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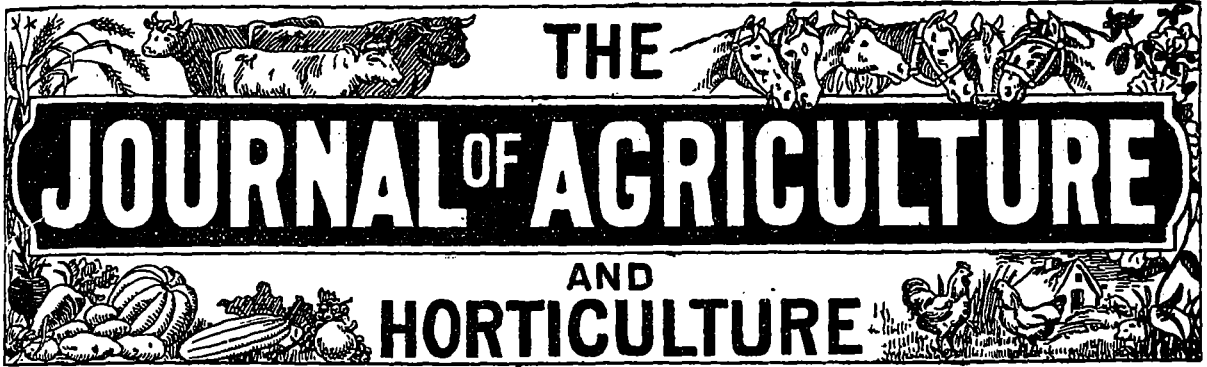
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VOL. 3. No. 4

This Journal replaces the former 'Journal of Agriculture,' and is delivered free to all members of Farmers' Clubs.

AUGUST 15th, 1899

THE
Journal of Agriculture and Horticulture

Notes by the Way.

THE JOURNAL OF AGRICULTURE AND HORTICULTURE is the official organ of the Council of Agriculture of the Province of Quebec. It is issued Bi-monthly and is designed to include not only in name, but in fact, anything concerned with Agriculture and Stock-Raising, Horticulture etc. All matters relating to the reading columns of the Journal must be addressed to Arthur R. Jenner Fust, Editor of the JOURNAL OF AGRICULTURE AND HORTICULTURE, 4 Lincoln Avenue, Montreal. For RATES of advertisements, etc., address the Publishers

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Corn.—A new kind of corn seems to have been brought into notice by a Mr. Routliff, of Hull, near Ottawa, to which the name of its promoter, if not its inventor, has been assigned. Some of the seed of this maize has been distributed, by the Department of Agriculture, throughout the eastern part of the province of Quebec, with a request to the recipients that they would report upon the results of the crop after harvest.

M. Auguste Dupuis, the well known orchardist of P'Islet, speaks in the following enthusiastic terms of the Routliff corn: "The two ears of Indian corn you sent me have yielded enormous crops, with very long, well filled ears. It was greatly admired at the P'Islet exhibition, where it won the first prize of the 12 finest ears of maize. It is later in ripening than the Canadian corn, but its stalks are as long as the taller sorts of sweet-corn. If large ears are desired, this corn must be planted in rows 2½ feet apart.

I am satisfied, that of all the corn introduced into the county of P'Islet this is the most profitable. It is better for silage than the dent-corn. I only grow a small quantity of corn on my farm. As manure for the crop I use poultry-droppings mixed with bog-earth.

Sugar-beets in England.—Further experiments on the growth of the sugar-beet have been carried out in England. In May 1899, a detailed report of the results of this crop, grown by sixty-five persons, in 30 different counties, was sent in to the Board of Agriculture. In 13 cases, the yield was trifling, in consequence of the excessive drought.

The beets were grown as the usual practice is for growing mangels; season, from late April to early May; cost, much the same as for mangels, except that the lifting and cleaning of the roots were more costly; 3 to 10 pounds of seed to the acre was sown, and the were either hand-pulled, forked, or spade-dug.

In the year in question, the average yield in England of the mangel-crop was $17\frac{1}{2}$ tons to the acre, and the yield of the beets on the plots mentioned in the report $16\frac{1}{2}$ tons.

But the 65 growers of the beets on the experimental plots state that in only 3 cases did their mangel-crop fall below 20 tons to the acre, running from that to 40, and, in one case, to 60 tons, the average being $26\frac{1}{2}$ tons, by the side of which the $16\frac{1}{2}$ tons look but a mean result.

The average quantity of sugar per cent of the juice is given as 15.65; the average quotient of purity as 85.19; and the average quantity of sugar in 100 parts of the roots as 14.48. Still, somehow or other, we do not think that the general opinion among farmers in England seems to be in favour of the cultivation of the sugar-beet.

Charlock again.—Heaps of experiments, on the destruction of wild-mustard by spraying with sulphate of copper solutions, continue to be reported in the English papers. Some, though a minority, of the experimenters say that it has failed on their land; that although the charlock was checked it afterwards received and even grew with greater vigour after the spraying.

But the majority, comprising members of the agricultural schools, colleges, and societies, who are experimenting on a large scale, report highly in favour of the method.

In Staffordshire, on farms placed by their occupants at the disposal of the "Agricultural side" of the Grammar school, at Brewood, the spraying was carried out in different plots while the charlock was at various stages of growth, as follows:

FARM A.—June 1st.—Charlock about 2 in. high in late sown barley was sprayed, with the result that after a week had elapsed scarcely a charlock plant was to be seen on the infested plot, though later a few fresh seeds germinated, causing the growth of some few charlock plants. The field shows a green strip where the spray was applied, while on either side of this the field is yellow all over, the charlock showing as thick as possible. The

farmer himself said no damage was done to the barley, and was so much pleased with the result that he decided to spray all his spring corn.

FARM B.—June 5th.—A field was selected where the charlock plants were very strong, just in full flower in barley, and considerably higher than the corn. In four days afterwards the weed was noticed to be dying, but to make doubly sure the plot was again sprayed five days after the first application (though we know now as the result of later experiments this was totally unnecessary). For some time this field was yellow over with that "pretty" flower, excepting a clearly defined green band representing the sprayed plot. Here the leaves of the charlock succumbed first, and the flowers thus deprived of their nourishment withered away.

FARM C.—June 8th.—On this farm the charlock was very strong, with large leaves and thick stems; the oats among which they were growing were fully 18 inches high, and very much sheltered the weeds. After about five days I met the tenant of the farm, who told me that the charlock was dying wholesale; and later he has told me that it is completely killed where sprayed. He wishes that the whole field had been similarly treated at the same time.

FARM D.—June 9th.—Here the charlock was not quite so thick in the oats, though the plants were far advanced, small seed-pods being formed in many of the flower heads. In this plot, however, in less than a week afterwards, the weed was looking very sickly, and, a little later, in the place of the healthy charlock, were darkened stalks with withered dry leaves and dead flowers.

FARM E.—June 14th.—On this farm the charlock was stronger and thicker than in the former cases, while it was forming seed, and very much smothered the oats among which it was growing. In four days after the treatment, the difference between the sprayed and unsprayed plots was ostensibly apparent, and though drenching rain fell three days after this plot was sprayed the charlock is all disappearing. Even where the pods were formed, the latter did not mature, so that all the half-formed seed is dying.

FARM F.—This was sprayed June 23rd, during a fine drizzling rain, though there was not sufficient fall of rain to wash off the spray. After being dressed four days, the farmer wrote me as follows: "Kellock quite past expectation so soon.

you can see to an inch where we sprayed. I am quite, and, indeed, more than satisfied."

With such results as above, for the most part reported from practical farmers, I think there is little room to suggest that charlock spraying is a failure; and where failure has occurred may I suggest that it is due to one or more of the following causes:—

- (1) Uneven spraying.
- (2) Too small a quantity of spray applied per acre.
- (3) The use of copper sulphate of an impure quality.
- (4) The copper sulphate being imperfectly dissolved.

Kelloch, by the bye, is, to me, an entirely new form of the word; purely local, of course, as are *kilk*, *cadluck*, etc. It is astonishing how many local peculiarities of diction, dependent on whether the district was originally settled by Angles, Saxons, or Danes, are still current in England; just as in Scotland; where intimate connection subsisted between the inhabitants and the French during the hundred years-war between the latter people and the English; many, a great many French words are still in common use, such as: *pinch*, a crowbar, from Fr. *pince*; *tass*, a cup, etc., etc., dozens upon dozens of them.

Green-fodder.—It is positively astonishing to look at the effects of the heavy rains of the last three weeks on the field of tares and oats sown for green-fodder. In pieces where there were but small hopes of a decent swath a fortnight ago, the tares being hardly visible, there is now quite a heavy cut, the tares having made what may fairly be called a marvellous progress, being now as high as the oats: it takes but a very small piece of land to supply a full supper for the herd of fifteen cows kept on the farm where we are passing the summer.



The Garden and Orchard.

(CONDUCTED BY MR. GEO. MOORE).

THE APPLE CROP.

The Commercial Bulletin notes that the reports concerning the American apple crop are conflicting and no positive estimate can be made.

Evaporators are proposing to evaporate more than ever before and to even double their capacity for work in the more important localities.

