, BRONXVILLE, N. Y.

GENTS:—In compliance with your request, I send you a history of foot and mouth disease as it occurred in my herd. Early in March last, I purchased at Bull's Head, an ox apparently in good health and condition. He was put in my yard on Tuesday and worked well until Friday evening, when he refused to eat. I examined him on Saturday morning, when he seemed to be in great pain, nervously shaking his chops, drooling from the mouth, and shaking his feet as if endeavoring to throw something off. He was immediately removed from the other cattle and kept under a shed half a mile away from them. The next day a cow showed the same symptoms, and the day after, Monday, several others did the same. I then reported the case to the State Cattle Commissioner, Dr. Moreau Morris, who treated me with all the consideration that could be expected, gave me all the advice he could, and sent a Veterinary Surgeon to examine the animals. Several other Physicians and Veterinary Surgeons saw them, and all agreed as to the character of the disease, and the mode of treatment, but I had previously commenced an entirely different and exactly opposite treatment, and carried it out. I do not recommend this treatment to others, but I should myself try it again in preference to any and all others. I purchased five gallons of crude carbolic acid at the suggestion of Dr. Morris, and should have used it for disinfecting my yards, for I think very well of it, but I chose to use more simple things that I more fully understood. My first operation was to cart fresh earth into my yards, and two or three times a day the diseased animals were driven into the mud and water where it was two feet deep, and were let stand there for an hour or more; after the first one or two trials they would go of their own accord, and stay longer than we wished them to. I let them drink freely of riley water, which they preferred to the pure water of the Bronx river.—My cows averaged about one week, after showing the first symptoms, before they got to the worst. The blisters in the mouth and about the feet showed themselves in three to four days, and began to break in six to seven days. Either from the effects of the disease or from the difficulty and pain of masticating the food, or from both causes, the entire alimentary canal is irritated, some are constive, and others scour, discharging undigested food, and in bad cases, bloody mucous. This was in all cases corrected at once, by giving gruel made of Linseed oil-cake meal—cotton-seed is not so good for the purpose. In some cases I had common salt rubbed in the mouth, just as the blisters began to break, and apparently with good effect. Some of my animals that stood on board floors were much worse than others; in several instances the animal would seek the soft, moist earth, and lie down and try to bury its feet in the earth; in such cases I threw on earth enough to cover them, and they would lie still for hours with it on their feet and legs.

The last phase of the disease, which is in the third week, is a mucous sweat which mats the hair, and the last appearance is scabs or scurf about the nose, and sometimes around the lips, and occasion-

ally spots on the body. It is a painful and troublesome disease, but I do not think it dangerous; it leaves the animals in good heart, with improved appetites, and mine are in decidedly better condition than before they had it. I have twenty-four animals at home, all of which had the disease, and I had twenty-seven at another barn, half a mile off, attended by the same men, without any extra precaution, and none of them have taken the disease. I have now mingled these animals for over two weeks, and have had no new cases, and it has not extended to any of my neighbors' cattle. I have been as singular in my mode of disinfecting my yards as in the treatment of the disease, but it is too soon to publish it, as it may not prove effectual, and I would not willingly lead any one astray by my peculiarities. I presume there is nothing peculiar or different in my case than in others, except it may be that of one of my imported cows that was affected differently from the others, and my theory is that she had the disease in Europe, and was only relatively affected, much as a man has varioloid after small-pox, or kine-pox, or as he has the kine-pox the second time.—*American Agriculturist*.

RAISING PIGS FOR FRESH PORK.

The author of "Walks and Talks" writes: "The most profitable branch of pig raising and feeding is to get the pigs fat at from three to four months old, and sell them for fresh pork. If of the right breed, and well fattened, they are as tender juicy, and delicious as a turkey. The most provoking thing about it is, that the few consumers who know what choice eating such a pig really is, cannot get it; and the few farmers who produce it cannot get half what it is worth. It is a fact almost unknown in the American markets. Till it is known, those of us who raise the article in perfection must content ourselves with such pieces as we can get, in hoped that when it becomes known we shall get what it is actually worth. But even now, at the present low price such pork brings, it will pay as well as any other branch of farming—which, it must be confessed, is not very much. Take such a pig as my young Essex sow, that at a little over four months old weighs 110 lbs. She will certainly dress over 80 lbs. Such a pig would sell for at least \$7.00, and ought to bring \$10 or \$12. A sow should average 8 pigs at a litter twice a year—say 16 pigs, at \$7 or \$12. A good sow, weighing say 400 lbs, kept, as she should be, in extra store condition, would eat food equivalent to two tons of clover hay per year. But much of it is food that she picks up, slop from the house, etc.; and we will estimate it at \$25 per year, which is certainly liberal. If it is not, how much profit do those farmers realize who keep a pig two years to make him dress 400 lbs, and then sell him for 7 cents per lb.

Now, what will it cost to feed the little pigs? Till they are three weeks old, they will get all their food from the sow, and a good proportion of it till they are from two months to ten weeks old. Take our data from Dr. Miles' experiments, and bearing in mind that we must, if possible, induce our pigs to eat more food than his did, we will estimate that the pigs the first month eat little or nothing more than they get from the sow, and the second month that they eat half a lb. each of corn per day, and

the third month $1\frac{1}{2}$ lb. each per day, and the fourth months 3 lbs. per day, the litter of 8 pigs would eat 20 bushels of corn; or the two litter would eat 40 bushels, which we will estimate worth \$40.

The keep of a sow per years is.....\$25
The keep of the little pigs is.....\$65
The pigs sell for.....\$112
To pay for the trouble of grinding and cooking the food, etc., we leave.....\$47

And besides this, we have the manure, and have disposed of our corn at one dollar per bushel.

The figures would have a more pleasing aspect if we got 15 cents a lb. for the pork. Instead of getting \$47 for our trouble, we should then get \$127; and that, when the article becomes known, such pork will average 15 cents by the carcass I have no sort of doubt. In London, "large pork" is quoted at 11 cents per lb., and "small pork" 16 cents per lb., in gold, by the carcass. And New York, Boston, Philadelphia, and other large American cities are better markets for *really choice* meat and butter than London. We can no more glut the market with choice meat than we can with choice fruit. The greater the supply of such an article of fresh pork as I have described, the greater will be the demand; for the simple reason, that it is intrinsically worth much more than we ask for it. Let us study the interests of the consumers, as well as our own. They do not want bone or rind a quarter of an inch thick, but sweet, tender, delicate, juicy meat; and it cost no more to produce it than rind and bristles.—*American Agriculturist*.

BEE NOTES FOR JULY.

BY M. QUIMBY.

As moths increase, treat them to a drink of molasses, vinegar and water, set in saucers near the hive at night. Their appetite for it proves their ruin. Let the chickens have the moths, and use liquid again, renewing if necessary. Italians defend themselves from the moth better than black bees, and are less liable to foul brood. Foul brood, where it exists, should be attended to now, or in three weeks after the first swarm, as all healthy brood, except a few drones, has matured. Cells containing dead larvæ remain sealed. Make examinations in the middle of the day. If you are timid, put on some protection, but the bees will not be likely to sting if directions are followed. With the box hive you will first blow a few puffs of smoke under it. Then turn it bottom up, drive the bees away with a little more smoke, spread the combs apart and if among the brood comb you discover any sealed cells, open a few of them with the point of a knife. If they are black and putrid, while yet in the larva state, drive out the bees at once. Set an empty hive on the old stand, to catch returning bees, put another on the inverted hive, and with a hammer or stick, gently and rapidly strike the lower hive. In fifteen minutes the bees will mostly be in the upper one. Set this on the old stand, and all will soon gather there to begin anew. With movable comb hives it is only necessary to lift out the combs and shake the bees off at the entrance of the empty hive—which should, of course, be on the old stand—taking care to have a wide board or sheet to facilitate their creeping directly in. All movements should be made very gently. It is not

necessary that one should be a smoker in order to manage bees. Decayed wood, that which will just hold together, will burn a long time without blazing, and answers a very good purpose. If any choose to use tobacco, take a bit of cotton cloth a foot square, cover it with tobacco a quarter of an inch thick, roll it up, fasten with a few stitches, and set fire to one end. This answers every purpose of a pipe. It subdues Italians quickly, but the next time you meet them, you will be likely to find them more irritable. Early swarms will often fill the hive and store a quantity of surplus. If such is the prospect, it is just as well to put on boxes soon after bees are hived. This becomes necessary when two swarms are hived together. Keep a supply of boxes on hand, and change as fast as filled. No need of waiting until every cell is full. When taken from the hive, keep them the same side up, if practicable, and raise them a little from the ground to let the bees creep out. Always avoid turning over, further than on one side, and keep the sheets vertical, else the honey will leak and look badly. Keep them out of the sun. In movable comb hives, weak colonies are easily strengthened by giving them a comb or more filled with brood from some strong one, shaking off all bees, of course. Replace these with empty ones. In a time of great yield of honey there is danger of too little room for breeding, and consequently weak colonies. In such case remove the outside frames, that will be well filled with honey, put some of the inside ones in their places, and empty ones in the center. The full combs can be used for feeding, or otherwise, as may be desired. If moth-worms appear among them, smoke with brimstone, in a close box or barrel.—*American Agriculturist*.

SHEEP ON A POOR FARM.

Some farmers of our acquaintance feel an antipathy to sheep, for the reason that they "bite close." We consider this their chief recommendation. They can only bite close where the pasture is short, and the pasture is short only on a poor farm. A poor farm will necessarily be encumbered with briars, weeds, and brush, in the fence corners. Under such conditions, we would say to a farmer who has twenty dollars or upwards in cash (or credit for it), invest it in as many ewes, not older than three years, as you can get for that money. Put them this summer in such a field as we have described, and give them, in addition to what they can pick up, a pint of wheat bran and oat-meal daily, with free access to water and salt. They will first "go for" the briars and clean them out; every portion of that field will be trodden over and over again, and the weeds will have no chance. Fold them on that field during winter, and carry to them feed sufficient to keep them thriving. Get the use of a good buck in season—South-Down would be preferable—and in the spring, if you have luck (that means if you give them proper attention and feed regularly), you will have more lambs than you have ewes. The money will be more than double, and the wool and manure will pay for their feed and interest. In the spring you may put that field in corn, with the certainty of getting fifty per cent increase of crop.

VALUE OF MANURE AND FOOD.

Mr. Lawes, the best experimental farmer in England, has tested the value of manure made by animals fed differently. These are his conclusions:

A ton of wheat bran makes manure worth	...	£14.50
A ton of clover hay	.....	9.61
A ton of oats	.....	7.70
A ton of corn	.....	6.65
A ton of meadow hay	.....	6.48
A ton of oat straw	.....	2.90
A ton of wheat straw	.....	2.68

Prof Johnson gives the following as the chemical constituents of wheat, peas and oats:

	Wheat.	Peas.	Oats.
Water	.....14.4	14.3	14.3
Organic matter	.....83.6	83.2	82.7
Ash	.....2.0	2.5	3.0
Albuminoids	.....13.0	22.4	12.0
Carbohydrates	.....67.6	52.3	60.9
Crude fiber	.....3.0	9.2	10.3
Fat, &c	.....1.5	2.5	6.0

Experiments made by an English chemist some years ago show how much food of different kinds it takes to make a pound of flesh. According to his conclusion, it requires of milk, 25 pounds; turnips, 100; potatoes, 50; carrots, 50; oatmeal, 9; barley meal, 7½; peas, 3½; beans, 3½; corn meal, 8½.

From a paper prepared by H. S. Collins, Collinsville, Conn., we extract a table showing the comparative values of different cattle foods, which is worth careful study:

	Per Centage of fat formers in 100 pounds	Per Centage of flesh formers in 100 pounds	Per Centage total nutritive in 100 pounds
Potatoes	.....18.9	1.4	20.3
Sugar Beet	.....13.6	.9	14.5
Mangel Wurzel	.....12.6	1.0	13.6
Parsnips	.....7.0	1.2	8.2
Carrots	.....6.6	.6	7.2
Swedish turnip	.....5.2	1.0	6.2
White turnip	.....3.3	.9	4.2
Best English hay	.....86.3	13.5	49.8
Lucerne hay	.....38.0	12.7	50.7
White clover	.....40.0	18.7	58.7
Red clover	.....18.7	22.5	41.2
Indian corn	.....67.7	11.0	77.3
Rye meal	.....55.8	14.3	70.1
Linseed cake, English	51.0	22.1	73.1
do American	48.6	22.2	70.8
Oat meal	.....51.1	18.0	69.1
Barley	.....52.0	13.0	65.0
Peas	.....41.0	23.1	65.0
Beans	.....39.7	24.0	63.7
Buckwheat	.....52.1	9.0	61.1

FLOATING CURDS.

At the last meeting of the Northwestern Dairy-men's Association, Mr. O. S. Martin, of Sycamore, Ill., read an essay on floating curds, of which we spoke in our report of the proceedings. The essay was a valuable one. We give the following extract from it which may be useful at this time:

Floating curds that have come under my observation have appeared in the latter part of July, through August and until frequent rains in the fall. During this time water in streams and more or less foul. Even if running, this water has much foreign substance in it, which must have a deleterious effect on the milk when taken into the cow's stomach—as eighty-three per cent. of milk is water. Nineteenths of floating curds result from the use of such water.

A second cause is improper care of the milk. The animal heat and odor not being expelled will cause floating curds. But the best of care of the milk will not prevent them if the water is bad. We must have pure, cold water.

The leading characteristics of the affected milk are:

1. Emitting an offensive odor when the cover is removed.
2. Has an unusual sweet taste, very unlike the taste of pure, good milk.

We manage such milk as follows:

1. When very bad send it back.
2. When we can work it up we apply the heat as soon as the vat is sufficiently full and as soon as possible raise it to a temperature of 84°; constantly stirring the milk, to allow the odor to pass off. We then put in rennets sufficient to thicken to consistency of thick cream in from fifteen to twenty minutes; then let it stand until sufficiently coagulated—usually longer than for pure milk. The curd is always very tender.

We then cut the curd very carefully perpendicularly and horizontally, and immediately apply the heat. When it reaches 90° we cut quite fine and raise the temperature to 98°.

The whey has a bluish green appearance and a slight foam on the surface.

If the curd floats we draw the whey at once; if not, we let it remain until thoroughly cooked. We then draw the whey, let the curds back in the vat with a chance for draining through the center and on each side.

If the curd all floated we let it remain longer in this way than would otherwise be necessary. Then we cut it into square pieces and turn it over for the purpose of draining.

There is no body to the curd, but it has the appearance of sponge; the cells filled with a gas, emitting an offensive odor. This gas cannot escape until the mass is broken up. For doing this we use the common curd mill. We cut the curd into convenient sized pieces and cut as fine as possible by running it through the mill at least twice. Especial pains is taken to let the curd cool before salting and putting to press. We use the mill over the curd sink to drain and cool better. When cooled to at least seventy-five degrees, we salt two and three-fourth pounds of salt to one hundred pounds and put to press.

No cheese maker claims to be able to make a prime article from such milk, but our cheese so made kept their shape, had a smooth surface, and were sold with the others without loss.