Canadian reports indicate a larger yield in some district than ever before, while others say that the yield will not be so heavy. The average seems to promise a larger crop than last season. Evaporators are here also planning largely.

From Nova Scotia the outlook is very cheering.

A GOOD EXAMPLE.

Whatever may be the opinion of some as to whether the war between the United States and Spain was justifiable, it is evident that good is coming out of it already.

The *Outlook*, a magazine conducted by the Rev. Lyman Abbott, of New York, has instituted a Cuban relief fund which amounts to over \$5000, with subscriptions pouring in. But it is the way the fund is being administered which makes it of interest.

A farm called the "Outlook" has been purchased out of this, and another out of funds being raised in New England, called the "New England farm." An expert, Mr. W. W. Howard, has been sent out to manage them, and to show the Cubans what good farming can be made to accomplish.

We can think of no better means by which relief can be given to a people who have been placed by Providence under the fostering care of the great Republic. There is nothing better than to teach, and encourage people to help themselves, and no better way of doing so than by object lessons and inculcating habits of industry and self reliance. Right doing, like disease, is contagious, and if the Cubans catch the contagion it will be a happy thing for them and for civilization. The letter sent to the *Outlook* by Mr. Howard, from which are below a few extracts, indicates that this is even now the case.

Surely example goes before precept, and any model farm, or even, an individual who farms well sets a good example which affects the welfare of the human race and this applies as much to Canada as it does to Cuba.

EXTRACT OF LETTER FROM MR. W. W. HOWARD
Ceiba Mocha, Province of Matanzas,
Cuba.

"The work on the Outlook farm is going forward with increasing success. Of the fifty-four men, women and boys on our pay roll, not one has failed to learn the use of American tools easily and quickly. When the newness and strangeness of the work has worn away, we shall have a force of field hands as efficient and industrious as any one could reasonably desire. *Patience, kindness and human sympathy* will work wonders with these people."

After alluding to the wonderful fertility, the writer goes on to say, and this is the most interesting part of his letter, as showing that the infection had taken hold.

"Our presence in the village of Ceiba Mocha has had a remarkable effect upon the sanitary condition of the place. The Alcalde (a chief magistrate) of the place has, for several days, had a gang of men at work, cleaning the streets, and that entirely of his own volition. We were too busy to suggest the cleaning of the streets. When the accumulation of months of dirt and grass had been deposited in piles along the sides of the street, we showed our appreciation of the changed spirit of the village, by offering the alcalde the use of a four mule team and big waggon, with which to travel the stuff to a dumping ground some distance from the village. Our offer was accepted with profuse acknowledgements of satisfaction.

"When our big waggon appeared in the street ready for work, the householders ran out with all sorts of home-made brooms to sweep up any stray litter that might have been raked into piles with hoes. The streets were swept as clean as Broadway. Afterward, the village physician came to us to ask us to express the opinion that all pigs should be removed from the village. We had no hesitation in expressing that opinion, and the satisfied physician, who had been for weeks protesting against the presence of the pigs as injurious to health, went off to find the alcalde.

"On the evening of July 4, about a hundred of the citizens of Ceiba Mocha formed in procession, with a drum and a profusion of Cuban and

American flags, and marched to the head quarters of Outlook Farm No. 1, for the purpose of giving expression to their satisfaction over the establishment of the relief-work in their village... The people felt that a new life had begun to dawn for them, and they wished to show their appreciation of the service which the relief movement promised, not only to Ceiba Mocha, but to the whole of Cuba. The speakers pointed out that the people of the village felt encouraged to pluck up heart to do something for themselves, a practical illustration of which was the cleaning of the streets."

Well done Outlook, your victory over ignorance, sloth and their accompanying vices will be more glorious than any won on the field of battle, and should teach all the world to go and do likewise.

GEO. MOORE.

A HARDY PERENNIAL.

Monarda didyma.—This is one of the most useful of the hardy herbaceous perennials and has been a favorite in English gardens for generations, but will thrive equally well in this climate. Its



Monarda didyma

brilliant red flowers, which are borne above the foliage, and remain a long time in bloom, make it one of the most attractive plants for mixed flower borders or among dwarf shrubs, which have gone out of blossom.

There is also a white variety which is not so showy, this is sometimes called Bergamot, but the trivial name is *Oswego tea*.

Bergamot (*Monarda fistulosa*) is not so conspicuous, the flowers being purple, lilac or white. All have rich aromatic leaves, but the true Bergamot perfume is extracted from a variety of the Orange family (*Citrus-bergamia*), named from the town of Bergamo, (1) in Italy. From the rind of

(1) It was in that town that Rubini, the greatest tenor of the century, was discovered singing in the chorus of the Italian opera. He worked as a tailor in the daytime! Ed.

this fruit an essential oil is obtained from which the delicious perfume is extracted.

NOVA SCOTIA CROPS PROMISING.

Favourable accounts regarding Hay, Potatoes, Fruits and Grain.—Apple exports may reach 400,000 barrels.

Halifax, N. S., July 28. — The Nova Scotia Department of Agriculture finds from information obtained from the various sections of the provinces that the hay as well as all other crops will probably be fully up to if not above the average.

Pasturage has been generally good and live stock is in good condition. There is an increase in the number of sheep raised in almost all the districts which pay attention to this branch of husbandry. The potato crop and all root crops promise an abundant yield, being five to ten per cent above the average. So with oats and other grain crops. The fruit crop in the Annapolis and Cornwallis valleys will be a good one. In other parts of the province the apple crop will be a little behind, but taking the province all over there is good hope for a profitable year, and the exports of apples this season from Nova Scotia will be at least 400,000 barrels.

A NEW FRUIT.

A fruit is reported from California, a cross between an orange and a lemon: it has the shape of the lemon, the color of the orange, and the flavor of both. It is a wonder that this has not been produced before, for both belong to the same genus. The lemon being the species *limonum*, and the orange *aurantiacum*, they should cross without any difficulty whether it will be a valuable acquisition remains to be proved.

The Poultry-Yard.

HOW TO KEEP POULTRY.

Every one who keeps poultry should remember that cleanliness is one of the most essential points to be secured in the management and care of poultry, if success is desired.

Fowls will not thrive in a dirty fowl-house. The floor should be kept scrupulously clean and

dry; and the walls should be whitened or lime-washed two or three times a year to prevent lice or other insect pests from giving trouble. Bad smells are injurious, not only to the owner but to the fowls. Some slaked lime should at all times be kept in a box near at hand so that some of it may be scattered over the droppings, and injurious smells will be banished. Poultry kept in damp and dirty situations are easily attacked by catarrh, and this often ends in roup, while young chicks confined in cold or dismal places are liable to be attacked by scrofula.

Poultry keepers often experience a difficulty in securing a dry floor for their stock.

Brick and stone floors are too cold, and floors constructed in the former material imbibe the moisture that is cast upon them. A dry floor may be made by digging out the site a foot deep, and then filling this up with gravel and burnt clay well pressed down. Over this another coating of gravel or cinder ashes may be placed together with lime and water, the whole being well mixed and properly leveled.

Wooden floors, although dry, get foul in time and then damp if frequently washed, but if well covered with six or eight inches of dry sand and that covered with good litter of straw or leaves have given me good satisfaction. All droppings should be brushed away frequently. If the food be thrown on a foul surface the poultry will swallow the filth and undoubtedly serious results may ensue. When fowls have an unlimited range, and can go where they please, there is comparatively little trouble with them, but when they are confined in a limited space their walking requires consideration. It should be impossible that their food should be thrown above their excrement and this can only be avoided by strict attention to cleanliness.

It has been proved over and over again that a few fowls well housed, kept clean and regularly attended to will prove much more profitable than a larger number crowded together in an insufficient space.

Perches should always be placed low; from eighteen inches to two feet is sufficient height from the floor. Flying from high perches is conducive to bruised feet and heavy birds occasionally fracture their breast bones. A pole three or four inches in diameter split in two equal parts and fixed with the round part upwards will make an excellent perch.

Dry dust or ashes is an absolute necessity in every house so that the fowls may roll in the same to clean themselves and get rid of the fleas or other parasites with which they may be infested. Where white fowls are raised sand is better than cinder dust as the latter soils the plumage.

Fowls allowed to roam at will always make dust heaps and retire to them every day to enjoy the luxury of a dust bath. The dust bath to the hen is what the water bath is to mankind.

S. J. ANDRES.

If it is a task to keep hens warm and healthy during the winter, it surely requires an equal effort to have them cool and comfortable in summer. For this purpose, natural shade is preferable, such as fruit trees and bushes, sunflowers and grape vines or anything that will temper the rays of "Old Sol" and make his presence endurable. The windows should be removed from the house, the openings covered with wire screen or netting.

A slat door in place of the board one lets in the fresh air and keeps out night marauders.

As the chickens grow older and the mother hens are taken away, they are prone to crowd into the coops together, instead of each brood into its separate place.

On warm sultry nights, these congregations have to be looked after and divided up or you would find many of them smothered to death in the morning.