The process of grinding is the most successful way of treating a floating curd, and that it is an advantage in treating all curds, I have not the slightest doubt. Without it, it is almost impossible to

cut the curd perfectly even, hence some particles are more thoroughly cooked than others, while some go to press partially cooked; the whey from which is imperfectly expelled. By the use of the mill this is all avoided.

IMPURE WATER AND TAINTED MILK.

A correspondent of the *Utica Herald* writes to that paper the following letter. His evidence is corroborative of what we have so often repeated of the necessity of clean water for dairy cows:—"In extreme warm weather cheese is often found out of flavor, while the cause seem to be hidden from the cheese-maker, many times, until too late to remedy the evil. In the season of 1868, I had charge of a factory in Erie county, N. Y., where the milk was brought to the factory once a day. The milk came in fair condition until June, 18th it was very much tainted, and continued so until July 22nd, when it disappeared for the rest of the season. The dairies were mostly small; the night's milk was cooled soon as milked, and brought in separate cans to the factory, which was much better than the morning's milk. About one-third of the patrons brought good milk the entire season, which led me to think the cause was the patrons. The time of receiving tainted milk was one of extreme heat without clouds or rain. The farms are watered by the Cayuga creek, which shrunk to a mere rivulet, leaving dead, stagnant water in shallow places on the rocks, from which cows drank. Those that brought the best milk watered their cows at their wells. On the 22 of July, we had a severe thunder shower, when taint disappeared. Was the taint given to the milk from the atmosphere, or the water the cows drink? The thunder shower removed the cause, whatever it might have been. We want good cold water to make cheese. It is not as important that cows should have the same to drink? Herkimer county has been noted for its cheese many years and, I trust, will continue to hold her high position, while her hills send forth such bright sparkling springs of water."

LIVE STOCK GLEANINGS.

Dr. Geo. Sprague, the prominent breeder of live stock at Des Moines, Iowa, says that for every animal that has been injured by over-feeding, 10,000 have been injured in their growth and for breeding purposes by being scantily nourished and insufficiently housed.

Asa Baldwin, Chataqua Co., New York, writes the *Rural New-Yorker* that fifty years ago a very lousy cow of his ate ten or twelve onions, and in fifteen hours afterwards the lice had disappeared. He has tried the same remedy many times since, with the same result in each case.

TO PREVENT HORSES KICKING.—Having a horse that would kick everything to pieces in the stable, that he could reach, and having found a remedy for it, after trying many things, such as fettering, whipping, hanging, hanging chains behind him for to kick against, &c., I send it to you. It is simply fastening a short trace chain, about two feet long, by a strap, to each hind foot, and let him do his own whipping if he cannot stand still without it,

and he will not need to have boards nailed to his tail every day.

SHYING HORSES—A correspondent of the *Scientific American* says: "Allow me, having had great experience in managing horses, to add another bit of advice to nervous horsemen. Whenever they notice their horse directing his ear to any point whatever, or indicating the slightest disposition to become afraid, let them, instead of pulling the rein to bring the horse toward the object causing its nervousness, pull it on the other side. This will instantly divert the attention of the horse from the object which is exciting his suspicion, and in ninety-nine cases out of a hundred the horse will pay no more attention to the object, from which he will fly away if forcibly driven to it by pulling on the wrong rein."

TO MAKE COWS GIVE MILK.—The agricultural editor of the *Bee-keepers' Journal* vouches for the following, handed him by a friend: If you desire to get a large yield of milk, give your cow three times a day water slightly warm, slightly salted, in which bran has been stirred at the rate of one quart to two gallons of water. You will gain twenty-five per cent. immediately under the effects of it, and she will become so attached to the diet as to refuse to drink clear water, unless very thirsty, but this mess she will drink at almost any time and ask for more. The amount of this drink is an ordinary water pail at each time, morning noon and night. Your animal will then do her best at discounting the lacteal.

The *Ohio Farmer* tells dairymen and dairy maids that a room in which milk is kept over night for the purpose of being manufactured into cheese, or one which is used for setting milk for butter, should never be used for any other purpose while containing milk, for the reason that milk is such a greedy absorbent. Neither should it be located so as to receive the odor from a stable, a pig-stye, a whey-tank, a cess-pool, or a slop sink, and yet, says the *Farmer*, how many good housewives keep their milk in a pantry with all the family stores and provisions, or in a cellar where are stored onions, cabbages, potatoes, and other vegetables, bacon, fish, cider, vinegar, and numerous other articles, each, perhaps, emitting some peculiar odor, all of which are readily absorbed by milk or butter, and more or less damaging the quality and injuring the flavor of the product.

The *New England Farmer* says Henry Noble, of Pittsfield, Mass., has one of the most perfect dairy barns in the country. The barn is eighty-five feet long by forty-five wide, consisting of four stories and basement, holds eighty tons of hay, will accommodate forty-four cows, and has the modern improvements for steaming their food and supplying them with water. A novel invention of Mr Noble's puts the cows under the necessity of hitching themselves when driven into the stalls.

A correspondent of the *Massachusetts Ploughman*, in answering the question why hens pick feathers off from one another says that they do this because they need feathers to eat. If they have a supply furnished them, they will not do it. Usually they have enough of those they shed in the fall, but sometimes they are deprived of them. On which the editor of the *Ploughman* remarks: "We have never known a case where sulphate of iron and ground oyster shells would not stop the habit.

They want something that contains sulphur, in some form. Put a small lump of common sulphate or iron, half the size of an acorn, into a couple of gallons of water, and let them drink that.

The *New York Fish Commissioners* have about 10,000 trout three inches long which they offer to give to any one who will use them in stocking suitable public waters in that state. They claim that if the farmers will give the same attention to raising trout that they do to corn, pork, and potatoes, it will not be long before poor people can indulge in the luxury of trout breakfasts.

The agricultural editor of the *N.Y. Observer* keeps a cow in the stable the year round on two tons of hay, the fresh cut clover from one quarter of an acre of ground and the roots raised from one eighth of an acre. He finds the labor of cutting the clover and feeding her during the summer months less than driving her three-fourths of a mile to pasture, while he saves the manure. On this feed she averages eighteen quarts of milk a day for four months and a half.

Caked bag in cattle may be removed by simmering the bark of the root of bitter sweet in lard till it becomes very yellow. When cold apply it to the swollen udder once in 9 or 10 hours; or wash it several times a day in cold water. A pint of horseradish fed once a day, cut up with potatoes or meal is useful for the same purpose. This is also a tonic, helps the appetite, and is good for oxen subject to heat.

CURE FOR BLOAT IN CATTLE.—"T. W." in *Western Rural*, says that when you find your cows with the bloat from eating green clover, twist a wisp of straw or hay about the size of a man's wrist or arm, and open the animal's mouth and put it in, then bring around and fasten the wisp behind the horns so as to keep her mouth open. She will commence throwing her head about her sides to get the straw out, and the gas or wind will leave her immediately."

FEED FOR AN OLD HORSE.—"A Constant Reader," *Pittsburgh*, should feed his horse on cut feed, either hay or corn fodder, cut fine, wetted, sprinkled with ground corn and oats. It would be better still if scalded and cooled before feeding. This feed cannot be swallowed very fast, and if bolted unchewed, would still be as fine and as easily digested as if masticated by some fast-eating animal. If any grain is fed, it should be scalded and allowed to soak until cool. It is a good plan to give an old horse occasionally an ear of corn to chew at. It tends to prevent swelling of the gums and tender mouth.

WORKING HORSES.—Working horses will accomplish more during the excessively hot weather, in the hay and harvest field, by dividing the day's work into three parts, and resting for a time between each "bout," than by making one resting spell of one hour only at noon. Work from six to nine in the forenoon. Water and give a mouthful of hay in a shady place. Work then until noon, and take two hours for a resting spell (unless crowded for fear of rain.) Four and a half hour's work in the afternoon will finish the day, and more work will have been accomplished than by the usual practice. It is bad policy to crowd the work in the early part of the day. The race is not to the swift always; good management will often win by the power of endurance.

NEW WAY OF MAKING CHEESE.

In a conversation recently with an intelligent gentleman and interested in all farm parts of farming, he related the manner of making, or rather, pressing, cheese, practiced by a neighbor of his—a woman skilled in household economy, and famous for her nice cheese. Her former method was to turn up a curd each morning, keeping them till the third day then mixing old and new curds together, and putting them in the hoop and pressing. Her practice is now to run up the curd and put it into the press at once, the hoop being about one-third full. The next morning the second curd is run up, that which was in the hoop was taken out, the cloth changed placed in the hoop again at the top of it then scratched or broken with a fork, and the second curd is put in, when it is again placed in the press, where it remains all day. The third morning's curd is then run up, the cheese taken from the press, turned, and the surface hacked with a fork, and the third curd sliced on bringing the first curd in the middle of the cheese. It is then pressed sufficiently, taken out, and placed in the curing room. By this process the work each morning is cleared all away, and a good sized cheese is produced of superior quality, and one as firm and solid as if all were placed in the hoop at once.

LONDONDERY JUNE FAIR.—The annual horse and cattle fair was held in Londonderry on Saturday last. In point of numbers the horse fair was rather above the average, and there was a good attendance of buyers. Some very fine animals were shown, for which prices from £80 to £100 were asked, but few transactions took place in this class. A good number changed hands at from £40 to £60 each. Scotch buyers purchased freely, at prices ranging from £20 to £30, the class of horses required being that fitted for the omnibus trade. On the whole, the horse fair was very good, and from the kind of animals shown, it must be inferred that the breed of horses in the district is improving. We are informed, however, that for a short time during the day the business was to some extent paralyzed by the interference of the Constabulary, who made several arrests of men who were walking and trotting their horses on the street, and took them before the Mayor. There was a very large show of cattle, consisting chiefly of two-year-olds and year-olds, the former class selling at from £10 to £12, and the latter from £5 to £7 10s. Milk cows are generally dear, while in young stock there was a slight decline in price, and a good number remained unsold. Fat cattle were few, those sold commanding prices equivalent to about 8d per lb. for the carcass. Sheep and lambs were scarce, and sold at good prices. The prices for sheep were from £1 10s to £3 10s; and for lambs, from £1 to 30s.

In training a horse to stand take your horse on the barn floor and throw a strap over his back and fasten it to his right fore foot; lead him along and say 'whoa,' at the same time pull down the strap which throws him on three feet, and make him stop suddenly. This is the best way known to teach whoa, though you can put on a war bridle, and say whoa, and give him a sharp jerk that will stop him about as soon as the strap on his foot. Then put him in harness, with the foot strap as directed under the head of training to harness, and drive him up to the door. The moment he under-

takes to move, take his foot and say, whoa. Get in your carriage and get out again; rattle the thills, make all the noise in getting in and out you can; give him to understand, by snatching his foot each time that he moves, that he must stand until you tell him to go; and after a few times you can put the whole family in the carriage and he won't stir out of his tracks.

Sore teats in cows may be healed by rubbing goose oil, cream, new milk, or make the same application for it as for caked bag.

The Garden.

STRAWBERRIES FOR NEXT SPRING.

The amateur or the retired merchant who, for the first time finds himself in the possession of a garden, presents an amusing embodiment of impatience. These enthusiasts cannot see why a plant should not flower all summer; they expect the pear tree they put out this spring to be loaded with fruit next fall, and the strawberries they set in April to yield a crop in June. The itinerant and irregular dealers find their readiest customers among this class, who are ready to believe any impossible story about plants, if it accord with their wishes. As far as strawberries are concerned, we would say to these impatient people, that the only way they can get a satisfactory crop of strawberries next spring—assuming, of course that they have yet to plant their beds—is to begin now. Layers, rooted in pots, may be planted even in the hot days of July and August; the plants will grow right on, and become sufficiently large to give a good crop next spring. Plants rooted in pots are not generally for sale by nurserymen, but there will be no difficulty in getting them done to order. Small pots, those known in the trade as verbena pots, are filled with good compost, and sunk in the soil of the bed. The runner is placed upon the soil of the pot, and a clod of earth or a small stone placed upon it to keep the wind from disturbing it until it is rooted. The plants should not remain so long in the pots as to become at all root-bound, but as soon as they are well rooted they should be turned out and planted in the new bed. The plant should be set in freshly stirred soil, and if the operation is properly managed, it will show no signs of having been disturbed.

COLLECTING FLOWER SEEDS

It is desirable to save one's own flower seeds not only as a matter of economy, but as a means of improving the variety. In a collection of annual plants, all from the same stock of seed, there will be considerable variety presented. Some may vary from the general stock in the size or color of the flower, and others in the habit of the plant. These peculiarities are, that some of the seeds from such plants will show them, and by following up a course of selection one can in a few years so establish a variety, that it will come constantly true from seed. It may be here remarked, that florists have found in practice that, though a peculiarity may not show itself very strongly the first year, yet it will manifest itself the next year, if the grower perseveres. It is well to mark those plants, the

seeds of which it is desired to save by themselves, while in full bloom, and not trust to memory. In a bed of plants, from which seeds are to be saved promiscuously, and when it is desirable to have all of one color, the "rogues" must be pulled out as soon as they show themselves. For instance, if we wish to use Drummond's Phlox for bedding purposes, it is important that each lot of seed produce flowers all of a similar color. If we have a patch of dark rose, from which seeds are to be saved pull up every light-colored one before it goes to seed.

To be successful in seed-gathering, one must study the habits of the plants. Nature provides for the scattering, not the saving of seeds, and we must study her methods and anticipate her a little. Some seed-pods open with a jerk as soon as ripe, and scatter the contents to a distance; some open by a hole or crack, and as the plant is swayed by the wind, the seeds are gradually sifted out; again each seed has a downy tuft, that will allow it to sail away upon the breeze. In other cases there is no provision for scattering the seeds, but the fruit or seed-vessel must decay, before they can be liberated. It is not necessary to wait until seeds are dead ripe before collecting them; a little experience will teach one to know the point at which it is safe to gather them. Those seed-vessels, which in breaking scatter the seeds, should be gathered just before they open, and be allowed to pop under a sieve or convenient cover. Pansies and other Violets, Phloxes, Ricinuses, and others, need care in this respect. As soon as seeds are gathered, put a label with them, and as soon as they are thoroughly dry, clean them, and store them away. The manner of cleaning the seeds is varied according to circumstances; sifting, gentle winnowing, rubbing between the hands, and hand-picking being resorted to, according to the kind of seeds. A series of small sieves, of different size of mesh, will accomplish most of the work.

THE RED SPIDER.

Whether the Red Spider, that attacks trees and plants in the open air, is the same as the pest of the greenhouse we are unable to say. As far as the gardener is concerned they are practically the same. The insect is so small, that it is not usually discovered, until considerable mischief has been done. It attacks fruit and ornamental trees and evergreens as well as the soft-wooded plants of the flower-garden. A general browning of the foliage is usually the first intimation of its presence.

A few years ago we saw a fine pear-orchard nearly ruined before the owner found out what the trouble was. It was during a dry, hot summer, and he supposed the leaves to be sunburned. One familiar with the work of the Red Spider will detect it at once. When browned leaves are observed, examine their under surfaces. If the insect be present, a very delicate filmy web will be found, and minute red or blackish specks may be seen in motion, which a magnifier will show to be the dreaded enemy. Frequent syringings with clear water will perhaps answer as well as whale-oil soap or any other insect-destroying application. Moisture is their great enemy, and water applied often will check their operations. Some of the small garden pumps or engines will be found convenient for the purpose.

SUMMER LAYERING.

To the amateur who has not the facilities for propagating plants in any other manner, layering is the simplest method of multiplying his shrubs and vines. It is not sufficiently expeditious for the nurseryman, and it is too wasteful of material, as he could make a dozen plants from cuttings of the material required to make one layer. In Private gardens, we wish to increase the stock moderately, either to obtain a few plants for our own use, or to present to friends, and to do this, layering answers admirably. Even the nurseryman is obliged to resort to this method with plants that cannot be propagated in any other way. The operation is of the simplest. We have only to bend down a shoot and bury a portion in the earth, and in most cases, it will be found well rooted by autumn, and it may be severed from the parent plant, and removed at that time, or be left until the following spring. There are few points necessary to be observed. The wood of the shoot should be partially ripened or hardened, before it is layered. This tongue should be made upon the upper side of the stem. It is simply a cut from below upwards, an inch or two long, and extending about half way through the stem. In bending the shoot down, care must be taken not to break it at the cut point. The soil should be mellow and rich, and a little trench being opened, the shoot, including the cut portion, laid in it, and fastened down with a hooked peg. The earth is then replaced and pressed down firmly, and the upper end of the shoot, which projects above ground, is to be tied up to a stake; this will give a better shape to the new plant than if it were allowed to take a reclined position. Want of success in summer layering is due to the ground around the layer becoming too dry to allow the formation of roots. This may be remedied by placing a mulch of moss or other material, over the surface. A flat stone laid upon the soil over the layer answers an admirable purpose.

THE POTATO ONION

In reply to a correspondent who wished to know how to treat this variety, the *Agricultural Gazette* says: "The preparation of the soil is the first and most important point. The ground intended for growing the potato to the onion, or, indeed, any onion, should be thoroughly dry, and trenched or dug to the depth of two feet or more, and be well broken and mixed, having plenty of old, thoroughly decomposed manure incorporated with it. Fresh, littersy manure should be altogether tabooed. Having leveled and broken the surface well, line off and draw with the draw hoe, shallow drills from twelve to sixteen inches apart. Have a barrowful or two of nice, rich compost by you. This may be composed, say, of thoroughly rotted cow manure, or manure from the pigeon house if such is to be had, fresh loamy soil and sand, turf or sifted coal ashes. Mix all intimately, and in planting the bulbs put a handful under and around each. The prepared compost and hand feeding need not be regarded as essential, provided the previous preparation and enrichment of the soil has been what it ought to be, though, of course, the crop will be all the better for it. When planting, the bulbs may, if large, be set about seven inches apart in the drill; if small,

somewhat less. The soil should then be drawn over them lightly, just sufficient to cover the bulbs; afterwards it may be gradually added to, so as to form a drill say five or six inches high, and about as many broad at the base. The bulbs may be planted in September or any of the succeeding months, or early in spring. The autumn planting is, perhaps to be preferred. When approaching maturity, the soil may be carefully withdrawn from the drills, and the bulbs exposed to the sun to ripen and harden them. In lifting, do not separate or break up the very small bulbs that grow in clusters round the large ones. These small fry may be planted again in clusters, instead of singly. Before planting, take care to see that there are no injured, soft, or decaying bulbils in the clusters, which would injuriously affect the rest."

FLOWERING TREES.

In trees with rosaceous flowers, Nature exhibits some of the fairest ornaments she possesses. Such are all the fruit-bearing trees, the apple and the pear; the plum, peach, and the cherry; the hawthorn and mountain ash, and its allied species. But these trees pertain rather to the orchard than the lawn, and to its precincts they are consigned. Nothing is more beautiful than an apple or peach orchard in full bloom. Nature never appears more charmingly than when she is adorned with a wreath twined by, the deft fingers of Pomona.

The flowers of rosaceous trees are always white or crimson, or the varying shades of these colors mingled together. The colors of the hawthorns vary with their numerous species. I write this article to plead for the *Double Flowering Trees*, and to interest all flower lovers in their lovely flowers. They come to us when nature is rather prodigal of her gifts. To be sure we have the spring bulbs, and the early perennials, but the lawns do not possess an abundance of flowers, while these trees are laden with snowy and rosy flowers, as double as a miniature rose, but alas! not replete with its fragrance.

The Flowering Plum is a beautiful shrub, but the flowering cherry is a large tree with most perfect bloom. The Flowering Apple is perfectly tinged with cherry hues, and the Flowering Peach is unsurpassed by an early spring flower. All these double varieties flourish and bloom in latitudes where the single species blossom and fruit. They bear no fruit, are propagated by grafts and cuttings—but they are most ornamental for the lawn. Years ago they were the fashion: every one who possessed a lawn, must have one of these lovely trees; of late years little is said of them.

Magnolias and Tulip Trees.—Another group of flowering trees rarely found in the Northern climes in perfection, is represented by the Magnolia. These trees have been much cultivated on account of their blossoms which are of extraordinary size, and of delicious fragrance. Their dark evergreen foliage makes them of especial value in the burning heat of the southern climes, in the spring their flowers produce a magnificent appearance.

The Magnolia Glauca grows in New England and the Middle States. It is a small tree from twelve to fifteen feet high, and its white cup-shaped blossoms possess a rare fragrance, perfuming the air

in their vicinity. Magnolia Grandiflora does not endure the severity of the northern winters, but grows in great luxuriance in the middle and southern States.

The Tulip tree has many of the characteristics of the Magnolia grandiflora. It grows to a great height, and is an admirable ornament for the centre of a large lawn, where its symmetrical form and its polished foliage, with its tinted chalice of gold and green, filled in with cream colored stamens, produce a glorious effect. This tree is a native in many parts of New England, and grows in great beauty. It would probably thrive wherever the chestnut and walnut trees can grow.

Catalpas are also desirable ornaments for the lawn. Their large clusters of pink and white flowers, mingled with their broad green leaves make an attractive picture.

The Horse Chestnut is well known and much cultivated for its beauty. Its blossoms are very ornamental, and as a shade tree for lawn, park or highway, it is unequalled.

The Judas Tree is not as extensively planted as it should be. There are two varieties, the Canada and the *Cercis Siliquastrum*. The leaves are of a bright green, and the flowers are of a fine purple or plum color. They bloom in clusters early in the spring, before the leaves are grown so as to conceal them. The wood is of value, as it is beautifully veined with green and black, and takes a very fine polish. The Spaniards call it the Tree of Love.

The Fringe, or Smoke Tree, is an old-fashioned tree, but ever lovely. Its blossoms are in large plumes of feathery substance, mottled and shaded from brown to purple. It blooms in June, and is very ornamental. The white Fringe tree is more of a shrub than the Smoke tree, and its flowers hang in pure white silky tassels, producing a fine effect. They are desirable for vases and bouquets.

The Dogwood flowers early in April, and its clusters of blossoms are very large.

The Oregon Elder (*Sambucus Oregona*) attains to the proportions of a tree, and is very beautiful for lawns and shrubberies.

Altheas are more properly flowering trees than shrubs, as they will sometimes grow twelve to fifteen feet in height, and their deeply tinged flowers varying from maroon to purple and lilac, striped with blush and white, recommend them to all who desire trees that will live and bloom year after year, with little care or attention.

Once planted, all these flowering trees continue to grow, bud and blossom, with unsurpassed loveliness, but if the sods are removed from about their roots, and shovelfuls of compost or manure added to the soil, their growth and beauty will be greatly enhanced. Surely they are

"Bright gems of earth, in which perchance we see
What Eden was—what Paradise may be."

Daisy Eyebright, in Country Gen.

FRUIT NEAR KINGSTON.

An earnest horticulturist writes to the *Globe*, that the Bartlett, Louise Bonne de Jersey, and Flemish Beauty, do well in that locality, though some think the Bartlett a little tender. Cherries, except the very hardiest kinds, are a failure. Of grapes, the

best (with him) are, other things being equal, the Adirondac, Hartford Prolific, Rogers' Number 3, Delaware, and Sweet Water; that is, so far as yet tried, and he had many varieties. Currants do well, with the exception of the Cherry current. Raspberries stand the winter, six kinds of them, without laying down; and the Whitesmith gooseberry is as fine as in England, and as well flavoured. The two best strawberries, so far, are Wilson, and for flavour and general purposes the Triomphe de Gand. Apples, generally, also succeed when carefully attended to. He says that he does not succeed with the Concord grape, whether owing to want of judgment in his treatment of them or to inferiority of climate, he cannot tell. Last year they were very fine, but last year was an exception. This circumstance points to the climate as being in fault in the matter.

TREE PRUNING.

BY GODFREY ZIMMERMAN.

To Penton's *Scientific Farmer*.

Since I am often questioned in regard to pruning fruit trees, and having by long experience and careful observation, come to be of a somewhat different opinion to that given by many writers on the subject; and decidedly different from the way bearing fruit trees are generally pruned; therefore, if you believe the following remarks may be beneficial to some of your readers, you are welcome to insert them in the *Scientific Farmer*:

The pruner, or, as our worthy editor of the *Gardener's Monthly* fitly calls him, "Tree Carpenter," got in his head the idea how the tree should look when pruned, which is an open head, somewhat like an inverted umbrella, and since most fruit trees, not mutilated by the pruner, have a form just the reverse; so the saw and chisel in hand, the "Tree Carpenter" begins to work at the center, sawing and chiseling out any branch which is in the way of his *ideal open head*, no matter how thrifty and sound these branches are, leaving only such outside branches which stand in or near the ideal circle of an inverted umbrella; the consequence of this way of pruning is, that the sun will shine too severe on the naked branches, which will cause the bark to become hard and in many cases burned black; the sap will not flow readily to the extremities of the branches, but instead of that, it will produce numberless shoots inside of the tree to the annoyance of the orchardist, who, if he is industrious, he breaks out continually, so the tree's effort to reproduce leaves and branches by these shoots, to restore the equilibrium between roots and branches, being constantly repeated, the health and productiveness of the tree is much injured, besides such trees look very unnatural. I have seen an orchard where the trees so fixed had the appearance as so many circles of live hedges raised on stilts, inserted on the top of the trunk.

Others who want to avoid the errors of the above mode of pruning, and care less for the mere form, having simply an idea to relieve the tree of (the so often misapplied phrase of) too much wood, do not prune out any large branches, but shear them of all their little side branches as far as they can reach, leaving only a few small branches on the extreme

end of the larger ones. The evil effect of this mode of pruning is the same as in the other, and the same small amount of fruit can be expected.

Others, more moderate in their operation, prune annually and less severe, mostly to give each tree the ideal form; for instance, the pear tree should be nothing less than a perfect pyramid, the apple an open round head. With some of these kinds they partially succeed, but with many they have constantly to fight; that is, to prune thrifty branches away every year, only because they are not where the "Tree Carpenter" wants them. Pruning to an exact form with success is an art which only the skilled gardener is able to perform, and cannot be accomplished by mere winter pruning, but must be constantly tended during the season of growth.—This kind of pruning is therefore out of the question to the orchardist who raises his trees for profit only.

I do not believe I go too far in saying that pruning in general (on fruit trees) has done, and does, more injury than good. I have seen very few orchards of forty or fifty years old, which are not in a declining condition, for no other reason than too much pruning.

I have in my orchard, many trees from which for twelve or twenty years, hardly a twig was cut off, and then, only when it showed signs of decline.

To make my experience more clear in this I will here state that thirty-two years ago I planted among other trees a Greening apple tree, which, having a good head, I resolved not to prune it at all. I did hold to that resolution for about twenty or twenty-two years, with the exception of cutting the scions off. Some six years ago this tree bore twenty-seven bushels of good sound apples, the lower branches all resting on the ground, the fruit was nearly picked from the outside. A year or so after that heavy crop, I noticed that some of the lower inside branches began to decline and die; I cut these away, and only to see, and the tree is yet as perfect a model as it can be desired.

The *proper* pruning of fruit trees, by which I mean such pruning that has no other but a *beneficial* effect upon the tree, early attracted my attention; and have at last, for the purpose of not pruning away a branch which had perhaps been better on that off the tree, set up a rule for my own guide, which may be profitable to others who are no farther in the art of pruning than myself, never to cut away a thrifty branch on any fruit tree, neither for form or any other reason.

This brings me to say also a few words on pruning the Dwarf pear tree. I have practiced the annual cutting back for many years, but have for several years done it less and less, guided by the principle, that the thrifter a tree is the less it ought to be pruned. By the annual cutting back of vigorous growing trees, we only get wood, but little fruit, and might be compared with one who repeatedly attempts to climb up a long smooth pole on the top of which is a valuable prize for him if he reaches it, but he never gets to it, and in slipping down to the ground arrives at a wall at the same spot where he started from; so the annual pear tree pruner has to do the same thing over what he has done for years without the expected reward, only a lot of useless wood to remove. I do not wish to be understood by this to say, that the Dwarf pear tree should not be pruned at all, for if left so, it is apt to bear too

soon and too heavy, making them little or no wood growth at all, is soon worn out by over-bearing. But if cut back the first few years: and here only the thriffter it grows the less it should be pruned, or in other words, for a stunted or sickly tree the knife is the best doctor, while it is less than useless for a vigorous one.

PINE HILL NURSERIES, March 1871.

GARDEN GLEANINGS.

A correspondent writes that he has tried dusting lime on currant bushes to keep off worm, and found it to answer the purpose.

Let no lover of shrubs omit from his collection the White Wiegela *Wiegela nivea*, I think the catalogue call it. Its flowers are pure white, and it keeps in bloom much longer than the other varieties. Last year it bloomed nearly all summer.

In Italy and Hungary there are, it is said, several large manufactories of melon sugar; and it is believed that the culture of melons for this purpose could be made profitable in this country. The proportion of saccharine material in the juice is seven per cent.

DICENTRA SPECTABILIS ALBA.—A great flourish was made over this when it was first introduced. Too much cannot be said in praise of the original *Dicentra Spectabilis*, or Bleeding Heart—but this white variety is miserable rubbish. It looks like what it is, a poor, sickly a bino; a poor grower, a sparse flower, and of a very dirty white.

A recent writer says that he effectually disposed of certain weeds in the lawn, among them horse-radish, "by cutting with a spade two or three inches below the crown, and pouring on the part left in the ground a little kerosene. The sod was dropped back, and the horse-radish failed again to put in an appearance. Any troublesome weeds can easily be killed in this way without injuring the grass"

The Boston *Traveller* says that a lady in that city, having occasion to use a support for an ivy plant which she was raising in a pot, took an old grapevine cane and thrust it into the earth. Sometime afterward, wishing to remove the ivy, she pulled up the old cane, and found to her astonishment that it had sent out shoots, and was making vigorous efforts to root itself by the side of the ivy. The bit of grapevine had been used for a long time as a cane, and for years, which no one in the family could number, had been lying about the house.

LEAVES FREE FROM DUST.—The London *Cottage G* *dener* relates an experiment which shows the advantage of keeping the leaves free from dust. Two orange trees weighing respectively 18 and 20 ozs, were allowed to vegetate without having their leaves cleaned for a year; and two others, weighing respectively 19 and 20½ ozs., had their leaves sponged with tepid water once a week. The first two increased in weight less than ½ oz each, while of the two latter, one increased 2, and the other nearly 3 ozs.