At this age they should be removed into larger summer houses. These houses should be made about 8 ft. long, 5 ft. wide and about 5½ ft. high with two roosts running lengthwise about 18 inches apart through the centre. The front and east sides are slatted while the back and west ends may be boarded tight to protect the occupants from the wind during the fall. Roofs can be made of hemlock boards battened, with a coat of tar to preserve the wood and keep them from leaking. These houses will accommodate from thirty to forty growing chicks, yet they should be culled as they grow older to make room for the addition of the remainder.

The slatted door should be put in at night to keep out chicken enemies; yet in localities where the foxes and owls are absent, an opening can be left in up near the roof, out of which they can go out first thing in the morning, it may be before

you are out of your bed. A healthy chicken is very fond of getting out very early in these summer mornings; in fact I have seen them moving about at grey dawn: often by three o'clock a.m.

If they are obliged to remain in small coops for three or four hours later they would worry off more than half that they gained the day before.

A vegetable garden (1) makes an excellent resort for young chickens and by putting a liberal amount of seed we can let them have that privilege until nearly half grown. One breeder says: "When the garden-stuff gets large enough to hoe, I make it a point to cultivate just before a rain and go over as much space in one day as possible. A hen with her brood might do considerable damage in a mellow garden patch, but the chicks alone will often do more good than harm, in fact the insects they destroy more than compensate for what few plants they uproot or seeds eaten.

No better green food exists for yarded fowls than that which we find in any fertile summer garden: the tender and succulent wild mustard, big and chickweed, also common purslane are the delicacies of the season.

Lawn clippings are excellent, but as warm weather advances all kinds of grass are apt to become tough and wiry; while greens and weeds are always tender.

This month ends pretty much the sale of eggs for hatching for the year, perhaps you may sell a few odd sittings but not many.

The male birds should be now removed to separate coops and pens and the breeding hens should be given free range. It is often contended among some members of the poultry fraternity that the business is not profitable, yet there are many sittings that change hands between the months of January and June every year.

It is often the case that the majority will not get as good hatches as they hope for, yet the chances are in favor of their securing birds worth many times the cost of the eggs.

S. J. ANDRES.

Oh! does it? Then we wish Mr. Andres could see our turnip-bed: leaves more like a lace-veil than anything else; the chicks fed on them, in spite of lots of food and an unlimited range over 80 arpents of crops! And we are fond of turnips, though not of swedes! Ed.



Household Matters.

(CONDUCTED BY MRS. JENNER FUST).

PRESERVES.

The duty of every mother of a family is to preserve as much fruit as possible for use during the long winter, and there are many ways of doing this.

Making jam is the most compact and expensive at the time. Drying in the sun is anything but an expensive process, but must be done carefully and watched well to guard from rain and many little enemies: I fear the sparrows would make short work of the whole store should they find it out. The fruit would have to be put into shallow trays and covered with muslin to secure them from all enemies, if the process is to be successful. When well dried, the fruit should be put by in paper bags till wanted. Soak well for twelve hours and they will be a useful assistant in case of need.

Some people are most successful in canning fruit, and now that glass jars are to be got at little expense it is a very good way of preserving fruit. Very little sugar is used in the process, and the outlay for jars for the first year or two will soon be repaid by the nice fresh fruit always ready for use.

The jars should be chosen with care, looking well there is no flany in them; the stoppers must be perfectly tight fitting, to exclude the air from the fruit. After emptying, the bottles must be put away clean and dry, each bottle with its own stopper, this will save them in good shape for the following year.

How to make jam.

An enamelled pot, a little water in the bottom of it to prevent the fruit from burning before the juice begins to flow.

Choose good ripe fruit, and boil it alone for about half an hour to keep it a good colour, as long boiling with the sugar spoils the colour of the jam.

Weigh the fruit and to every pound allow three quarters of a pound of sugar.

Heat the sugar before adding it to the fruit, thus it will not stop the boiling; boil rapidly another half hour, stirring all the time to prevent burning; remove the scum as it rises, test a little

of the jam by dropping on a plate; if it sets at once, remove quickly from the fire before it has time to spoil.

In the mean time, while the jam is boiling, the jars should be placed to warm so that they will be quite dry to receive the jam. Store in a cool place to prevent mould or fermentation.

Jam properly boiled needs only a piece of paper tied over the top; some people stick this on with paste or gum, which excludes the air more thoroughly.

A very good family jam can be made by mixing rhubarb with fruit, as it takes the flavour of any kind of fruit that is mixed with it.

Raspberries may be mixed with half their weight of rhubarb and will taste nearly as well as if done alone.

This mixed jam will be more juicy, and have fewer seeds in it.

Black currants are really improved by the addition of a little rhubarb, up to a quarter of their weight, always providing the currants are very ripe.

COOL DRINKS.

Sparkling lemonade.

Six large lemons sliced and the pips removed. Sprinkle over them two teacupful of sugar and let them stand for fifteen minutes.

Add three quarts of cold water and some lumps of ice, stir well, and leave for a hour, then strain and serve. To make it sparkle put a pinch of carbonate of soda in each glass.

FRUIT SYRUPS.

These can be made in endless variety, and make excellent cooling drinks for summer use.

When fruit is most plentiful, boil it with a little water till the juice runs, then strain in the usual manner.

Put two pounds of the best sugar in every pint of juice, bring it to the boiling point, and when cool bottle for use. A tablespoonful in water will give a nice cooling drink.

A FEW KITCHEN WRINKLES.

When making gravies and sauces from meat juices, to take off the grease, draw the pan to one side of the fire and pour into the juice a tablespoonful of cold water. Then the fat will rise to

the top and may be readily taken off with a spoon or with kitchen paper.

Save your egg-shells to clean bottles, vinegar cruets, and the like. Put away in a paper sack, and when you get ready to wash your bottles crush a lot of the egg-shells to fine bits and put them in the bottles with clean, soapy water and shake well. It will clean and not scratch the finest glass.

COTTAGE PIE.

One of the best ways of using up cold meat is to make what is called a cottage pie with it. Remove all fat and gristle from the cold meat, then chop it finely. Meanwhile boil some potatoes, and mash them up nicely. Season the meat to taste with pepper and salt, and, if liked, a little nicely-chopped onion. Add to it a half-cupful of cold gravy. Put the seasoned meat into a deep dish, cover with the mashed potatoes, score it across and across with a fork, then bake in the oven till the potato is a beautiful golden brown. Where there is children there is always a great demand for gravy, so a little should be served in a tureen.

VICTORIA SANDWICHES.

For it you will need two eggs and their weight in butter and sugar and flour. Beat the butter and sugar to a cream, then add the flour, next the well-beaten eggs. Beat all together for ten minutes, well butter a shallow tin, and bake in a moderate oven. When a pale brown, cut in half, and spread with raspberry or lemon jam; then place one slice on top of the other, cut into fancy shapes, and ice with pink icing.

FISH SALAD.

Prepare in the usual way the requisite quantity of salad, consisting of lettuce, watercress, radishes, endive, small cress, and spring onions, and nicely moisten the whole with some skilfully prepared mayonnaise sauce or Florence cream; then dish up as follows:—Put a layer of the salad at the bottom of the salad bowl, and cover this with a layer of some properly prepared cooked fish, which has been nicely seasoned with salt, pepper, oil, and vinegar, and repeat in this manner until the bowl is sufficiently full, then pour over the pile a little more of the creamy mayonnaise sauce, sprinkle the surface with a mixture of finely

chopped parsley, lobster coral, and sifted egg yolk, garnish round about with a tasteful border of masturation leaves and flowers.

Note.—Almost any kind of fish may be used for this purpose; cold fish left over from a previous meal if divided into neat flakes; carefully prepared sardines or anchovies neatly filleted, picked prawns or shrimps, lobster cut into small neat dice, dried haddock, kippered herrings, bloaters, or fresh herrings boned, skinned and cut up into small strips, are all suitable.

A DAINY DESERT.

One pint of cream, whites of two eggs, and one small cupful of powdered sugar. Whip one-half the sugar with the cream, the remainder with the eggs. Mix well, and pour over sliced oranges and bananas sweetened.

SAVORY RICE.

Wash three ounces of rice, and boil it in half a pint of milk till quite tender; add pepper and salt. Butter a shallow pie-dish, spread half the rice upon it, spread an ounce of grated cheese upon this, add the rest of the rice, and then another ounce of cheese. Put a few bits of butter on the top, and brown in a quick oven.

SAGO JELLY.

Boil three ounces of fine sago in a quart of water for two hours, stirring frequently. When the sago is quite cooked add the juice of a large lemon and four ounces of loaf sugar. Boil all together for a few moments, and pour into a wetted mould. Next day turn out the gelly, garnish with whipped cream, and serve.

CHEESE CUSTARD.

Beat up two eggs in a pint of milk, add a little salt and two tablespoonfuls of grated cheese. Mix all well, pour into a greased dish, and bake till just set. Serve at once with water biscuits.

ORANGE DROPS.

The rind and juice of one orange; a pinch of tartaric acid; and confectioner's sugar until stiff enough to form into small balls the size of a small marble.

The Dairy.

AN EXPERIMENT IN LIMING PASTURES

The effect on the quality of the Cheese produced from such pastures.

The following, taken from the last issue of the *Dairy*, London, England, shows the effect of lime on the quality of the cheese where cows were pastured on land on which this material was used :

"It is generally believed that land which has been stocked with sheep is injurious for cheese-making, and can be materially improved by liming. Two fields, which had in the past been heavily stocked with sheep, were selected for an experiment on liming. The orchard (in which the cows were milked) was also limed, so that the cattle could be both kept and brought home to milk on land which had all been limed.

"The method of experimenting was to keep the cattle for a certain length of time on the limed land, Fields 1 and 2, and then for a similar period on the unlimed land, Fields 3, 4 and 5, and subsequently on the unlimed land.

"The lime was considered to have produced a marked improvement in the herbage. Its effect was also noticeable in the cheese tub, inasmuch as the curd seemed firmer and better than it was when the animals were on the unlimed land. But neither chemical nor bacteriological examination showed much difference in the curd. The quantity of the milk was not appreciably affected, nor was its composition affected to any extent. The acidity of the milk appeared, however, to be affected to some slight extent, the milk, when the cows grazed on the limed land, showing a slightly higher acidity.

"Analyses were made to determine whether there was more lime in the milk or curd from limed land than from unlimed land. The results showed such great variations from both the limed and unlimed land that no definite conclusion could be drawn therefrom. Bacteriological examinations of the milks and curds were equally negative in their results, which was to be expected, as the curd showed no more liability to taints from the limed than from the unlimed. Hence, the only results actually obtained were a slightly increased acidity of the milk, probably

accompanied with a slight increase in casein, and consequently a firmer and better curd.

"Considering how important it is to have a firm curd, and in view of the improvement in the herbage on the limed land, there can be no doubt that the liming was beneficial, and would have an effect lasting much longer than for the period of the experiments. Moreover, the exceptionally dry season was not calculated to produce the best results which ordinarily accrue from raining. It also necessitates the removal of the cows from pasture to pasture frequently, so that the experiment came to a close at the end of May."

EXPERIMENTS WITH DAIRY COWS.

Prof. Brandt, of Germany, conducted three experiments with light and heavy dairy cows, each lasting four weeks, the second commencing seventy days after the close of the first, and the third a year after the beginning of the first. Thirty of the heaviest milkers in the herd were separated into lots of fifteen cows each, according to live weight. The cows were kept under similar conditions as to feed and care during the trial, none being bred (1) after the beginning of the experiment. The average weight of the heavy cows was 1,205 pounds, and of light cows 979 pounds. The leading conclusions from the experiments are :

1. The milk of the small cows is richer in fat than that of the large ones.
2. Large cows eat a greater amount of feed than small cows ; per thousand pounds live weight they eat less.
3. Small cows produce less milk than large cows, absolutely and relatively.
4. When in thin flesh, small cows may produce more per thousand pounds gross weight than large cows.
5. Large farrow cows are more persistent milkers ; on the other hand, small cows show a greater tendency to fatten on the same feed, with a decrease in the milk flow.
6. The loss in selling ten of the large cows amounted to five guilden per head on the average, after having been kept nearly a year, while the loss for ten small cows, was twelve guilden per head.—*Feeds and Feeding.*

(1) Does this word "bred" mean "put to the bull"? If so, why not say so? Ed.

FERTILITY ELEMENTS IN FARM PRODUCE.

Its Effect on the Productiveness of the Farm.

As the DAIRYMAN has repeatedly stated, one of the very important consideration in dairying is its beneficial effect on the crop producing power of the farm. Mr. C. M. Macfie, of Appin, Ontario, contributes the following, based on his experience, to the Farm Institute Report of that Province :

"In connection with dairying, the by-products are an important factor, as the utilization of them are becoming more and more an important factor in every line of manufacturing.

"The skim milk and buttermilk from one ton of butter has, at 20 cents per cwt., a feeding value for hogs of about \$80, if fed in conjunction with meal. The whey from a ton of cheese has a feeding value of about \$18, when sweet ; when sour, a little less. It must be remembered, too, that of the organic matter in foods, there are certain quantities of constituents which do not digest, and these assist in giving manurial value to the foods fed.

"The foods of the successful dairyman are usually corn ensilage, clover hay, oat straw, oat and pea meal, bran, and sometimes oil cake. According to an analysis by one of the American experiment stations, these have a manurial value as follows :

	<i>Per ton.</i>
Corn ensilage.....	\$ 3 00
Clover hay.....	10.00
Oat straw and chaff.....	2.00
Oat meal.....	10.00
Pea meal.....	12.00
Bran.....	13.00
Oil cake.....	24.00

"We will suppose a man feeds ten cows for six months of the year, a daily ration consisting of six pounds of clover hay, 40 pounds ensilage, six pounds of oat straw, two pounds oat meal, two pounds pea meal, five pounds bran. During the six months he would feed :

5 2-5 tons of clover hay, adding fertility to the farm.....	\$ 54.00
36 tons ensilage, adding fertility to the farm.....	108.00
5 2-5 tons oats straw, adding fertility to the farm.....	11.05

1 4 5 tons oats, adding fertility to the farm.	18.00
1 4-5 tons peas, adding fertility to the farm	21.00
4½ tons bran, adding fertility to the farm.	58.00

Total fertility, value added to soil (if manure is saved without loss) . . . \$270.00

"If one ton of oil cake were added to the above quantity, it would improve the value of the food ration, and add to the fertility of the soil still further.

"Dairying also assists in the increase of soil fertility by enabling the farmer to utilize all the crops grown on the farm. The crop of a good, one hundred acre farm in Eastern Ontario, besides the wheat crop, at present market prices, would be about as follows :

Hay, 15 acres.....	30 tons
Oats, 15 acres.....	600 bushels
Barley, 7½ acres.....	225 "
Corn, 10 acres.....	400 "
Peas, 7½ acres.....	150 "

"Suppose he sells one half his hay crop, and all his grain, he receives for all about \$520, at present prices. The value of the fertility of the crop sold is about \$300, while the manurial value of all his crop, if fed on the farm, would be \$650.

* * * *

"The good dairyman, too, is always interested in producing the best article possible. He takes the best care of his milk, and is interested in its manufacture into cheese and butter of the best quality, so that his produce always finds a ready sale."

COMPETITION OF DAIRY-PRODUCTS.

The first competition of dairy-products, for the year 1899, took place on the 15th of July, at the Cold Storage Union, Montreal.

Six samples of butter and nine of cheese having been examined, prizes were awarded to :

FOR BUTTER :

M. Philippe Morin, maker to M. J. H. Hébert, Saint-Valentin, St-John's : 96 marks ; a diploma of the second class, a bronze-medal, and \$7.00 in money.

M. Elie Boivin, maker, Napierville : 94 marks ; a second class diploma, a bronze-medal, and \$3.00 in money.

FOR CHEESE :

Mr. A. Darby, maker for Mr. Darby, South Ely, Shefford : 94 marks, a diploma of the second class, a bronze-medal and \$3.00 in money.

The chief defects noted were connected with aroma and flavour, and we must again draw the attention of makers to these points. They should, as far as lies in their power, accept only the best milk, and persistently refuse all dirty or ill-flavoured milk. The greatest care should also be taken to properly ripen the cream, as this has a great effect on the development of aroma.

As to cheese ; here again, flavour and aroma are faulty, and we may repeat, on this subject what we have just said about butter. Some boxes lost marks on account of bad appearance, and some for being short of the branded weight.

We must again recall to mind that the object of the government in establishing these competitions is to test the value of the products of the ordinary daily make, and not of the goods made especially for the competition. The majority of makers, if they take pains, are capable of making first-rate dairy-products ; but some of them are careless in their ordinary daily work. These competitions are intended to enable the proprietors of factories, and even the patrons, to find out if the maker does or does not pay proper attention to his duties. They can, up to a certain point, compel him to send to the competition any box of butter, or cheese, taken from the cold-storage or from the ripening-room. The makers themselves, by these competitions can form a judgment on their own work. The exhibits are examined by dealers and experts.

In order to avoid as much as possible the goods sent for competition being made with a specific view to the competition, the government keeps its date a secret. But, when the makers receive a request, there will be plenty of time for them to send in their exhibits, the request being always sent several days before hand. Still, they ought not to delay four or five days, as some of them do, but to send their exhibits as soon as the request is received.

In order to participate in this competition, permission must be asked, by letter, from the Department of Agriculture, Quebec. The Department pays all the expenses ; so neither proprietors nor makers run any risk of loss ; on the contrary, they have every thing to gain by the competition. When a sample is found to be bad, no

one but the maker is told of its inferiority ; but when an exhibit wins a prize, the maker's name is published in the papers. The prizes amount to from \$1.00 to \$15.00, according to the marks granted.

(Translated by the Editor).

CARE OF MILK FOR CHEESE MAKING.

(George E. Newell).

Care should begin before the milk leaves the udder by not overheating or exciting the cows prior to milking. To insure this, a judicious and experienced person should drive the animals into the stable and stanchion them. Perfect quiet should reign in the stable during the milking hour and the use of tobacco by the milkers at that time be absolutely prohibited. A rule should obtain for regularly brushing the cows' udders previous to milking, and to never allow the fingers to be dipped in the milk pail to moisten the teats to facilitate stripping.