MULCH AS A MANURE.—An experienced farmer once found, by experiment, that where he mulched his wheat land with veitch, he had an increase of crop of two ve bushels per acre; and he invariably found that land which had been sheltered during the previous winter from the action of the atmos-

phere, frost, cold etc., was always more fertile than any other portion of his adjoining land, even under a high state of cultivation. Our use of Mulch upon small fruits, also confirms the above theory, for a good mulch invariably increases the production from fifteen to twenty-five per cent., as well as contributing very materially to the size, colour and cleanliness of the fruit. We believe that mulching will always pay.—*Horticulturist*.

OLD ROSE BUSHES.—A subscriber sends the following on the management of old rose bushes to the *New York Observer*: "Never give up a choice but decaying rose bush till you have tried watering it two or three times a week with soot tea. Take soot from a chimney or stove in which wood is burned, and make a tea of it. When cold, water the rose with it. When all is used, pour boiling water a second time on the soot. The shrub will quickly send out thrifty shoots, the leaves will become large and thick, and the blossoms will be larger and more richly tinted than before. To keep plants clear of insects, syringe them with Quassa tea. Quassa can be obtained at an apothecary's. The directions I enclose have been fully tested in my family, with most satisfactory results.

Many people have wondered why horse-chestnut horse-radish, etc., are so called. A Scotch work, entitled "Etymons of English Words," says that the original word was "harsh"—harsh-chestnut, harsh-radish, and the French and Swedes translated it "horse"—hence the common error.

—"Hyacinths, Tulips, and Daffodils
That come before the swallow dares, and take
The winds of march with beauty; Violets bright,
But sweeter than the lids of Juno's eyes,
Pale Primroses that die unmarried;
The Crown Imperial Lillies of all kinds,
The Flower-de-Luce being one,
To make you garlands of."—*Shakespeare*.

TOWN GARDENING.—Finish planting out all tender annuals which do well in town, if planted with care and kept watered. Attend well to the watering of newly planted trees and shrubs, without which they make but a feeble start, and many die. Nail in the leading growths of the ivy and the Virginia creepers, and take out all straggling shoots. Keep the Dutch hoe frequently at work among the plants; this not only destroys the weeds, but greatly benefits the plants, letting in the sun and rain to the roots. Towards the end of the month propagate pinks by pipings. This is performed in the following manner:—"Take the young shoots of this season's growth, and cut them off at the third or fourth joint, and at the same time remove the lower leaves and shorten them at the apex. They will then be ready for putting in the ground, which should have been prepared the day before, by sifting some fine soil and well soaking it. The cuttings should be covered close with glass, and shaded from the mid-day sun. They will require nothing more till struck, which will be in about five weeks, and they should have the glass lifted a few days before planting out. Shift the large flowering chrysanthemums into their blooming pots, removing all lateral shoots as they appear, leaving none but the leader, which must never be stopped. Dust these tops after syringing them with a little Scotch snuff, which will destroy the trips and aphides which mostly infest the plants at this season. Stake and tie all plants that require support as they progress.—*J.D. in the Gardeners' Chronicle*.

Editorial.

EXHIBITION OF THE HAMILTON HORTICULTURAL SOCIETY.

Few people not directly or indirectly engaged in the culture or sale of fruit, flowers or vegetables ever pause to think of services performed by the Hamilton Horticultural Society, and, indeed, by all other properly conducted societies of that class. Acknowledging that the main dependence of the country is upon her farm products, all are willing to admit at once the vast importance of agricultural societies, and the great benefit that they are to the country; and a "purely agricultural hoss-trot" is hailed as a great public blessing and an honor alike to the head and heart of the public-spirited citizen who invented the article. As for horticulture, the most that the average of people will admit in its favor is that it will do very well to garden a little for exercise before breakfast—if one has resolution to rise so early; and those who have attended the shows of the society will go so far as to admit that a very pleasant hour may be spent there examining the flowers there, asking the names of the greenhouse plants and forgetting them the next moment, watching the surging tide, of human loveliness that moves around the drill shed in continuous flow, listening to the exquisite music of the Thirteenth band, or climbing the gallery and taking in at once the moving panorama, the exquisite music, and the mingled perfumes of the flowers—the whole scene mixed and blended under the "dim religious light" generally provided inconsideration of the weakness of humanity, lest the bewitching beauty and the lovely flowers together should prove overpowering to some of the more susceptible among us.

But, beyond admitting that horticulture is a pleasant and harmless amusement, an aid to esthetic culture perhaps, and the shows of the Society very pleasant affairs, the majority of people are apt to ask, *curi bono?* If these skeptical people should

look a little under the surface, even at the exhibition, they would see that a great deal of good is done—good second in importance only to that done by the agricultural societies. They would see that special prizes are given for the introduction of new and useful varieties of flowers, fruits and vegetables; and improved specimens are made known to the public; that remedies for plant diseases and mode of destroying parasites are discussed and published, that special encouragement is given to amateurs by the professional gardeners and nurserymen, and much information diffused by these schoolmasters among the non-professionals; that no undue prominence is given to the merely ornamental branches over the strictly useful, but that potatoes and onions receive as much encouragement as rose and fuchsias; that the shows grow yearly better, the fruits finer, the vegetables more excellent, and that almost if not quite all of this gratifying result is due to the labours, the investigations and the co-working of the members of the Horticultural Society.

The Exhibition on Dominion Day was among the finest ever held in Hamilton. The display of flowers was really charming, from hardy garden plants to the rare exotics from the greenhouses. There was an immense show of bouquets, and the table of cut flowers presented a gorgeous appearance. The amateurs, made a fine display. On these tables was a magnificent specimen of a Japan gold-banded lily. This whole department consisted of good plants, well-grown and beautifully flowered.

There could not at this season be a large display of fruit. The strawberry season is just about over, and yet there were about forty entries of the luscious berry—no less than 21 pint lots, and for size and quality the fruit was equal to anything we have seen for many a day. The cherries were remarkably fine, the fruit large, rich and exquisitely flavored. The gooseberries are rather light, the season having been very unfavorable; there were, however, some

fine specimens. The currants were good; and the cucumbers we learn, are fruit, not vegetables, were large in quantity and of good quality. The few apples shown were remarkably well preserved and well-flavored.

The vegetables shown deserve special praise. The potatoes are not to be surpassed anywhere. It was very evident that the Colorado bug with the stars and stripes on his back had not attacked these varieties, or if he had, then he had improved instead of destroying them. One specimen, especially, of Breeze's King of the Earlies consisted of potatoes so large, so smooth, that admiring crowds gathered round them during the continuance of the show. The potato onions, too, attracted general attention, and the other vegetables were all excellent of their kind.

As a whole, the exhibition was superior to that of last July. The drill shed was thronged in the evening, and the financial result must have been very gratifying to the Society. We must not omit to mention that the band of the Thirteenth Battallion played most excellent music during the evening—music that, mingling with the sweet incense of the flowers, bewildered the senses and made of the dusty drill shed a palace of enchantment.

OFFICIAL REPORT ON THE COLORADO POTATO BEETLE.

Early in June the Hon. Commissioner of Agriculture and Public Works appointed certain members of the Ontario Entomological Society as a commission to investigate the Potato Beetle question. The gentlemen appointed, Messrs. Wm. Saunders and E. B. Reed, have made their report, a copy of which is before us. They say that the district most affected by the beetle is that between Sarnia and Amherstburgh, and extended from twenty to forty miles inland, but that in small numbers they are scattered over a large extent of country. The insects which they saw were the first brood

of the season; and they think that with succeeding broods will come reports of much more extensive injury than yet sustained,

The report does not hold out any very encouraging prospect to farmers who hope to escape it. The gentlemen "anticipate" that the large amount of shipping daily passing down the Detroit river, and the movement of railway cars from affected districts, both in Ontario and the United States, to the eastern portions of the Provinces, will, by affording shelter and means of transport to the beetle, distribute this insect shortly over the entire coast line, and portions of the country through which the railways pass; and from information which they have obtained from trustworthy sources "deem it highly probable that we shall have to contend with it for many years to come." There is some consolation, however, in the statement that in "the course of three or four summers our agriculturists may expect that the insect enemies of this beetle, of which we already know some nine or ten to exist in Canada, and which prey upon the eggs and larvæ, will, in the natural order of things, so multiply as materially to check the further increase in the Colorado beetle." Of these natural enemies of the beetle seven are described in the report, most of them having already been mentioned in our columns. They are the different species of the Lady-bird, the Soldier bug and ground beetles.

With reference to the remedies tried, Paris Green seems to have been the only one which produced satisfactory results. Of Arsenious Acid, one of the remedies tried, the report says that the experiments made, "point to the conclusion that where it has been used in sufficiently large proportions to destroy the insect, it has caused more or less injury to the leaves." Powdered Cobalt produced similar results. Sulphate of Copper when used "without damage to either the insect or plant." Bichromate of Potash was tried, killing the insect and at the same time destroying the plants.

In speaking of Paris Green the report says the remedy is a reliable one, provided the drug be of good quality. The best effects are produced by it when used mixed one part by weight with ten or twelve parts of flour, and dusted on the vines in the morning, while the dew is on the leaves. An estimate was made as to the probable cost of this remedy, the result being that about three pounds of the Paris Green; with the proportionate quantity of flour, per acre, is recommended for each application. Assuming the retail price of the Paris Green to be fifty cents a pound, this will make the cost between two and three dollars per acre.

MORE ABOUT THE COLORADO BEETLE.

Under the above head, we propose to place a few cuttings from our exchanges, chiefly in the form of correspondence, giving information as to the movements of this destructive insect and the result of efforts to annihilate it.

A correspondent of the *Western Rural* writes under the title,

THE POTATO BUG TRAPPED.

I have two and a half acres of potatoes which were almost entirely covered with bugs. I bought two pounds of Paris Green, and tried it on two drills, giving a good dressing, in fact, much heavier than I was told to apply it. The result was that I found two dead bugs; the rest appeared to relish the Paris Green and to thrive upon it. Probably the stuff was adulterated so heavily that it was quite harmless, or perhaps wholesome. When I saw that this application was useless, I went to work and made a zinc box four feet long, and two and a half wide; this was made so that it could be moved between the rows. The box is two feet high at the back and four inches in front. The shallow front is placed under the vines, and the bugs are swept into the box with a broom. If the box was made of wood they would get out of it, but they cannot crawl up zinc. The box has two handles through which a pole is run, and it is carried along the rows by two persons; a third carries a broom and sweeps the bugs into the box. In five hours I collected four bushels of bugs, and on examining the rows afterwards I found only two bugs on them. I will go over the crop again and take off any that may have come one since the first process. I think I will save my crop by this means and with an expense so trifling that it amounts to nothing when compared with the application of that useless and dangerous remedy, Paris Green. I recommend every farmer to give up useless applications, and to go to work at once, make a box such as I have described, sweep off the bugs and save the potato crop.

From the *Prairie Farmer*:

I send you a specimen of the veritable old blessed "grey back" that is here just puncturing the fat corpses of the Colorado, and feeding upon its juices. I send you also a few specimens of the latter. Confine them together under a glass, and if hungry, old grey perhaps will show you his mode of attack.

—The "blessed gray-back" is an old friend, the Spined Soldier bug. We regret that the *terdemerces* of Uncle Samuel's agents in the mail service proved too much even for this veteran's constitution. But though lifeless, he was otherwise perfect. One of the larvae of the potato bug was lively, and commenced feeding upon a leaf immediately upon being liberated.

THE SAME FRIEND FROM ANOTHER QUARTER.

I inclose a beetle of some sort, that is "going" for the Colorado potato bug, with his long spear, like a soldier in a charge with bayonet and full as effectively, leaving the withered carcass of the potato enemy strewn the ground. It looks to me like the regular old fashioned pumpkin vine bug; if it is I am glad to see it making itself so useful. Hereabouts where farmers have taken the trouble to attend to the bugs, the potato crop looks well, and the early ones I think safe.

—This is the same useful insect,—the Spined Soldier bug. It is not a beetle, but what is known as a true bug. That it is on the increase is evident, and it should by no means be destroyed.

MR. GREELEY'S AGRICULTURAL MAXIMS.

For some reason or other it has become quite the fashion for the agricultural press to speak disparagingly, if not in ridicule of Horace Greeley's prelections on farming. We must say in all justice to the distinguished philosopher and Editor, that what we have read from his pen on this subject, has been for the most part sensible. We do not know where to find more sound, common-sense advice to farmers, in as little compass, as the following synopsis of an agricultural address lately delivered by Mr. Greeley at Houston, Texas.

I. *Only good farming pays.* He who sows or plants without reasonable assurance of good crops annually, might better earn wages of some capable neighbour than work for so poor a paymaster as he is certain to prove himself.

II. *The good farmer is proved by the steady appreciation of his crops.* Any one may reap an ample harvest from a fertile virgin soil; the good farmer alone grows good crops at first, and better ever afterwards.

III. *It is far easier to maintain the productive capacity of a farm than to restore it.* To exhaust its fecundity, and then attempt its restoration by buying costly commercial fertilizers, is wasteful and irrational.

IV. *The good farmer sells mainly such products as are least exhaustive.* Necessity may constrain him, for the first year or two, to sell grain, or even hay; but he will soon send off his surplus mainly in the form of cotton, or wool, or meat, or butter and cheese, or something else that returns to the soil nearly all that is taken from it. A bank account daily drawn upon, while nothing is deposited to the credit, must soon respond, "No funds;" so with a farm similarly treated.

V. *Rotation is at least negative fertilization.* It may not positively enrich a farm; it will at least retard and postpone its impoverishment. He who grows wheat after wheat, corn after corn, for twenty years, will need to emigrate before that term is fulfilled. The same farm cannot support (nor endure) him longer than that. All our great wheat-growing sections of fifty years are wheat-growing no longer; while England grows large crops thereof on the very fields that fed the armies of Saxon Harold and William the Conqueror. Rotation has preserved these, as the lack of it ruined those.

VI. *Wisdom is never dear, provided the article be genuine.* I have known farmers who toiled constantly from daybreak to dark, yet, died poor, because, through ignorance, they wrought to disadvantage. If every farmer would devote two hours of each day to reading and reflection, there would be fewer failures in farming than there are.

VII. *The best investment a farmer can make for his children is that which surrounds their youth with the rational delights of a beautiful, attractive home.* The dwelling may be small and rude, yet, a few flowers will embellish, as choice fruit trees will enrich and gladden it; while grass and shade are within the reach of the humblest. Hardly any labor done on a farm is so profitable as that which makes the wife and children fond and proud of their home.

VIII. *A good practical education, including a good trade, is a better outfit for a youth than a grand estate with the drawback of an empty mind.* Many parents have slaved and pinched to leave their children rich, when half the sum thus lavished would have profited them far more had it been devoted to the cultivation of their minds, the enlargement of their capacity to think, observe, and work. The one structure that no neighborhood can afford to do without is the school-house.