As soon as a milk pail is full it should be carried from the stable. Both night and morning's milk should be aerated, but especial pains taken with the night's product, because that has to stand on the farm over night. I consider aeration the most essential point in preserving lacteal quality and those who neglect it can never have perfectly flavored milk. Where milk is thoroughly aerated, which at the same time cools it, there are few nights in summer so hot as to cause it to sour or taint. Many employ the crude method of first straining the not night's milk into the delivery can and then dipping and stirring the fluid at intervals for an hour or two. This is slow and laborious, and in the end brings no better result than if one of the improved aerators is employed. This allows the hot milk to drain from a high in fine streams into the can, running it through twice or thrice if necessary. In using one of these aerators great care should be exercised that the holes are small and far apart, so that it will take from eight to 10 minutes to drain a pailful of milk in fine streams into the can. Many of the aerators now on the market are not efficient because the holes are too large and close.—*N.-Eng.*



The Farm.

SEED GROWTH AND SELECTION.

Prof. Robertson Advances Some New Ideas on the Subject.

In his evidence before the House of Commons Committee on Agriculture last week Prof. Robertson made some new and important statements in regard to the fundamental principles of agriculture, more particularly in reference to the growth and selection of seeds. From a condensed press report in the *Daily Globe* we take the following in regard to his address: "Moisture was controlled by rolling and cultivation, and experiments had shown that the temperature three inches above the soil on rolled land was $3\frac{1}{2}$ degrees higher than on unrolled land. He adduced a mass of evidence to prove that by carefully selecting the seed the best crops were secured, by raising from year to year the varieties that had been found to be most productive in each particular locality. That, while the characteristics of each variety were the same in all localities, productiveness varied according to locality and conditions, and, therefore it would pay farmers to carefully collect the best seeds from their crops for this year and plant them in a seed plot for their next year's seed. If farmers grasped this principle of seed selection they would secure an increase, as shown by actual and extensive experiments, of 10 per cent. in their crops. The productiveness of seed was not an inherent quality, but depended on the conditions under which it was grown."

Without a more detailed report of Prof. Robertson's address it is not possible to make any comment, favorable or otherwise, in regard to his claims. Suffice it to say that the theory in regard to the growth and selection of seeds, which he has elaborated, is somewhat at variance with generally accepted beliefs and practices in this country. That this is so, however, in no way affects this new theory; and on the other hand, that a line of practice has been followed for a number of years and has become the generally accepted one, does not prove that it is the best practice to follow and there is nothing better. There is always a tendency on the part of farmers to become wedded to certain practices and systems because they are the generally accepted ones, and to follow them some-

what blindly, believing that there is nothing better. Therefore, a new theory or practice advocated will do good if it only leads people to think and look beyond their own spheres.

There is one point in this new view of seed growth and selection that we might mention just here. In raising live stock it is claimed that "feed is half the breed." And may not the same thing apply to "raising" seeds? No matter how good his breeding may be, an animal must have a sufficient supply of the right kind of food in order to maintain his natural vigor and strength. And might we not look upon a seed in the same way and claim that no matter what the climatic or local conditions are surrounding its growth, if it is not supplied with a sufficient amount of the right kind of food, it will not come to that vigor and strength required in a seed in order to produce vigorous and robust plants. This view applied to any one locality, or to any particular farm, might show that the soil of that locality or farm had not within itself the food constituents necessary to produce vigorous seeds, and the result would be a supply of seeds with less vigor and vitality than the ones sown. This, however, could be avoided by the farmer, in adopting Professor Robertson's plan of having a seed plot, seeing to it that the soil of this plot is well supplied with the foods necessary for vigorous plant growth and in this way maintain and increase the vitality of the seeds.

The whole question opens up a wide field for thought and we shall welcome a further and more detailed statement of Prof. Robertson's address on the subject.—*Farming.*

OUR FARM PRODUCTS IN ENGLAND

Professor Robertson gave some interesting evidence before the Committee of agriculture recently relative to the outside markets for farm products. He pointed out that the market for cheese in Great Britain was not so good as it might be, owing to cheese getting heated in curing and developing a flavor which the British people do not like. Butter was making headway, except that on the way from the steamer to the retail shops it seemed to lose its flavor. Other countries used some sort of preservatives besides salt, which were not harmful. Since 1895 Canadian butter had steadily advanced on Australian butter, and last year was, on the whole, above it in price. There had been

a similar gain on Danish butter to the extent of about six to eight shillings a hundredweight. Canadian bacon is taking very well, but a large proportion of it was classed as second; that is, too fat, although of good quality otherwise. This sells for $1\frac{1}{2}$ to $1\frac{3}{4}$ c. per lb. less than first quality. The apple trade was in a bad way, and should be thoroughly discussed by the committee, which was agreed to. The exports of agricultural products have increased from \$48,791,388 in 1896 to \$55,533,592 in 1897 and \$75,834,000 in 1898.—*Farming.*

THE OUTLOOK FOR WOOL.

Last week we pointed out that in many of the great sheep-raising countries wool has become a kind of by-product. The frozen mutton trade and the demand for large and well-fed lambs have caused the farmers in the countries referred to to engage in sheep-raising, with the object of supplying the lamb and mutton trade rather than for growing wool. This new condition of things has brought about a distinct change in the quality of the wool produced, and has caused an over-supply of the coarser or cross-bred wools. This changed order of things is especially noticeable in Australia, the greatest wool-growing country in the world.

One direct result of these changed conditions has been, as we have just stated, an over-production of the coarser and lower grades of wool. But they have also brought about a scarcity in really fine wools. To such an extent is this the case that at leading English and European wool markets since the beginning of the year there has been a regular boom on in Merino wool. At Antwerp the prices for Merino wools have ranged from 43c. per lb. in January to 51c. per lb. at the end of April. There was a decrease in the supply of wool in Australia in 1898 amounting to 70,000,000 lbs., as compared with that of the three previous years. As the proportion of cross-bred wool has largely increased, it is safe to assume that all this decrease in the quantity of Australian wools is composed of Merino wool. In South America there has been a large increase in cross-bred wools, due to the sheep-raisers there raising sheep for mutton purposes.

This scarcity of merino wools and the high prices they bring in European markets may have some effect upon the price of other wools. In fact there are indications of this in the English mar-

kets, but the advance is only in proportion as the wools are nearest to the merino in quality. But the quality of coarser and cross-bred wools being produced is such as to prevent these higher prices from ever reaching them. The wools approaching the merino in quality may reap some benefit from the scarcity of the latter, but the bulk of the wool produced in this country will hardly be affected by it.

The fleece-wool situation in so far as Canada is concerned is very well summarized in the following paragraph taken from the *Monetary Times* of recent date: "The past year has been in this department in every way un-satisfactory. Dealers have been working on a declining market and have made little money on the clip of 1898. It is estimated that there yet remains from 750,000 to a million pounds of 1898 combing wool in Canada, and about one third or half this quantity is in Toronto warehouses. Of the remainder of the clip, about 200,000 pounds is held in Hamilton and the rest is in the hands of the woollen mill owners and country tradesmen. The clip of 1899 will soon be on the market, and as wool is a by-product, and its production uninfluenced by market rates, it is improbable that there will be any diminution in the quantity of wool marketed during the present spring and coming summer."

From all this we may fairly conclude that we are not likely to see any higher prices for Canadian wools the coming season than last year. In fact, it would not be at all surprising if prices were considerably lower. The bulk of the wool produced by the farmers of this country does not class as fine wool, and consequently has to go to a market that is over-supplied. But, as we have already stated, wool must be looked upon as a by-product, and the farmer must be prepared to take just what he can get for it.

This unsatisfactory condition of the wool market, however, should not deter anyone from raising sheep. The profit in sheep-raising in this country is in the lambs, and what returns there are from the wool should be looked upon as an extra.—*Farming.*

STATE OF THE CROPS, ETC., ETC.

To the Editor of the JOURNAL OF AGRICULTURE.

DEAR SIR,—Since my last notes were written the crops have improved enormously with the exception of hay, the heavy rains came too late

for that, but have done a great deal of good to the after-grass.

Hay.—In this section, with a few exceptions, the hay is all saved and is of good quality, and was got in in fairly good condition. I have travelled over a considerable portion of this province. I find here as light a crop on the average as anywhere; not more than a third of last year's crop: while in other sections of this district they had a good fair crop. On the north shore of the St. Lawrence, between Montreal and Quebec, they have an extra good crop, but they are late in saving it. Here we are at the last day of July, and the hay crop in that section is not much more than half done. I wish some of these farmers would read the article written by Mr. C. Mortu-reux in July 1st issue and profit thereby, while some will wait, and wait, for the bloom to get off the hay before cutting it. I heard one man give as a reason he was afraid it would give his horses the heaves. Cut it earlier and feed it to the cows and other stock, and save the last cut for the horses. Perhaps, Mr. Editor, this is enough on the hay question.

Grain, Barley.—Quite a lot of barley in this section is now harvested and lots more ready to harvest, it has done well the past fortnight or three weeks.

Oats.—Are so far free from rust, and will be a good fair crop.

Wheat.—As I have already remarked, not much sown this year, but has done fairly well. (Some very rusty at Ste. Anne de Bellevue. Ed.)

Peas.—There are more peas grown this year than I anticipated earlier in the season, they have done well so far. (Unfortunately this rain (Aug. 2nd) will start them growing again. Ed.)

Rye.—Only a moderate quantity sown this year, doing fairly well.

Buckwheat.—Quite a good deal of buckwheat was sown after my last article was written, it has done excellently, so far.

Corn.—Has done fairly well, but I should say the season upon the whole has been a little too cool for corn.

Potatoes.—Such an immense growth of tops! I hardly ever remember of seeing a greater one; and the tubers are a fair size, but hardly so many of them as last year.

Other *root-crops* have grown wonderfully during the past month and will give a good yield.

Apples.—Are a fair size for this time of the

year and are not blemished so far. I see the tent caterpillar is again coming to the front. Only this morning I discovered them for the first time. Those who expect to have fruit in the future will have to be up and doing.

Pastures.—Failed considerably during June, but with some after-grass the shrinkage should be about over, for the present. How many provided themselves with green-fodder to supplement the pastures during the dry spell? too few I fear for their own good. This year's prices of both butter and cheese should have encouraged them to feed well and constantly.

Butter.—Our shipments of butter are getting to be something respectable, last year was a record year, but what of this one? double of last year! Butter alone, this year, to the end of July, will have brought into Canada half a million dollars more than at this date last year. Keep it up, the market is almost without limit, if we make the right article, and dispose of it promptly.

Cheese.—The shipments to date are very much ahead of last year, some 168,674 boxes; and the average price is about one cent per pound better than last year. (Now, 10½, and rising! Ed.) Taken together, the extra quantity shipped and the increased price makes about one and a half million dollars more than last year at the same date, and the half million extra from the butter makes two million dollars coming to Canada alone, more than last year, and it is coming into good hands too! The many thousands of patrons, each one will get a share, and before it can get back into the banks again, it will have passed through many channels and done good all the way.

The farmers have great reason to be thankful; good, fair crops, prices very fair for most things they have to sell, such as butter, cheese, eggs, beef; and even pork is selling fairly well, and last but not least hay is selling at a good price now, about double of last year. So I would advice them to make hay while the sun shines, and to sell their produce when at its best.

Yours truly,

PETER MACFARLANE.

Chateaugay, 31st July 1899.



**PROVERBS IN CONNECTION WITH
COUNTRY LIFE.**

Sport and country life have been productive of wider influences than are generally recognised. Many of the vigorous elements in our language owe their origin to hunting, shooting, angling, and other recreations; for sportsmen have contributed in no small degree to our stock of proverbs. The very nature of their pursuits—the vigilance often necessary to avoid danger—give rise to habits of observation and promptness of decision, which are often transmuted into verbal equivalents.

Sport indeed has its mental as well as its physical effect, and these “sparkes of knowledge” are freely emitted by its followers. It is not for me to dwell on the antiquity of proverbs, which have been well described as “the gatherings of all ages.” To define them correctly and comprehensively, however, has puzzled the brains of the most learned. Trench gives it that they are “brevity, point and wit”; Thomas Fuller says they are “much matter decocted into few words,” while Camden remarks that “a proverb is a concise, witty, and wise speech grounded on experience, and for the most part containing some useful information.” They have also been described as “sudden outbursts of thought wrapped with a telling illustration.” At any rate their general piquancy and vividness cannot be doubted; and if Howell’s pithy dictum, that they are “sense, shortness and salt,” may be taken as accurate, those connected with sport are not behind others in the possession of these qualities. At times such a proverb may be made the cover for a rebuke. Thus the indifferent shot who for ever inflicts excuses on his companions to palliate his own want of skill, may be silenced by the remark “a miss is as good as a mile.” But, like many of these old saws, this saying may have a double significance; for it may likewise be used in a consolatory sense, as when after a narrow escape from a serious mishap, the remark that “it was a near thing” may elicit the sympathetic rejoinder, “never mind, a miss is as good as a mile.” The precept that “speaking without thinking is like shooting without aim” is also one which may serve to check a random chatterer.

When veritable “old saws” are resorted to, there are expressions frequently employed which have all the terseness of proverbs. An abortive attempt is called a “flash in the pan” a simile

which dates back to the days of flint locks; and a man of uncertain temper, apt to exhibit an explosion of wrath under unlooked for circumstances, is described as “going off at half cock.” A person who makes a very apposite remark is said to “hit the blot,” an old expression for the centre of the target. And other phrases connected with shooting are of older date than the use of firearms. The need of relaxation is expressed by the saying that “a bow should not be kept always strung,” and the man (or maiden too) of foresight, who is indisposed to be the sport of chance, may by taking precaution against accident, be described as having “two strings to the bow.” While married couples, abundantly endowed with progeny are often spoken of as having a “quiverfull.”

The disciples of Izaak Walton have always been noted for their expedients. “Venture a small fish to catch a large one” is a device of which anglers know full well the value. This has become familiarized in the “throw a sprat to catch a mackerel.” That “fish follow the bait,” and “the best of fish swim near the bottom,” are sayings which have common acceptance. The privations cheerfully undergone by fishermen have become proverbial, and their patience has been freely caricatured; but they take refuge in the remark that “he that would catch fish must not mind getting wet.” A check also is given to impatience that “its poor sport that’s not worth the candle,” which has its French equivalent in “Le jeu ne vaut pas la chandelle.”

Again, the assertion almost amounts to a tension that “he who is hasty fishes in an empty pond,” and worldly wisdom is conveyed in the saying that “all is fish that comes to the net.” The Scotch angler twitted with the diminutive size of his catch may give the retort that “small fish are better than no fish” or the Englishman may say “little fish are sweet.” Shakespeare has made use of the gentle art in “Twelfth Night,” when Maria, on the appearance of Malvolio, exclaims “here comes the trout that must be caught with tickling.” And a modern phrase is: “to get a rise out of anyone.”

Such “fragments of wisdom” as Isaac Disraeli calls them, are known in all countries. The Italians have one which says “Chi duo lepri caccia uno perdee l’altro lascia,” which may be Anglicised “he who hunts two hares loses one and does not catch the other” a statement which needs no

comment. "All are not huntsmen that blow the horn" may be taken as a reflection on those who are two demonstrative in the hunting field. It is not very far to seek for the origin of "little dogs start the hare, but great ones catch it"; and nearly the same wisdom attached to "one beats the bush, the other catches the bird." This also has an historic association. It is said to have been used by Henry V at the siege of Orleans. When the citizens, besieged by the English, would have yielded up the town to the Duke of Burgundy and not the king, he said "shall I beat the bush and another take the bird? No such matter!" Which words did so offend the duke that he made peace with the French, and withdrew from the English. This proverb has its companion in "one man starts the game and another kills it." A severe rebuke to double dealing is conveyed by the saying "to hold with the hare and hunt with the hounds." The thoughtless and improvident are reminded that "he who would have a hare for breakfast must hunt overnight"; and again "the foremost dog catches the hare."

In addition to the well-known allusion to "sour grapes" the fox has formed the subject of many a maxim. "When the fox preaches beware of your geese," carries its own moral, whilst it is scarcely necessary to state that "an old fox needs no craft." The character of Reynard is used as an illustration in "go, play the fox to others, yet untaught in foxy wiles"; while as a set off to this we have "the fox knows much, but more he that catches him." And the sharpness of teeth and temper of the female fox has served to convey the name of "vixen" to many an unamiable feminine of the human race.

To the timid, ample warning is given in "he who would venture nothing must never get on horseback." The satire of the proverb is also levelled at the pretentious, for what could be more derisive than "he who thinks himself a stag, but is only an ass, finds his mistake when he comes to leap the ditch."

"Spur not a free horse" is often not so fully borne in mind by the rider as the proverb deserves, for "the horse thinks one thing and he that rides him another." Further reflection in the same way is provided by "it's a good horse that never stumbled," which has its parallel in "it's a good dog which catches everything." A similar meaning is signified in "work not a willing horse to death." The injunction to "set the

saddle on the right horse," is capable of a two-fold interpretation. It may either be taken to mean, choose a saddle suited to your horse, or, as is a more probable and ordinary construction, take care that you blame the proper person. "Look not a gift horse in the mouth" has become quite a household word, a quaint version of which is to be found in "a given horse may not be loken in the teth."

Even in the imagery of the Scriptural languages frequent allusion is made to methods of taking wild animals by references to snares and pit-falls. And to come down to modern times, in the leading articles of the daily newspaper, you may find it remarked of a politician who has come to grief by pertinaciously pursuing, regardless of consequences, his own particular line of action, that, "he has been riding for a fall."

It will be gathered from the foregoing that the sayings which have any relationship with country life, rank with some of the most shrewd in use. In point and pith they are unsurpassed, and moreover are the outcome of practical experience.

W. R. GILBERT.

TEMPERANCE DRINKS FOR THE HARVEST FIELD.

You were good enough some few weeks ago to insert an account of our work at the Royal Agricultural Show. Since then each day has brought us a large number of applications for the recipes used, and it appears, therefore, that your readers would welcome the recipes themselves if published by you.

May I venture to hope that you will find a corner for them in your paper? G. B. CHARLES.

Church of England Temperance Society,
Diocese of Canterbury,
94, Oakfield Road, Croydon.

July 18th.