IX. *A small library of well selected books in his home has saved many a youth from wandering into the bonafide ways of the Prodigal Son.* Where paternal strictness and severity would have bred nothing but dislike and a fixed resolve to abscond at the first opportunity, good books and pleasant surroundings have weaned many a youth from the first wild impulse to go to sea or cross the continent, and make him a docile, contented, obedient, happy lingerer by the parental fireside. In a family, however rich or poor, no other good is so precious as thoughtful, watchful love.

X. *Most men are born poor, but no man who has average capacities and tolerable luck need remain so.* And the farmers' calling, though proffering no sudden leaps, no ready short cuts to opulence, is the surest of all ways from poverty and want to comfort and independence. Other men must climb; the temperate, frugal, diligent, provident farmer may grow into competence and every external accessory to happiness. Each year of his devotion to his homestead may find it more valuable, more attractive than the last, and leave it better still.

MIND IN FARMING.

We find the following in an exchange paper, and thoroughly endorse it. Why farmers as a class are, as Lunatic Asylum Statistics affirm, liable to insanity through the monotony of their pursuits, when they have so many things to think of and such constant need to reason, compare, and judge, is a thing we are at a loss to understand. Agricultural pursuits are highly intellectual and farm operations require a constant exercise of discriminating thought. If any one should have a wide-awake and active mind it is surely the farmer of the nineteenth century.

"Much has been said and written about the cultivation of land and rearing of farm stock, and great improvements have been effected from the ingenuity of men of arts and science; but for all that has been said and done, there is often such a diversity of opinion on 'knotty points' amongst eminent men, that a man of moderate intellect is often baffled which opinion to adopt, as being best calculated to promote his interest. Some think that any one may farm land, and that there is not much to think of to ensure success. We have always been and still are, of a different opinion, and believe there is as much scope for the exercise of intellectual powers in agriculture as there is in the following up any other science in the world. To the studious farmer every day brings forth something new, and the oldest and most experienced admit, when their career is near an end, that they were only beginning to know a little of the laws of Nature. A farmer, like the general of an army, requires to be continually on the watch; new difficulties daily arise; he proposes doing a certain thing to-morrow; the weather, or some other element, causes him to shift his position; and having continually new and unforeseen difficulties to meet, his anxiety increases, and his mind expands to meet the difficulty. With all these troubles before him, he rises early and enjoys much pleasure in watching the progress of experiments in his growing crops; sees his stock of all kinds continue to increase; sees his fields in all their loveliness; and hears the song of the sweet warblers in the woods—pleasures which go far to make up for his hard toil and stormy blasts.

DOES FARMING PAY?

This is after all, the vital question with many in reference to agriculture as a life occupation. It must pay, or they do not care to follow it. There are more ways than one of looking at this subject, and we commend to our readers the following discussion of it from the *American Agriculturist* as eminently judicious and seasonable.

We often hear it said, There is no longer any money in farming. In the course of our experience we have heard similar statements in other occupations. A printer adhering, in these days, to the old fashioned hand press, might make the same complaint, and with as much justice as the present farmer who carries on operations in the old style, or a carpenter who makes his moldings by hand and planes boards. The improvements in machinery of all kinds have so quickened the demand for labor in every branch of industry, that the farmer, as well as the mechanic, must abandon hand labor and use machinery, or his profits must be eaten up in expenses. Hay may be made and put in the barn by machinery, now, at the rate of one dollar per acre. By hand the cost would be four dollars. The old style of crop is half a ton per acre; now three times that is a fair crop. The difference is just that between eight dollars per ton and sixty-six cents. The wide-awake farmer has this difference for his profits—eight dollars being about the market price for hay in many places. The same is true of most other crops, grain and roots especially.

In feeding stock and making use of manure equally large differences result. So of breeding stock; the old-style rooster and the modern Berkshire are not more unlike than are their several values when made into pork. The same of the ill-fed, rough-coated native heifer or steer, and the sleek, well-fed grade Jersey or Ayrshire.

The same is true of many farming communities in respect to roads, fences and schools. All these must be fitted up with *modern improvements*, or farming, as a business, must suffer.

We know whereof we speak when we emphatically deny that farming is an unprofitable business. The capital invested will, if rightly used, return, in this branch of industry, as good an interest as in any other, besides having the invaluable merit of indestructibility. A work-shop or factory may burn up, but land remains not only intact, but, from uncontrollable circumstances, is ever advancing in value. So the labor of the farmer is sure of some remuneration, if properly directed. Poor farms and poor farmers are the ones whose crops fail through drouth or excessive wet. On a properly conducted farm, these may damage the crop, but will never destroy it. The divine promise of seed-time and harvest is for the especial benefit of the farmer; but it rests with himself, in a great measure, whether the fulfillment comes to him individually, or whether his more enterprising neighbor secures it.

MIGRATION OF THE COLORADO BEETLE.

The following items are from the *Globe*:—The first being from a Pelee Island correspondent and the second being an editorial paragraph:

About two weeks since, a fisherman crossing Lake Erie from this Island to the Canadian shore (a distance of 15 miles), when about half way over was becalmed, and whilst laying lazily rolling in the old dead sea, he noticed near him a piece of board floating towards him. Reaching out his oar, he drew it to him, and found, to his great surprise, some fifteen or twenty full grown potato beetles on it, very placidly pursuing their way across the lake. Afterwards he noticed several other pieces of wood, and each of these primitive passengers ships had

greater or less numbers of the potato-loving bugs upon them. The wind had been light and from the westward for two days before; and the question arises: Did these insects instinctively take passage on these pieces of driftwood from the American shore at the west end of the lake (40 miles distant), or did they, become weary by their long flight over the waters, light upon them for a temporary resting place? All our Islands have them—this one among the rest, though it is full twenty miles from the nearest point of the American shore, from whence it is presumed this pest has come.

PARASITE OF THE COLORADO BEETLE.—There is little doubt but that the black caterpillar, the worm of the Lady Bird, eats the eggs of the Colorado Beetle. Mr. Bruce, seedsman, of Hamilton, told us recently that he had observed this insect in the act of devouring the Colorado eggs. Well may we join the hop-growers in the protection of the Lady Bird.

The above extracts and our editorial on the official report of Messrs. Saunders and Reed, to the Commissioners of Agriculture comprise all the information we have been able to collect on this subject.

AMERICAN POMOLOGICAL SOCIETY.

This Association, whose object is the promotion of fruit culture throughout the United States and the Dominion of Canada, holds its THIRTEENTH SESSION in the city of Richmond, Virginia, on the 6th, 7th and 8th of September, 1871. All Agricultural, Horticultural and Pomological Institutions in the United States and British Provinces, are requested to send delegations, as large as they may deem expedient.

Arrangements have been made with the various railway companies terminating in Richmond to return all free of charge who have paid full fare in coming, on exhibiting certificates from the Treasurer of the Society that they have attended the session.

Members, Delegates, and kindred associations are requested to contribute specimens of the fruits of their respective districts.

Packages of fruit with the name of the contributor, may be addressed American Pomological Society, care of H. K. Ellyson, Secretary Virginia State Agricultural Society.

The following are some of the premiums offered: ONE HUNDRED DOLLARS for the best collection of fruit, embracing apples, pears, peaches and grapes—by the Virginia State Agricultural Society.

FIFTY DOLLARS for the largest and best collection of apples, not less than fifty varieties, three specimens of each sort—by Ellwanger and Barry.

FIFTY DOLLARS for the largest and best collection of pears, not less than fifty varieties, three specimens of each—Marshall P. Wilder.

FIFTY DOLLARS for the largest and best collection

of American grapes, not less than twenty varieties, three bunches of each—by Charles Downing.

TEN DOLLARS, or a medal, for the best half bushel of cider apples—by H. H. Smith; and the same for the best twelve bunches of Delaware grapes—by Chas. T. Wortham & Co.

TOPICS FOR FARMERS' CLUBS.

The following list of subjects for the Winter meetings of the Waltham (Mass.) Farmers' Club for 1871-2, have been announced, together with time, place, and disputants for each meeting. This gives time for thought and preparation on the part of those appointed to engage in the exercises. The programme may be of interest to the members of farmers' clubs in other localities:—

The results of farming in 1871, and what has been learned that will be beneficial in the future.

Has the importation of the foreign breeds of cattle, horses, and other stocks been a benefit to the community?

Trades and trades unions: their influence on the business of the community. Would a combination of the farming interests be a benefit to their general prosperity?

Woodland and forest trees; their advantages or disadvantages to the farm and community.

What are the causes that have led to the decrease of the farming population of New England, and to the deterioration of its soil?

Farms and farmers; what are the indications of good farming?

Swine and poultry; the best breeds of each, and the best method of breeding and feeding, and the profit or loss.

The roads of Waltham; the best and most economical method of making and repairing them throughout the town.

Fruits and vegetables; the proper time to gather, and the best way of preserving them.

Milch cows; the feeding and management in regard to health and the production of milk.

The raising, feeding and training of horses for speed, road, and farm work.

Farming of Waltham; is it profitable? if not, how can it be made so?

THE CLIMATE OF ST. CATHARINES AND VICINITY.

Mr. Edgar Sanders, a leading nurseryman and florist of Chicago, whose contributions often appear in the columns of the *Prarie Farmer*, says in a recent communication to the journal:

During a short visit to St Catharines, C. W., I was considerably astonished to find the country even in advance of ours in season, and that some things grow well there that we find difficulty in getting to live here. For example: the box edging is hardy there, evidently, as in some gardens I saw large old edgings. It must be from the fact that our dry, sweeping winds in winter are so destructive to vegetation.

Agricultural Intelligence.

AGRICULTURAL AND ARTS ASSOCIATION.

MEETING OF THE COUNCIL.

A meeting of the Council of the Agricultural and Arts Association was held on Wednesday, June 21, in their rooms, at the corner of Yonge and Queen streets. Senator Skead occupied the chair, there being also present, the Rev. Dr. Burnett, Messrs. M. Farley, G. Graham, R. Gibbons, Stephen White, J. Young, G. Murton, L. Shipley, G. McDouell, W. Wilson, and J. C. Rykert, M.P.P.

The Secretary read the minutes of the last meeting of the Board, which were confirmed.

TRIAL OF IMPLEMENTS.

The following letter was read:—

PARIS, May 20.

The President and Directors, Agricultural and Arts Association:

GENTLEMEN,—I have the honor to transmit the tender of the North Brant Agricultural Society for grounds whereon to hold the trial of agricultural implements for which you have offered prizes to be competed for during the present summer.

I remain, your obedient servant,

(Signed)

D. R. DICKSON,
Sec. N.B.A.S.

The tender was as follows:

To find grounds whereon to hold the competition trial of agricultural implements under the auspices of the Agricultural and Arts Association of Toronto.

Mr. William Capron offers a 23 acre field of Deihl wheat adjoining the corporation limits, within 300 yards of the railway station.

Also, a 20 acre field of Timothy immediately east of the above, and a field of peas adjoining the field of Timothy.

The necessary logs to be sawed into cordwood will be placed within 150 yards of the field of Timothy—easy of access.

The above fields are all in one block. Mr. Horace Capron offers a field for the trial of ploughs and cultivators in the immediate neighborhood, about a quarter of a mile from the railway station.

Probably there is not a more convenient locality to be found in the Province than the above, and the other facilities cannot be surpassed. Paris is situated at the junction of the Great Western with the Buffalo and Goderich Branch of the Grand Trunk Railways, with excellent gravel-road from all parts of the county converging thereto.

By order of the Committee.

(Signed)

D. R. DICKSON,
Sec. N.B.A.S.

The CHAIRMAN spoke in high terms of recommendation of the suitability of Mr. Capron's grounds for the trial, and his tender was accepted.

Mr J. C. RYKERT, moved, seconded by the Rev. Dr. BURNETT—That there be separate classes in reaping and mowing machines—for combined reapers and mowers; prizes to be the same as in other classes—combined machines to compete by themselves. The time for entries to be extended to the 6th of July.

After a long debate upon the motion, a vote was taken with the following results:—

YEAS—Messrs. Rykert, Farley, Burnett, Wilson, Shipley, and McDonell—6.

NAYS—Messrs. Graham, White, Gibbons, Young, and Murton—5.

The resolution was carried by a majority of one. A committee was appointed to superintend the trial.

THE MEETING AT KINGSTON.

A letter from Mr. Isaac Simpson, of Kingston, was read, stating that a local committee had been appointed to carry out the arrangements for the Exhibition in September next, and also intimating that the Ontario Hall City Buildings, would be at the disposal of the Board for their annual meeting.

The committee appointed at the last meeting of the Council to confer with the authorities at Kingston, in reference to the preparation of the grounds and buildings for the exhibition this autumn, reported that they had visited Kingston, and the Secretary read a memorandum relative to the alteration required to be made for the purposes of the exhibition. The report of the committee was adopted *mem. con.*

THE BUILDING ON THE MODEL FARM.

A letter from Mr. Adam Crooks, M. P. P., was read, offering two thousand dollars on the part of the University of Toronto for the building of the association on the Model Farm, in the grounds of the University. The offer was accepted.

ACCOUNTS.

Several accounts were presented and referred to the Finance Committee.

PRIZES.

It was moved by Mr. STEPHEN WHITE, seconded by Mr. RYKERT, and carried unanimously. "That the prizes given for the trial of implements be not paid until the close of the exhibition at Kingston, and that the successful competitors be required to produce their implements thereat, the implements to be eligible to compete for prizes at the exhibition.

After transacting some business of a routine character, the Council adjourned until half-past seven o'clock in the evening.

EVENING SESSION.

The Council resumed at half-past seven o'clock. The only business transacted was the appointment of the judges at the ensuing exhibition at Kingston in September next, and the acceptance of THE GLOBE Printing Company's tender for the printing of the Herd Book.

The Council adjourned about half-past ten o'clock.—*Globe.*

CATTLE DISEASES.

CATTLE PLAGUE.—In Northern France the rinderpest rages in the arrondissements of Vallenciennes, Cambraix and Avesnes. In Dunkerque and Hazebrouck the health of the stock is reported to be satisfactory. In the department of the Ardennes the plague has appeared in two communes near the Luxembourg frontier. In Lille the disease is decreasing according to the last reports. Italy experienced an incursion of the plague in the early part of the month of April, at Cono and Novara, near

the Swiss frontier. The authorities appear to have been on the alert, and adopted stringent measures, a prevention with good results, as no fresh cases have been reported since the end of April. Belgium has been free from the cattle plague for some weeks, and no fresh outbreak has been reported. Poland is also reported to be free, but fresh outbreaks are of common occurrence in that country. In Galicia and Buckowina the cattle plague still prevails.

PLEURO-PNEUMONIA.—There is a slight increase in the number of infected counties.

FOOT AND MOUTH DISEASE.—The number of cases has slightly increased, but in comparison with the corresponding returns of last year the attacks have decreased nearly two-thirds.