The following recipes are recommended for use in the home the hay and harvest-field, the workshop, or the laundry. It is not claimed that they will be all that expensive drinks would be, but that they are nourishing, thirst-quenching, palatable, cheap, and easily made. All of them are nourishing, none of them are in any sense injurious, and they may be freely partaken of. The "Barlikos" is, in especial, a drink suitable for any table.

BARLIKOS.—2 oz. Robinson's Patent Barley, $\frac{1}{2}$ lb. of sugar, one lemon. Mix the barley to a smooth paste with a little cold water. Add the sugar and the juice and thin rind of the lemon, then pour over it a gallon of boiling water. Stand till cold. Cost 6 cts per gallon. Many people will prefer rather more lemon, but this is according to taste.

N. B.—It will be noticed that this recipe avoids the necessity for boiling the barley.

STOKOS.—4 oz. of fine oatmeal, 6 oz. sugar, one lemon. Mix the oatmeal to a smooth paste with a little cold water. Add the sugar and the juice and thin rind of the lemon, then pour over it 1 gallon of boiling water. Stand till cold. Cost 4 cts per gallon. Half the quantity of oatmeal may be used.

COKOS.—4 oz. of fine oatmeal, 2 oz. of Cadbury's cocoa (if other cocoa is used, care should be taken that it is pure, or a larger quantity will be required), 6 oz. of sugar. Mix the oatmeal and the cocoa with a little cold water into a thin batter, then add the sugar, and pour over it a gallon of boiling water. Stir while the water is being added. Cost 8 cts per gallon. Half the quantity of oatmeal will be preferred by many.

N. B.—Other recipes, and further information as to making the above drinks large quantities, will be gladly supplied by the Diocesan Secretary to the C.E.T.S.,

REV. G. B. CHARLES,
94, Oakfield Road, Croydon.

WEEDS.

Plants out of their place are generally called weeds, but there are some plants "out of place" wherever they are found, always a nuisance in our fields, and to which that name of "weeds" really belongs. The number of the latter is not great: hardly a score can be considered as regular noxious weeds, but these are endowed with such vitality that, in spite of the war waged against them since the early days of agriculture, they still exist, still increase.

That weeds are the greatest source of troubles in agriculture is a fact readily admitted by all farmers. Their great power of gathering up plant-food, their rapidity of growth, the number and the vitality of their seeds, give them an advantage over most of our cultivated plants. These, deprived of their food, robbed of their

moisture, overshadowed, and overcrowded, do not often get the upper hand in this struggle for existence. Not only is the yield of our crops notably reduced by the presence of weeds, but the harvesting operations are rendered most costly and laborious, and the price of the grain considerably lowered by the weed-seeds it contains.

Yet, in spite of all that has been said against them, weeds are on the increase, and this can hardly be wondered at. On considering the facility with which they reproduce, one is well tempted to give up the struggle as hopeless. Observations on the seed-bearing capacities of weeds have brought out the following results: a single plant of mustard contains 31,000 seeds; sow-thistle, 19,000; Canadian thistle, 42,000; burdock, over 400,000! To distribute these far and wide all things seem to concur: winds, birds, animals, etc. But man is yet the most active agent for their distribution: most of the noxious weeds now found in this country have been imported from Europe in grain or in clover-seed.

But, if the complete eradication of weeds cannot be regarded as a thing of the near future, it is quite possible so to reduce their number that they will not hinder the farm operations. The fight may be long, yet it cannot but end in victory for the farmer, if it is carried out on right principles. For this, an exact knowledge of the nature and habits of weeds is required. Weeds are divided in 3 great classes: annuals, as wild mustard, foxtail, which complete the cycle of their existence, in a single season; biennials, which live two years. These are characterized by a tap-root in which a starchy matter accumulates and is utilized to produce the seeds in the 2nd year; perennials, these live from year to year, and join to the faculty of giving seeds that of reproducing from the roots, such as couch grass.

The annuals are not the worst of the list, and were it possible to cut them all before maturity, they might disappear. But some of the weeds of this class produce seeds of an oily nature which, buried in the ground, keep their vitality for a great number of years, ready to spring into life as soon as they are brought near the surface. How often is a yellow crop of charlock seen succeeding a deep plowing in a field clean for some years back. Furthermore, many of these plants, such as wild oats and mustard, ripen and scatter their seeds in any of the spring crops, before harvesting. In this case, we must endeavor to accelerate the

germination of these seeds by stirring the land as soon as possible after harvest. Repeated cultivation will cause the seeds to germinate and destroy the weeds as soon as they come up. Before winter sets in, a deeper plowing may bring at the surface another layer of seeds, which, germinating early in the spring, will be destroyed by the cultivation required for the next crop. Weeds are easily killed in their first period of growth, and millions of young mustard plants may be get rid off by a harrowing given in time. (Good, but not new. Ed).

The biennials, such as Blue weed, Burdock, and Scotch thistle are not difficult to destroy. One of the most effective means is to cut them with a spud below the crown of the root. They are seldom met with in cultivated fields, but very common in fence-corners and pieces of waste land.

Perennials weeds are considered as the most troublesome. Couch-grass, bird-weed and Canadian thistle enter into this category. But the difficulty of getting rid of them has been exaggerated, and to the advanced farmer this is no longer an impossibility. Cultivation and smothering from light are required to destroy them. Summer-fallowing is very effective, but too expensive. Few farmers can afford to spare the time required for this method, and summer-fallowing, if ill-carried out, is more conducive to the prosperity of weeds than to their destruction. Smothering crops such as clover, rape and buckwheat (1) followed by a good cultivation of the soil do better and cheaper work. If a short rotation is adopted including one year of hoed crops, and two of clover, perennials will soon be mastered.

But let us not forget that, for all kinds of weeds, the cultivation of the soil after harvest in the fall is the best way to insure their destruction. Shallow cultivation will start many of the seeds into life, which will be destroyed by late plowing. As soon as the crops are removed, the land that is not sown to grass should be lightly plowed (2) and the broad-share cultivator kept going frequently, until the fall-plowing, to cut up all weeds as soon as they appear. This method (3) carried on at the

(1) Unfortunately, buckwheat spoils the samples of the succeeding grain-crop. Ed.

(2) Grubbed or broad-shared; the plough cuts the long roots of couch into pieces and makes its collection for burning more troublesome. Ed.

(3) It has been the regular practice in S. E. England for, to our knowledge, 70 years, and, probably, for twice that period. Ed.

Ontario Agricultural College has given very good results, and can safely be recommended to all farmers.
CHS. MORTUREUX.

COMPETITION OF AGRICULTURAL MERIT, 1898.

Report of the Judges.

No. 11.—M. PHILÉAS DESCHAMPS.

The 11th August found us inspecting the farm of M. Deschamps; extent, 60 arpents; cultivation, capital.

The system of rotation is perfect:

1st year, pease and oats;

2nd year, hoed-crops with dung;

3rd year, barley, sown down with timothy and plenty of clover;

4th year, clover-hay;

5th year, timothy and clover-hay;

6th year, pasture and green-fodder crops.

M. Deschamps keeps one head of cattle on every 3 arpents, and buys lots of dung and ashes.

He is one of the best ploughmen we have seen this year.

House, barns, stables, cowhouse, piggery, sheepshed, poultry-house, etc., are all well planned and built.

Accounts, well kept.

M. Deschamps has preserved the numbers of the JOURNAL D'AGRICULTURE for the last twenty years. (1)

In the list of the crops of this year, we find:

Beans $\frac{1}{2}$ an arpent.

Turnips 2 arpents.

Potatoes 5 "

Corn for grain $1\frac{1}{4}$ "

" " green-meat $\frac{1}{2}$ "

Very fine tobacco 3 " etc.

So that one-fifth of the farm is under hoed-crops. (This is as good a showing as may be; quite as good as can be met with in the best cultivated English farms. Ed.)

M. Deschamps is a man of intelligence; he has gone to work with ardour, and has developed a system of farming that has been carried out most successfully.

A silver-medal.

(1) Mr. William Hale, of Sherbrooke, has filed the JOURNAL OF AGRICULTURE from the very first No.: May 1st, 1879. Ed.

No. 12.—M. NICOLAS GEOFFROY.

M. Geoffroy's estate covers at least 300 arpents. The farmstead is pleasantly situated on a gentle eminence, near a sugar-bush of 5,000 maples, whose sap M. Geoffroy converts into sugar with much enjoyment, as well as with plenty of profit.

Some very extensive meadows are carefully kept up by means of mineral manures; the stock is generally excluded from them. We saw some of 8 years standing and still in full bearing; but we cannot approve of this being practised as a general rule. However, the part of the farm, that is under a regular "shift," or course of cropping, is very well managed.

M. Geoffroy highly approves of ensilage.

Management good all round, and implements in plenty.

Five arpents of tobacco are grown.

There is a good garden, and an orchard of 125 apple-trees.

A remarkably energetic man is M. Geoffroy. He is fond of his estate, and no wonder.

Many farmers would be more fortunate and more successful, were they really fond of agriculture, and if they appreciated thoroughly all the advantages offered by that truly honourable pursuit.

We were happy to be able to assign to M. Geoffroy 86.50 marks, and, consequently, a silver-medal.