LARVÆ IN THE HEAD OF SHEEP.—Investigations long since made into the natural history of the gad or breeze fly established the fact that the larvæ of the variety known as the *Ætrus ovis* located themselves within the sinuses of the head of sheep. The number of larvæ obtaining an entrance through the nasal passages into the frontal and other sinuses is however, as a rule, exceedingly limited, and as such it is very rare that ill effects are produced by their presence. A parallelism of this is to be met with in numerous cases where parasites are present. The ill consequences are in proportion to their number, not to the simple existence of the parasites. There are other cases, however, where even one parasite may cause irreparable mischief, or even death itself, for example, an hydatid—*Cœnurus cerebralis*—in the brain of the sheep. These facts are alluded to for the purpose of explaining how it is that this year we have heard so much of the serious results which have followed the full development of the larvæ of *Ætrus ovis*. Sheep have suffered to a most serious extent in many of the southern counties, and in not a few instances death has supervened. The leading symptoms has been a copious discharge of a glutinous kind from the nostrils, occasional cough of a choking-like nature, frequent sneezing and impeded respiration, swellings around the nasal openings, effusion into the areolar tissue beneath the jaws, great depression, leading in many instances to a semi-comatose condition, loathing of food, and in the latter stages even diarrhœa. The number of larvæ found in examining the sinuses has often exceeded a score. Doubtless others have escaped, so that we are without positive information as to how many may have originally been present. The inhalation of the fumes of burning tar, especially if made more potent by casting on the flame small quantities of sulphur from time to time, has proved useful to those sheep which have gave early indications of being affected, by causing a more speedy expulsion of the larvæ. The exhibition also of a little turpentine mixed with glycerine has also led to a similar result. It seems almost unnecessary to add to these remarks to the natural history of the *Ætrus ovis*. It may, however, be stated, that in the latter months of the summer the fly deposits its ova near to the nasal openings, notwithstanding the efforts which are made by the sheep to guard against this being done by herding themselves as close together as possible, and keeping their muzzles almost buried in the dust. Within a few days the young larvæ, scarcely visible to the eye, are hatched, and immediately they begin to crawl into, the nasal passages, and to feed upon the secretion furnished by the mucuous membrane. They march

onwards into the frontal and other sinuses, where as their proper habitat, they remain until about the beginning of the month of May, or a little later by which time they will attained their full development. The change they are now about to undergo, viz, the pupa state, leads to their efforts to escape and which as has been shown, may be attended with serious consequences to the sheep. When free from their dwelling-place they bury themselves just beneath the surface of the soil, and are soon transformed into their perfect chrysalis form. After a few weeks—sometimes five or six, but varying according to circumstances—the fully formed *α*-strus bursts from its prison house, seeks its mate, and in due course the impregnated female deposits her ova on the part of the sheep already described. Climatic variations greatly influence the perfecting of the transformations of the larvæ. In cold seasons they perish in considerable numbers, while in hot they are preserved, and hence in such years as 1868 and '70 myriads of *α*-stri were perfected which otherwise would not have been.—*The Veterinarian for June.*

THE WEATHER AND THE CROPS.

The past month was for the most part characterized by the prevalence of unusually cold and dry weather. It is seldom that in this country we experience so cold a June. The early and protracted drought, which has been so general over the northern portion of this continent, has at length been broken up, and copious showers have wonderfully refreshed vegetation all over the country. Though this welcome change in the weather has come too late for some crops, such as hay, yet on the whole it has greatly improved the appearance and prospects of grain fields and roots.

Fall wheat, where it has escaped winter killing, looks well for the most part—better upon the clays than the light lands—and even some portions badly damaged in winter have drawn well up. In some places, owing to the drought, it is short in the straw, but generally it is well headed except where Hessian fly, of which we hear complaints, has done damage.

Spring wheat has suffered most from the dry weather, and will generally be short in the straw, but mostly has a good colour, and will probably bear out an average crop. The same may be said of barley. Peas in many parts have done very well; and oats, usually the latest sown grain crop, will to all appearance yield well. Since the accession of rain, all root crops have taken a start, and are coming forward rapidly. We have heard less complaint than usual of the fly.

The monthly report from the Toronto Observatory is as follows:—

The mean temperature of the month of June differed little from the average, being $61^{\circ}.4$, against $61^{\circ}.6$, but was about 6° colder than June, 1876. The warmest day was the 3rd, with a temperature of $72^{\circ}.4$, and the coldest the 29th, with a temperature of $53^{\circ}.0$, a strange transfer of extremes which, to say the least, is unseasonable. The highest temperature was 83° on the 2nd, and the lowest $42^{\circ}.2$, on the 16th. Hoar frost, well marked by its effect upon tender plants, occurred on the mornings of the 16th and 17th.

Rain fell on 13 days, amounting to 3.34, about

0.4 greater than the average rain-fall for June, and was pretty generally distributed over the month, after the sixth. The heaviest fall occurred on the 27th, when about 0.8 fell in 20 minutes.

There have been 4 clouded days, 18 partially so, and 8 clear.

The prevailing winds were N. and W.

Thunder-storms occurred on the 4th, 10th, 14th, 15th, and 27th, accompanied by hail, on three occasions.—*Globe.*

UNITED STATES COMMISSIONER OF AGRICULTURE.

The agricultural public will be surprised to learn that Hon. Horace Capron has tendered his resignation as Commissioner of Agriculture, to take effect on the first day of August next, and that the President has accepted the same. General Capron has resigned this important trust in order to accept a similar but more comprehensive one under the Japanese government. It appears that the services of Commissioner Capron were engaged over two months ago by agents of the Emperor of Japan, who were sent to this country for the purpose of gaining information in relation to improving the industrial resources of that country. The salary offered General Capron is \$20,000 a year in gold. He is empowered to engage a competent corps of engineers, geologists, botanists and persons skilled in other departments of science, and in the industrial arts. He is also authorized to procure models of agricultural machinery as well as industrial implements, household furniture and appliances for rail-roading. In short, he is to take with him whatever represents the peculiar civilization of this country, as far as our progress in scientific and industrial matters are concerned, with the means of introducing needed reforms among this ancient and far off people.—*Western Rural.*

BATH AND WEST OF ENGLAND SHOW.—This attractive exhibition of stock and agricultural implements was this year held at Guildford, and was well filled in all the classes. J. Davy, of North Molton, carried off the first prize for four year old Devon bulls, and also for the best cow in calf of the same breed. In short-horns, the famous bull Lord Morpeth, the property of R. F. Softe Harris, took the first prize. Lady Pigot took first prize for the heifers Dame Swift and Victoria. The best Hereford bull was shown by W. Evans, of Landlowlas. There was an excellent display of sheep, and also of swine. R. G. Duckering & Son, of Northbrooke, winner last year, again took all the honors in this class. There was an unusual extensive show of agricultural implements, and an interesting trial of steam and horse-power farm implements, at work in fields adjoining the show grounds. A very large number of visitors were present, and among them the Prince of Wales.

THE LONDON HORSE SHOW.—The annual horse show, now an established institution in England, was held at the Agricultural Hall, Islington, on Saturday, May 27th, and as far as the number of entries and attendance of visitors can make a success, was by all accounts pre-eminently successful. English papers, however, at least the most discriminating among them, such as the *Mark Lane*

Express and Bell's Weekly Messenger, find fault with the too large admixture of ordinary or inferior horses, which detracted from the quality of the display. The first prize in the class of weight carrying hunters was awarded to J. A. Thomson, of Atherston, for Iris; Loxley, the property of G. Van Wartz, of Birmingham, obtained the second prize; and The Yankee, belonging to T Percival, of Wansford, the third. The first prize and medal for thorough-bred stallions went to Lord Stamford, for Cambuscan.

The Western Fair association have printed the prize lists of the annual exhibition to be held at London on the 26th, 27th, 28th and 29th September. The amount of premiums offered totals up \$8,000. The classification is as follows:—Class 1, Blood horses; 2, General purpose horses; 3, Road or carriage horses; 4, Heavy draught horses; 5, Durham cattle; 6, D. von cattle; 7, Hereford cattle; 8, Ayrshire cattle; 9, Galloway cattle; 10, Grade cattle; 11, Fat and working cattle; 12, Cotswold sheep; 13, Leicester sheep; 14, Southdown sheep; 15, Fat sheep; 16, Yorkshire pigs; 17, Suffolk pigs; 18, Improved Berkshire pigs; 19, Essex pigs; 20, Other small breeds of pigs; 21, Poultry; 22, Grain, seeds, hops, &c.; 23, Roots and other field crops; 24, Fruits, &c.; 25, Garden Produce; 26, Plants and flowers; 27, Dairy Products; 28, Groceries and provisions; 29, Agricultural implements; 30, Agricultural tools; 31, Cabinet ware, &c.; 32, Carriages, sleighs, &c.; 33, Chemicals; 34, Drawings, engravings, architectural, and mechanical, &c.; 35, Fine arts; 36, Fine arts; 37, Ladies' work; 38 Ladies' work; 39, Machinery, castings, &c.; 40, Sewing machines; 41, Metal work; 42, Musical instruments; 43, Natural history; 44, Paper, printing, &c.; 45, Saddlery, trunks, &c.; 46, Shoemakers' work; 47, Leather; 48, Woollen, flax and cotton goods, &c.—*Agricultural Intelligence*.

Speaking of the crops in that section, the Hamilton *Spectator* says fall wheat is happily free from the assaults of the midge or fly, and more than an average crop may be looked for. The spring crops generally are backward, particularly oats, but under the influence of the present genial weather they will yet be good. Barley looks healthy, and stands thick in some localities; and peas seem to be very good indeed. The potatoes vary according to quality of soil, but are likely to be a fair crop. Indian corn is excellent, and altogether the crops may be called good. There is certainly little ground for complaint, notwithstanding a farmer here and there along the mountain has had to plough up part of his spring crop. There is every reason to be thankful for the prospect.

The *Goderich Signal* says the quantity of fruit in some vicinities in Huron this summer will not be much over one-twentieth in proportion to the quantity of blossoms. Whether frost or insects may be the cause of the defect will likely remain a mystery; but the withered blossoms have hung upon the bows too long to indicate a favorable state of the young fruit, and when touched by the finger fall off, generally in crumbled bunches, carrying with them for most part the newly formed fruit. There is a species of little red shelled beetle with black spots on the back, which infested many of our fruit trees this season.

The *Belleville Intelligencer* says that previous to

the late showers, which have completely revived drooping nature, the drouth was very severely felt in the southern part of Prince Edward, and also in Lennox, Addington, and Frontenac. These counties suffered much worse than Hastings, and the hay crop will be light, if not a total failure in places. The farmers in Hastings report tolerably good prospects, and altogether are hopeful of an average harvest.

Mr. John R. Craig, Edmonton, has sold to John Little, Ontario, the Short-horn yearling bull Bismarck, by Ontario Duke; to A. Wanless, Tosorontio Short-horn bull calf Marste Frank, by Marksman to A. Speers, Norval, Ontario, one Berkshire sow to Mr. McCarty, Montreal, two Berkshire sows and one Berkshire pig; to W. W. Craig, one Berkshire sow.

A meeting of dairymen was held at Belleville on June 10, at which it was resolved to establish regular market days in that town for the sale of cheese. The promoters expect to concentrate there buyers from Montreal and the United States.

Mr. John L. Gibb, Compton, has sold to C. K. Harrison, Pikesville, Md., the imported heifers, Miss Meikle and Merryton Lass, the heifer calves Lily 3rd and Park 3rd, and the bull calf Argyle.

The Thirty-first Annual Exhibition of the New York State Agricultural Society is appointed to be held at Albany, Oct. 2-6, 1871.

Mr. J. I. Case, the well-known manufacturer of threshing machines, at Racine, Wis., has engaged in a beet sugar enterprise, at Freeport, Ill.

The Orleans County (N. Y.) Agricultural Society have decided that horse-racing is not an agricultural exhibition, and prohibited it on the fair grounds.

The county council of Wellington has granted \$3,000 to the South Wellington Agricultural Society in aid of the central exhibition.

Our Country.

DOMINION DAY.

[From the Montreal Witness.]

There is a certain principle in our nature that leads us to observe anniversary occasions. Churches, schools, societies and individuals yield obedience to this law of periodicity as well as nations. Young people, generally, are more fond of such observance than their more "grave and reverend seniors." The young Dominion, though an "infant Hercules," resembles in this respect other juveniles.

The birthday of our most gracious Sovereign lady the Queen we all observe, with all due expression of loyalty, as we are British subjects. Other days that distinguish our English Irish and Scotch compatriots, we leave them severally to keep "as to the manner born." Whilst many of our fellow-citizens show by the number of their holidays, as we cannot but think, that in all things they are over religious, yet we confess that we are all of us enough inclined to honor this day.

The first of July we celebrate with as much patriotic ardor and enthusiasm as our more demon-

strative neighbors do the fourth. The heat of the summer symbolizes the glow and warmth of our feelings. There advantage of a more southerly situation may indeed give them some additional fervor, from sympathy with the season; but the glory of the midsummer months marks to us, as to them the blossoming of freedom—the crowning of the political edifice—the Confederation consummated—and the commencement of a new era of peace and prosperity.

"No pent-up Utica confines our power;" we have outgrown all that old name of Canada heretofore indicated. It gives little promise to such a vast, English-speaking empire. We have outgrown provincial narrowness and Colonial pupilage. We possess, with the right and the law-abiding spirit of the old country, the room and liberty of the new. The borders of our Dominion stretch from sea to sea, and from the River and Lakes to the North Pole. The *London Time* speaks of us as one of the three great Anglo-Saxon nations.

It is but natural, therefore, that our patriotic orators should adopt somewhat of the "spread-eagle style," in which it is the custom of the season for our neighbors to orate, and even rival them in their own chosen field of literature. As Hamlet says, "What dare they do that we dare not?"

This day commemorates the union of the British North American Colonies, without separation from the Mother Country. To the glorious future opening before us there is no background of a troubled past which we would fain throw into the shade. The new relations into which we entered were not at the expense of old friendship. Whilst the new and the future go hand in hand, we do not leave the Old Country, with the past, behind us.

The momentary hostile feelings that, in some quarters, marked the Confederation, similar to what attended the union of England with Scotland, we indeed leave behind. Those temporary passions and local interests are being lost in the common advantages and united destiny before us. And thus Canada is fairly and fully launched out on a peaceful career, in which her only contest need be, a generous emulation of her mother and eldest sister.

The four years that have passed since the Confederation—years so eventful in the world around us that they seem an age—have tended to confirm in the mines of all, the wisdom and necessity of that measure. Whatever mistakes may have needlessly been connected with it, cannot be compared with the evils that would have followed the opposite course. Union is strength; and the vision of empire Scandinavia, from her dissensions, failed of realizing in Europe, we, the Northmen of America, may yet present to the world.

With our free institutions we have great undeveloped resources, and an immense territory, which every year seems to extend. Every thing appears on a scale that is vast, colossal, continental. The lakes are inland seas; the mountains lofty tablelands; the plains boundless prairies. The interior is a *terra incognita*, unlike the heart of other continents; for with us the extent of the surface is equalled by the fertility of the soil, and such as can hardly be exaggerated capable, they tell us, of supporting a population like that of Europe.

Belonging to a Confederation formed on so large a scale, we should ourselves enlarge. We should

be like the sphere we are called to occupy: if Canadian, yet somewhat cosmopolitan. We should feel we have attained our majority, and are above party strifes, petty jealousies, and old world issues. Especially ought we to feel thus in the Commercial Metropolis of the Dominion. We ought here to make no difference between Trojan or Tyrian. We are no longer French, English, Irish or Scotch; but Canadian. Let us be true, then, to the land of our adoption.

We possess not only ample extent of territory, and vast undeveloped resources, but elements of wealth and prosperity various enough to constitute national greatness. Agriculture, manufactures, commerce, mining, lumber, shipping, the fisheries and other interests, though ranking us already amongst the powers of the earth, are yet in their infancy compared with the Canada of the Future. We need not remind the readers of this journal who are familiar with its commercial intelligence and financial reviews, of the gigantic strides we have taken the last few years. This must increase in a generation when those internal improvements are completed, that shall bind us together with "bands of iron," as one united and homogeneous people. Bridging with boats the Occident and Orient, and having Asia as near a neighbor as Europe, we shall be enriched by the tide of commerce that must find its way across our borders as its natural thoroughfare.

Notwithstanding our northerly situation, the mean temperature of our climate, according to the isothermal line drawn to the Pacific Coast, is comparatively mild. We are only far enough north to escape, as we may hope, those deteriorating influences that seem to affect even the Anglo-Saxon race in warmer latitudes.

Truly we may say that the lines have fallen to us in pleasant places and we have a godly heritage. May we be found not unworthy of the high destiny that is thus put into our hands; and lay deep and broad the foundations of empire.

We may do this by securing to all perfect religious equality; by preventing all systems of favoritism and monopoly; by liberal immigration laws, and by perfecting our various school systems, as well as by copying here the impartial administration of law which is the basis of England's national grandeur. May the era in which we have entered continue to be one of peace and prosperity, that we may never cease to set to the world an example of what constitutes the true greatness of a people, long as we continue to celebrate Dominion Day.

RASPBERRY SEASON IN ONTARIO.

In many sections during the month of July may be seen bending over logs, or half concealed among underbrush, bushes red with wholesome raspberries. A berry-patch often covers an area of several hundred acres, affording excellent picking for all who choose to engage. A great quantity of this fruit is not allowed to waste on the bushes or to be eaten by the birds, but hundreds of people yearly improve the opportunity a bountiful Providence has given them of securing it. Beneath the burning rays of the summer's sun, sheltered by their broad-rimmed hats, the stout-hearted pickers go

forth. Scrambling over logs piled high upon each other, or crawling upon fours beneath those suspended just high enough above ground, they work their way from bush to bush gathering the finest of samples, those growing on the open ground being generally shrivelled by the heat of the sun. After enduring a considerable amount of fatigue, they come from the patch usually well-loaded with the fruit; but their work does not always end here. The Dutch, who undoubtedly are the best pickers in Ontario, supply our markets with large quantities of these berries. Sturdy men and women, with equally robust-looking boys and girls, who have just commenced life in the backwoods, and who know more about hardships than we at first may imagine, may be seen trudging alone toward the nearest market. The load that each one carries is often enormous. Large pails filled with this ponderous fruit are carried one on each arm, while a third is generally borne upon the head. We can see them in town making bargains with their Canadian neighbours. Some can only speak a few words of broken English; enough, however to make known that the fruit is of the choicest quality—'as good as the best they have seen since they left their fadderland.'

Notwithstanding the eagerness of these needy people to obtain fair prices for their fruit, it is often taken from them we are sorry to say, for sums far below its real value; the purchasers being individuals whose hands never felt a brier, and who care but little for the welfare of the poor.—*From the "New Dominion Monthly" for July.*

HUCKLEBERRIES AND RATTLESNAKES.

In July before the raspberry season is entirely past, other berries, equally prized by many, begin to ripen. There are the well known whortle-berries, vulgarly called "huckleberries," of which there are several varieties; but those found in marches are now the principal ones sought after. There the bushes are taller and the berries much larger than on the upland. Before the drainage of the marshes, water was a great obstacle in the way of the pickers. This however did not keep many who were seized with the berry fever from going there. Even women have been known to wade for hours after the fruit. This of course, had a very deleterious effect upon their constitutions; the penalty that many of them had to pay being an attack of fever and ague, that often kept them within doors for weeks. The drainage of the marshes, which work has been accomplished in many places through the wisdom of municipal authorities, thus rendering the country around so much healthier, has made the picking of these berries almost a pleasure instead of a task. Above, the picker beholds the conically shaped top of the verdant tamarack, screening him from the heat of the sun; while beneath he treads upon a mossy carpet of the softest kind. Most of the berries on the bushes are breast high to a person, and as they grow in clusters an experienced hand can gather a large quantity in a day. Some of the pickers become so engaged that they often forget the venomous reptiles that at this season of the year come above the moss to show themselves. Most of the marshes are infested with rattle-snakes, but strange to say, very few people have ever been bitten. The hideous snakes, though, often cause con-

siderable excitement in a march. A picker hears a noise as if shells were being rubbed together down by his feet. He looks and finds himself in close proximity to one of those monsters. He gives a shriek and a spring, but somehow, in his excitement he loses his balance, and down he tumbles, the big blue berries from his basket rolling over the moss in every direction. The first thing he thinks about is the distance he has made from the snake; and happily he finds he has landed several feet away. But lo! there is a scratch on his hand. Has not the reptile pierced him with its fangs? It is altogether probable. He shouts for his companions, and soon relatives, acquaintances, strangers assemble around him. Many antidotes, such as indigo, ash, whiskey, etc., are spoken of, but, unfortunately, not one is at hand. A bandage is placed tightly round the wrist, and a move is made for home. Before leaving, however, some of the more venturesome ones take a look for the snake; but his snakeship has crawled under the turf, and is safe. Rattlesnakes seem to till the minds of all, and berries lose their charm for that day. As they walk quietly over the mossy carpet on their way homeward, many a chill creeps over the more timid ones; and when they finally bid adieu to the marsh some resolve never to return again; but, alas, for such resolutions, in a few days some of the same party are again in the marsh. What has become of the adventurer with the snake? His hand not beginning to swell or change in color, they finally conclude it is simply a scratch, and not a bite of a poisonous reptile. Boys are sometimes rash enough to go into marshes barefooted. Parents, if they have any regard for their children, should put a stop to this practice. People from a great distance visit marshes to obtain whortleberries. They are esteemed very highly on account of their medicinal properties. Cranberries, also, grow in marshes, but not in sufficient quantity of late to pay for the picking. The time may come when the vine will be cultivated in the rich soil, and large quantities of this valuable fruit grown for our markets.—*From the "New Dominion Monthly" for July.*

Hearth and Home.

"ONLY A FARMER."

"Now, John, do put on your best boots to-day. Those are covered with mud and positively not fit to be seen."

"They're good enough for me, wife. I'm only a farmer."

Only a farmer, was John's hobby, and he loved to repeat it to his wife as an excuse for his slovenly habits and neglect of the common courtesies which distinguish the gentleman, in whatever occupation he may be engaged, or position in society he occupies. As I happened to be stopping in the neighborhood, I occasionally dropped in on some trifling errand, but more particularly to notice the result and development of the one idea—"only a farmer." I have heard poor preaching, tiresome lectures, shallow pleadings, and noisy debate, but I never heard so weak an apology for untidiness and sloth.

The result was as one might expect. His old shell of a house that his wife—being a superb house-keeper—kept in the most perfect order, seemed just

ready to fall on their heads, and there never came a rain-storm but what they were "thoroughly drowned out." What had once been a cellar wall now lay in heaps or scattered loosely around. An old trough, worm-eaten and otherwise gone to decay, received the water from a dug-out spout from a spring near by.

"Why do you not get a new trough there, John?" I said one day, after quenching my thirst in the clear, cold water.

"Oh," said he, in his peculiar, indifferent tone, "that will last a spell yet, and its good enough for me. I'm only a farmer."

John's barns and out-buildings presented the same disorderly, tumble-down appearance. Old shingles and pieces of board supplied the place of glass, and were held in position by stripes of edging, long or short, according to the degree of elevation. The interior of the barn was literally filled with rubbish. Broken pitchforks, headless barrels, the remains of an old fanning mill, and a horse-rake. Around the outside, over the barn-yard, and in the corners of the fence, were scattered fragmentary wagons and sleds. A wheel here, an axle there, a runner in one place, a tongue in another; pieces of board, plank and sticks of timber of all descriptions scattered around, while every conceivable object that could make a place look worthless and run down was found there; yet it was all good enough for John. He was "only a farmer."

He often went to church in the identical same clothes he had worn through the week, his pants crowded in his boots, and his hair guileless of brush or comb. True he did not seek the best pews, or pompously walk the entire length of the broad aisle, but his dress was many times unfit for the house of God, and often caused remarks derogatory to his wife, who was not the least to blame. Those people who are careless in their habits, or untidy in their dress, often bring reproach on their friends and disgrace to themselves.

There are too many "Johns" engaged in farming, instead of cultivating a taste for order and neatness, looking after things just at the time they need attention, spending a few days in each year in ornamenting and laying out their gardens and grounds, keeping their buildings in repair, &c. Instead of this, anything is good enough. "I'm only a farmer."

Let the man bring up the profession, and not wait for the profession to elevate the man.—*American Farm.*

THE POT ON THE FIRE.

There is one mode of preparing food in the general use in many parts of Europe, which we should do very well more generally to adopt; that is, "gentle simmering." In every, or almost every French household there is the *pot au feu*. This permanent "pot on the fire," after the manner of the old-fashioned "digger," occupies a quite little corner on the stove or fireplace. It can hardly be said to boil, but it simmers on gently, very gently, for hours. There it is the receptacle of many a little bone, whether the trimmings of poultry or butcher's meat it matters not; every little stray fragment of wholesome meat finds its way there. A bit of liver is considered a great improvement,

and any vegetables that happen to be about, add to its pleasant flavor, whether the tops of celery, Jerusalem artichokes—which, *par excellence* make it delicious—or otherwise carrots, turnips, leeks, etc. But supposing it were to be made a together of fresh materials—which, indeed, in France, it rarely is—this would be the proper receipt: Put a gallon of water into a pot; put into this either three or four pounds of shin of beef, or any similar thing. Add to this one onion or two, or some leeks, carrots, or some other vegetable, three or four teaspoonfuls of salt, one of black pepper, three cloves. Give it one boil up; skim carefully. Now cover the pot closely, and let it cook gently, for four hours at least. About every hour throw a wine-glassful of cold water into it, to make it clear. Taste; it may require a little more salt or pepper, according to taste. Pour this soup over roasted crusts of bread. Both soup and meat will be found delicious. The whole secret of this lies in the gentle simmering in a covered vessel, whereby the flavor is wholly preserved and nothing is lost.—*Scientific American.*

SUNNY ROOMS.

Every woman is wise enough and careful enough to secure for her house-plants every bit of available sunshine during the cold Winter months. Great care is taken to get a southern exposure for them. Indeed if one can secure no other than a north window for her plants she has too much love for these unconscious, inanimate things to keep them at all. She would rather leave them out in the cold to die outright, than linger out a martyr existence in the shade.

Folks need sunshine quite as much as plants do. Men and women who have a fair degree of strength and use of their legs can get out into the world and get a glimpse of the sunshine now and then, and if they choose to do so, let them live in rooms with only a northern exposure; but if it is possible, let us secure rooms into which every ray of sunshine that falls in Winter may enter, for the little babies who are shut up in the house, invalids who cannot leave their rooms, and aged people who are too infirm to get out of doors.

Let us reflect for a moment that these classes of persons if kept in rooms with only north windows will suffer just as much from the absence of sunshine, as green, growing plants would do in the same rooms, and their suffering is of account in proportion as a human being is better than a geranium or a fuchsia. Everybody knows how a bright, sunny day in Winter gladdens every one who is situated so as to enjoy it. Let us make some sacrifices if need be in order to give the feeble ones their measure of sunshine.—*Laws of Life.*

HOW TO KEEP CANARY BIRDS.

Many persons have difficulty in keeping their canary-birds in good health. One who is experienced in their care says:—Place the cage so that no draft of air can strike the bird; give nothing to healthy birds but canary and rape-seeds, mixed with water, cuttlefish bone, and gravel on the floor of the cage; also a little water for bathing; the room

should not be overheated; when moulting (shedding feathers) avoid drafts of air; give plenty of rape-seed, slightly moistened; a little hard-boiled egg and cracker grated fine is excellent; by observing these simple directions, birds may be kept in fine condition for years. Bad seed kills most of the birds that die; to which might have been added, that canary-birds are not only very fond of but benefited by having often a leaf of cabbage, pieces of apple, or other green food, which serves to keep down the tendency to fever and prevent constipation. Our birds usually bathe each day as regular. As any one washes the face, and with apparent benefit, too. When birds are sick, and inclined not to eat well, remove all the food for a day, and then only give soaked bread, from which most of the moisture has been squeezed.

HOW TO MAKE SHIRT BOSOMS SHINE.

R. H. W. wants his shirt bosoms to shine like those done up in a laundry, and asks for a rule to guide his wife. Let the starch be made in the ordinary way,—that is, first dissolved in cold water, then boiling water poured over it till it is of the proper consistency. Add to a quart of starch a small lump of white sugar, or a bit of white wax, the size of a navy bean, or a few thin shavings of white soap and a spoonful of salt. Butter or lard, or spermaceti can be used instead of wax. After the clothes are rinsed, in the blue water, starch them, and dry on the clothes line; then wring them from cold water, roll up tight, and let them lie awhile. Iron smoothly in the usual way. Then place the bosom, or piece to be polished, on a board with a single fold of muslin over it, pass a damp cloth over the linen and polish with an iron made for that purpose. It may be purchased at a hardware or house-furnishing store for seventy-five cents. If the edges of an ordinary smoothing iron are ground off with a rounding bevel, the desired effect can be produced with it. In ironing shirt bosoms, as in every other accomplishment, "practice makes perfect." There are a dozen little difficulties to be overcome which only experience can master.—*N. Y. Tribune*

PAPER COLLARS.

The *Boston Commercial Bulletin* says the paper collar grows in importance yearly. The production in Boston, in 1860, was 60,000,000 collars; in 1870, it was 75,000,000; and the rate for 1871 is 150,000,000. The profits do not participate in this increase. On the contrary, the competition is so close that it is only in improved machinery and prudent, close working of stock that a percentage is secured. One of the argest manufacturing dealers asserts if he could save one-eighth of an inch to each collar, on his waste of paper, beyond the savings of any other maker, he should consider that eighth of an inch a sufficient profit in his business.

When paper collars were first introduced they were in boxes of one hundred, at \$3. Subsequently, to secure the public interest and a general trial, they were tied in bunches of ten and sometimes afterward "put up in round boxes, for the accommodation of travelers." It was at this time that the novel ad-

vertisements made their appearance, reading;—"It costs 75 cents a dozen to wash linen collars, which at seven collars a week, is 43 cents, or \$22 a year; 365 paper collars are sold for \$5."

The recent perfection of linen finished collars has increased the sale of fine goods very heavily. Hence the incentive to dress nice stocks in handsome packages is legitimate, while, at the same time, it affords to the manufacturer a better margin for profit. The price for collars now ranges from \$1 to \$35 per 1000. The amount of capital invested by eleven New England manufacturers is about \$3,000,000, varying in individual cases from \$30,000 to \$500,000.

HOW TO KNIT A TIDY.

Cast upon very coarse needles ninety-two stitches, knit across plain like the heel of a stocking, seam back, knit across plain as before, then seam back. Commence, narrow eight stitches into four, put your thread up over once, making a loop stitch hole, and knit one stitch, thread over knit one, thread over, knit one, thread over, knit one, thread over, knit one, thread over, narrow eight times, thread over, knit one, thread over, knit one, thread over, knit one, thread over, narrow eight times as above on the right side, across, seam back, knit across plain, seam back making three times across, between eyelets, according to rule. You can have it as long or as short as you choose. I have one for a common lounge made of carpet warp. Trim with fringe or not, as you think best.—*Household.*

LEARN TO SWIM—Every boy and girl should know how to swim. It is generally thought to be an accomplishment more proper for boys than for girls; but there is quite as much need that girls, too should know how. It is great sport, and the boys should not have all the fun to themselves. But, as a matter of security against accidents, it is very desirable that every one should be able to swim, or at least, to keep their head above water. There is one proper time for young people to learn to swim, and that is—when your parents will consent to it. The judgment of the older people should be taken in regard to the safety of the place in which to learn. In trying to swim, always let your progress be towards shore. Wade off until the water is up to your breast, and then try to swim to the shore, taking it calmly and not to make too hard work of it. Of course, the attempt should be made where the water gradually deepens, where the bottom is safe, and where there is no strong current. These are things that boys should not trust their own judgment about. When you have learned to swim without clothes, or at most bathing drawers put on a pair of old pantaloons and try to swim with them. It will be found difficult at first, but it can be done; then try a shirt and vest, and, finally, shoes. But few persons learn to swim in clothing, and it is the most important thing about it. When one goes overboard by accident, he has no time to remove his clothing, and it is not well to wait until such an event happens before you find out how much more difficult it is to swim with clothing than it is without. It is not easy to give directions in swimming; the best way

is to follow the instructions of some old friend, or of your parent. Try and be a good, straight-ahead swimmer, before you attempt any of the many fancy tricks. Learn to swim first, then to float, and then to tread water; these are the most useful; afterwards you may add as many extra styles as you choose.—*American Agriculturist.*

COUNSEL TO SONS.—Rev. Mr. Murray talks thus wisely of the training of children:—"Say to him, 'My son, I am not educating you for this earth: I am educating you for heaven. I am not showing you how to serve yourself: I am showing you how to serve God. It will not delight me one hundredth part so much to know that you are fitted for business as to feel that you are fitted in character and taste for heaven.' Say to him, 'My boy, I am not able to keep you: God alone is able to keep you. He alone gives the breath to your nostrils; He alone upholds you; but for Him, you would, even while I am talking with you, drop dead. Remember that you are not mine; you are not your mother's; you are God's. He gave you life. He upholds you day by day; without Him you could do nothing. By and by, your stay here will end. He will send for His Messenger to bring you home and you must go. Ah see to it that you are prepared to meet Him in that hour.' Say this to your son, father; say it in so many words. Some things must be spoken to be fully understood. The voice adds force to the truth, and deepens its impression. Bear testimony, then, for God, and your children will remember it while you live; and when you have gone from sight, being gathered to your reward, they will say, 'Our father failed not in his duty toward us, but taught us all he knew of wisdom;' and they will rise up and call you blessed."

EAT SLOWLY.—Many a man has been choked to death in attempting to swallow his food before he has chewed it long enough. Food in the stomach, surrounded with its juices, is like pieces of ice in a glass of water; for as the ice melts from without inwards, so the stomach juices dissolve the bits of food from without inwards; and, as the smaller the pieces of ice, the sooner they are melted, so the smaller the bits of food, the sooner they are dissolved, and pass out of the stomach, to be distributed to the system, give it life, and warmth and vigor. But if the pieces of food are large, they begin to rot before they are melted, causing heaviness, belching, nausea, or other discomforts. These make bad blood, contaminating the breath, sending dullness to the head, depression to the spirits, and a universal feeling of unwellness, lasting sometimes for half a day or a whole night. Therefore eat slowly, with deliberation; talk a great deal at meals; cultivate cheerful conversation; and let any man or woman be considered a domestic enemy and pest, who says or does anything at the table calculated to cause a single unpleasant sensation in any one present; and for the same reason have sharp knives to cut up every piece of meat as fine as a pea; and take at least half an hour for a joyous meal, you may snap your fingers at dyspepsia and its interminable retinue of horrid symptoms.

CARE OF THE FEET.—Many are careless in the

keeping of the feet. If they wash them once a week they think they are doing well. They do not consider that the largest pores of the system are located in the bottom of the foot, and that the most offensive matter is discharged through the pores. They wear stockings from the beginning to the end of the week, without change, which becomes completely saturated with offensive matter. Ill health is generated by such treatment of the feet. The pores are not repellants, but absorbents, and this fetid matter, to a greater or less extent, is taken back into the system. The feet should be washed every day with pure water, and the stockings should not be worn more than a day or two at a time.—*Scientific American.*

THE APPLE AS DIET.—The importance of apples as food has not hitherto been sufficiently estimated or understood. Besides contributing a large proportion of sugar, mucilage, and other nutritious compounds in the form of food, they contain such a combination of vegetable acids, extractive substances and aromatic principles as to act powerfully in the capacity of refrigerants, tonics and antiseptics; and when freely used at the season of ripeness, by rural laborers and others, probably maintain and strengthen the power of productive labor.—*Laebig.*

LIVER AS FOOD.—The *California Scientific Press* says:—"We cannot too strongly denounce the use of liver and kidneys as food for man. The organs are constantly charged with the worn out, excrementitious matters of the system, the presence of which, when rightly understood, are disgustingly offensive to the taste. Their presence is evinced by the fact that these portions of an animal are always the part first subject to decomposition. They make very good food for hens and dogs, but for man—never!"

Take the white of two eggs and beat them in with two spoonfuls of white sugar, grate in a little nutmeg, and then add a pint of lukewarm water. Stir well and drink often. Repeat the prescription, if necessary. Our friend thinks it will cure the most obstinate case of hoarseness in a short time.

There is no better remedy for cold feet than to slap the leg briskly just above the knee, after raising the foot. The increased circulation induces immediate relief.

A piece of vegetable charcoal laid on a burn soothes the pain, and if kept applied for an hour, cures it completely.

Arts and Manufactures.

AN ELECTRIC JOKE.

Some weeks ago, one of those illegitimate sons of science, the vagrant electric men, opened out in the streets, with his dial for testing how much torture his voluntary victims could stand. To stimulate trade, he kept a standing offer to pay \$5 to whoever could stand as much electric fluid as his machine would furnish. One day, a boy pre-

sented himself and announced that he had come to win that \$5. The man handed him the "handles," and started the machine. The boy stood it wonderfully. The operator turned the crank faster, and asked the boy how it felt. The boy said it did not feel at all. The man thought something must be the matter, and commenced an elaborate tightening up of the screws, and then commenced another series of swift revolutions, which ought to have produced a current sufficient to kill the boy; still he laughingly assured the fellow that he did not experience the slightest sensation.

Out of patience, the man demanded to see his hands, and then the secret was explained. The boy belonged to the telegraph office, and had picked up one of the pieces of insulated wire now being put up inside the office, and had passed it up one sleeve of his coat, around his shoulders, and down the other sleeve, and then uncovered the ends of the wire in each hand. Thus armed, he had gone to the electric man; of course, the uncovered ends of the wire pressed against the metallic handles, presented a better medium than the boy's body, and the current simply passed to them and along the insulated wire around the boy's body, without touching him. That "electrician" was very mad, and all the more so as the crowd drawn together thought it a good joke, and took the boy's part. The man was so laughed at that he left town.—*Scientific American.*

THE USE OF GLUE.

To do good glueing, the work must be well fitted. We use a scratch-plane and file in fitting work for glueing. The shop must be warm, the parts to be glued well warmed, and a kettle of good glue in readiness, well cooked, and brought to the proper consistency. Badly-tempered glue is one great point of failure. If the glue be too thick or too thin, the work is ill done. It is most frequently used too thick. In glueing panels for carriage work, etc., the work should be well run over a few times with the glue brush, until the pores of each part are well filled, and if the work be well warmed, the glue hot and of the right thickness, the first coatings will frequently strike in or be absorbed by the pores of the wood.

This striking into the pores is what gives a glue joint its great strength and durability. Now, having clamps, hand-screws, etc., ready, put together immediately, bringing the parts firmly together, leaving no body of glue between, but do not get in a hurry. Use nothing but the best glue. If we do a bad job of glueing, screws will not cure it; it is a bad job at best, and will give out sooner or later. When glue joints open, they begin at corners or ends, and work in by degrees. Screws at these

points may stop the openings for a while, which is the most they can do. They are of but little use in panels to carriage bodies.—*Coachmakers' Manual.*

ABOUT LIGHTNING RODS.

It seems to be proved that copper points on lightning-rods are more liable to fusion by lightning than those of iron although copper is a much better conductor of electricity. In a discussion of this subject before the Belgium Academy of Science, it was stated that in fourteen cases of partial or total fusion of the points, seven were of copper, three of iron, and four of platinum. The round iron rod has the advantages over the square. It should increase in diameter downward and should consist of six-foot lengths, each welded together. If the ground-string of the conductor, is to be led over-ground, it ought to be eleven-sixteenths of an inch in diameter, screwed and one and an eighth inch long—the iron rod adjoining to be screwed similarly—but one to have a left and the other a right handed thread, joined by a corresponding screwed socket, the ends of the rods abutting against each other; all the other joints to be made in the same way. The horizontal string of the conductor is to be joined to the vertical by hand-soldering a ring welded from the former to the latter; the ground string terminating in a cast-iron pipe filled with charcoal and with a hermetically closed cover, screwed at the part where the conductor passes through—the end of the conductor being screwed into a metallic dice.—*Ex.*

LARGE NEWSPAPER.

The largest paper in the world is said to be the Hereford (England) *Time*, established in 1832. It is published weekly, consists of two sheets, each containing eight pages—each page of seven columns the columns being longer than those of the *London Time*, and each page containing one more column than a page of the *Times*. In addition, a railway table of seven columns is published every month, and given away with the newspaper, the price of the whole being three and a half cents. A notable feature is the indices; one index referring to every department of news and advertisement, and the other referring to the auction advertisements, the latter forming a distinguished feature. The paper is published in a cathedral city of less than 20,000 inhabitants. The average circulation exceeds 10,000 copies, and the advertisements during 1870 numbered more than 20,000.

A Machine has recently been perfected in London, with which a writer, using a pen in the usual manner, can at the same time produce a duplicate so small as to be invisible to the naked eye, but so distinct that a microscope will reveal every line and dot. A most useful application of the apparatus will be for the prevention of forgery, as private marks can be made to notes and securities, legible under microscopic power but which no imitator could see or even suspect the presence of. The inventor, a Mr. Peters, states that the entire contents of the Bible can, with the help of this machine, be written twenty-two times in the space of a square inch.

Poetry.

WHAT THEN.

An old man crowed with honors nobly earned,
Once asked a youth what end in life he sought.
The hopeful boy said, "I would first be learned,
I would know all that all the schools e're taught."
The old man gravely shook his head;
"And when you have learned all this, what then?" he said.

"Then," said the boy, with all the warmth of youth,
"I'd be a lawyer, learned and eloquent;
Appearing always on the side of truth,
My mind would grow, as thus 'twas early bent."
The old man sadly shook his head;
"And when you have done all this, what then?" he said.

"I will be famous," said the hopeful boy;
"Clients will pour upon me fees and briefs;
'Twill be my pleasing task to bring back joy
To homes and hearts near crushed with darkest griefs."
But still the old man shook his head;
"And when all this is gained, what then?" he said.

"And then I will be rich, and in old age
I will withdraw from all this legal strife;
Known in retirement as an honored sage,
I'll pass the evening of an honored life."
Gravely again the old man shook his head;
"And when you have done all this, what then?" he said.

"And then—why then I know that I must die—
My body then must die, but not my fame;
Surrounded by the fallen great I'll lie,
And far posterity shall know my name."
Sadly the old man shook his head;
"And after all this what then?" he said.

"And then—and then?" but ceased, the boy to speak,
His eyes, abashed, fell downward to the sod;
A silent tear dropped on each burning cheek;
The old man pointed silently to God,
Then laid his hand silently on his drooping head,
"Remember, there's a place beyond," he said.

BEGINNING TO SINK.

A ship was tossing in the wind
Upon the billowy sea,
And fearful mariners looked out
On storm-rocked Galilee,
When lo! upon the heaving floor,
Across the swelling wave
A form approached with fearless step—
A friend drew near to save.

"It is a spirit!" now they cried—
Each heart with fear dismayed;
"Be of good cheer!" a voice replied,
"Tis I, be not afraid."
The sanguine Peter heard, and called
"Lord bid me come to thee!"
"Come!" and he sprang from out the ship
Upon the rocking sea.

The silvery floor beneath his feet
Seemed opening for his grave,
Faithless and sinking, loud he cried
Unto his Lord to save.
How good the grasp of that firm hand,

With trouble girt about!
And still we ask, as Christ then asked,
"Oh! wherefore did'st thou doubt?"

We toes upon a wilder sea—
We hear a voice say, "Come!"
We leave the ship, and think to bo
Upon the wave at home.
And white our eyes are fixed on Him,
We from no danger shrink;
But ah, we turn to the waves,
And then begin sink.

An unused thimble—littl ring—
A book with half a cover—
Treasures of lost ones—how they sweep
Our sinking hearts all over.
A vacant seat within our pew,
An empty chair at table.
Oh, waves like these engulf us quite—
To walk we are not able.

When lo! a hand again stretched out,
A voice of love to cheer us;
We feel the grasp, we know the power.
'Tis Jesus drawing near us.

"Be of good cheer! Look unto me!"
The waves shall not come o'er us;
E'en now the harbor is in sight,
The land is just before us.

—Christian Weekly.

THE GRASS.

The grass, the grass the beautiful grass,
That brightens this land of ours,
Oh, why do we rudely let it pass,
And only praise the flowers?
The blossoms of spring small joys would bring,
And the summer bloom look sad,
Were the earth not green, and the distant scene
In its emerald robe not clad,

Then sing the grass, the beautiful grass,
That brightens this land of ours;
For there is not a blade by nature made
Less perfect than the flowers.

The grass, the grass, the feathery grass,
That waves in the summer wind,
That stays when the flowers all fade and pass
Like a dear old friend behind;
That clothes the hills and the valleys fills,
When the trees are stripped and bare;
Oh, the land would be like a wintry sea,
Did the grass not linger there.

Then sing to the grass, the bony green grass,
That to all such a charm can lend;
For 'tis staunch and true the whole year through,
And to all a faithful friend.

The grass, the grass, the bountiful grass,
Oh, well may the gift endure,
That never was meant for creed or class,
But grows for both rich and poor.
Long may the land be rich and grand
Where the emerald turf is spread;
May the bright green grass, when from earth we pass,
Lie lightly o'er each head.

Then sing the grass, the bountiful grass,
That stays like a dear old friend;
For whatever our fate, it kindly waits,
And it serves us to the end.