No. 13.—M. EDOUARD LACHAPELLE.

This farm contains 178 arpents of arable land.

It has only been 3 years in the occupation of M. Lachapelle, and, in spite of the shortness of the time, it is clear that many important improvements have been made on it.

We happen to know that the property sold by M. Lachapelle (*previous to his taking up the present farm? Ed.*) was in good order and well cultivated.

We will say no more about it now, except that the whole family are working away with really admirable pluck.

We have no doubt about M. Lachapelle's ultimate success, and we invite him to enter at the next competition. He cannot fail to be a formidable competitor for the gold-medal.

We gave M. Lachapelle 86.25 marks, and a diploma of very great merit.

M. GEDÉON GARCEAU.

On September 1st, we inspected the farms of M. Garceau, Pointe du-Lac, St-Maurice county.

They contain, together, 188 arpents, 138 of which are arable, and, besides a nice garden, 50 x 80 feet, an orchard of 1½ arpent.

The land, generally speaking, is only moderate in quality, but by means of a good course of cropping, M. Garceau gets a good deal out of it.

Though he has only 6 years experience of farming, yet by means of the great power of observation and good judgment with which he is endowed, M. Garceau is making by degrees such divisions of the land as are required by a good system of rotation; the fences are in perfect order, and all necessary improvements have been made.

The farm-house is an excellent one, and the farm-buildings are models of their kind; the implements, too, are sufficient in number, and well selected.

A good aqueduct supplies water to every part of the property.

Dung well cared for; mineral manures employed as well. (1)

Full marks for accounts; still, M. Garceau would fain see, in the hands of farmers in general, a specific system of book-keeping which he himself would warmly appreciate.

We must not forget to say that there are here 47 hives of bees in good order.

With our sincere congratulations, we award M. Garceau 85.70 marks, and the silver-medal.

No. 15.—Mr. JOHN YOUNG.

On July 8th, we went over the farm of Mr. John Young, of Bristol, Pontiac county.

There are here kept one head of cattle to every 3 arpents; clover and buckwheat are often ploughed in as manures and 'mendments.

There are, practically, no weeds.

The farm-house is a good one, the buildings comfortable enough, and the manure is fairly cared for.

As a general thing, the management is fair, but as to the fields it is perfect; the accounts, too, are well kept.

There are 12 arpents tile-drained that act well. (1)

(1) What is meant by the term "mineral manures?" Ed.

(1) Here, again; are there 12 arpents in superficies, or 12 arpents in length? Ed.

Mr. Young's house is surrounded by fine timber-trees.

The cattle are being greatly improved.

The crops comprise :

Fine wheat.....	18	arpents.
Oats	24	"
Pease	12	"
Seed-timothy.....	$\frac{1}{2}$	"
Beans	$\frac{3}{4}$	"
Sugar-beets.....	$\frac{1}{3}$	"
Mangels	$\frac{1}{8}$	"
Turnips	$\frac{1}{4}$	"
Silage-corn.....	$\frac{1}{4}$	"
Five onions.....	$\frac{1}{4}$	"

With 35 arpents of very good meadows, 30 of pasture, 4 of green-fodder crops, 36 apple-trees, lots of small fruits, a garden, and 4 hives of bees.

Poor enough was Mr. Young, when he began farming by clearing with his own hands the greater part of his estate. Now, he is at the head of a numerous family, and president of the Society of Agriculture.

We award 85.40 marks to Mr. Young, which entitles him to a silver-medal.

(Translated by the Editor).

General Topics.

LONDON MARKETS.

HAY AND STRAW.

London, Cumberland, Thursday.—Best selected hay, 75s. to 84s. ; good, 70s. to 75s. ; inferior, 50s. to 65s. ; prime clover, 80s. to 97s. 6d. ; good, 70s. to 75s. ; inferior, 60s. to 65s. ; straw, 28s. to 33s. per load.

Clover-hay, 65s. to 70s.

DAIRY-GOODS.

Quotations for new English cheese are Cheshire, 68s. to 72s., no underpriced goods offering ; Derbys, 48s. to 50s. ; double Gloucesters, 54s. to 56s. ; finest Cheddars, 60s. to 64s. ; fine, 56s. to 58s. ; North Wilts loaf, 56s. to 60s. ; and Cheddar loaf, 60s. It is reported that the English make is smaller than last year, but there is the usual diversity of opinions, as in former seasons.

BACON AND HAMS.

London, Friday.—Bacon : Best lean selections of Irish are in small supply, and prices are firm. Lean sizeable, 48s. to 62s. ; lean stout, 47s. to 57s. ; stout sizeable, 48s. to 58s. ; good, 42s. to 49s. ; seconds, 40s. to 46s. Danish in steady request for finest selections, but the great heat makes buyers cautious. Canadian steady. Hams : Irish special brands quiet at 86s. to 100s. Canadian long cut in good demand at 60s. to 64s. American long and short cut continue scarce at 48s. to 54s. Shoulders make 26s. to 28s. ; and picnics 3s. more.

THE HORN FLY.

For the past few years this fly has been a great pest amongst the neat stock of our farms. This is particularly true on the dairy farms, as by the continued annoyance and pain caused by the fly the dairy cow shrinks materially in her milk flow.

The fly derives its name from its peculiar habit of resting at the base of the horns. While there it appears to do no particular harm, but confines its attacks to the backs and loins of the animal, and such other parts as cannot be readily reached by the tail or horns. This fly is about one-half the size of the house fly, but unlike the house fly does not breed in ordinary waste matter, but in the fresh droppings of the animals. The eggs are laid by the fly as soon as the manure is dropped, and if left undisturbed they will hatch in about 48 hours, when they immediately enter the ground and go through the second transformation. After remaining here about two weeks they emerge from the ground, a perfect fly ready for business. It will thus be seen that many generations will appear during the season.

Nearly everything that can be done to prevent their ravages must be of a preventive nature. They may be kept from breeding by scattering the voidings of the animals every two days or by sprinkling land plaster, lime, or dry earth upon them. They may be kept from the animals almost entirely by applying some oily preparation, or Pyrethrum powder. The liquid preparations are cheaper, and some of them are more effective. They may be applied to the sides and limbs of the animal to better advantage than the powder, another advantage in their favor. A gentleman in Knox county reports that he uses a mixture made

of one part fish oil, one part tar oil, one part kerosene oil, with a very little carbolic acid. This, he says, is quite cheap and seems to be very effective.

It will be found advisable to apply this mixture with some implement that will put it on in a fine spray, as it will be quite as effective in this way; there will be a saving of material and the animals will not be unnecessarily covered with the oil.—*Maine State Board Bulletin for June.*

HARVEST IN ENGLAND.

Harvest Begun.—Monday, July 24th, 1899.—So quickly have the corn crops been ripened by the hot sunshine pouring down for many hours day after day, that harvest has begun much sooner than could have been expected a fortnight ago. We have never seen the corn ripen more rapidly. By the beginning of last week a few fields of oats and winter barley had been cut in the South of Sussex, and a little wheat has since fallen before the reaping machine. During the present week, if the weather proves fine, a good many farmers in the extreme south, and probably some in the Eastern and Home Counties also, will begin harvest in earnest. We have some fear that the ripening of corn on light soils has been too sudden, and a few light showers would improve the barleys, if not other cereals also. But now that the ingathering of the crops has commenced, we must hope that the general character of the weather will be fine, though slight interruptions to the drought would be generally welcome. Feed is very short once more in many parts of the country, and the root crops need moisture. The intense heat and dryness have caused even vigorous crops of mangels to flag. Rain fell in places on Friday, and more generally on Saturday and Sunday.—*Eng. Ag. Gazette.*

SALISBURY SHEEP FAIR.

July 21st.—This annual fair, which is yearly increasing in interest and importance, took place on Saturday last. Between 20,000 and 30,000 sheep were penned, this being, it is believed, a "record." The prolonged dry weather was no doubt somewhat responsible for the augmentation of the number penned. Many breeders found keep short, and preferred sending their animals to

Salisbury instead of waiting for the more important fixture, Britford Fair. The prices realised were 3s. to 4s. down from last year. In the general fair two-teeth ewes made from 39s. 6d. to 52s.; regular full-mouthed ewes, 37s. 6d. to 47s.; over-yearled ewes, 32s. 6d. to 39s.; broken mouthed ewes, 24s. to 30s. 6d.; wether lambs, 29s. to 39s.; ewe lambs, 28s. to 30s. 6d.; mixed lambs, 23s. to 25s.

CHARLOCK KILLING.

Newcastle-on-Tyne.—Since the work was performed all the plots have been carefully inspected by a representative of the College, when it has been found that at the great majority of the stations the results have been quite successful. In some cases the charlock has been absolutely annihilated, in other cases it has been so severely injured as to make the production of seed improbable, while at two or three stations, notably Castlesteads and Ilderton, the operation can only be described as a failure. It is very difficult to say precisely what has been the cause of failure. At some stations the charlock was very small when sprayed, while at others it was in full flower, but as there are instances of the weed being entirely destroyed under both these circumstances, it can hardly be said that the stage of growth has had much to do with success or failure. It was, however, noticed that where the charlock was "spindly," it did not succumb so satisfactorily as where it possessed broad, well-developed leaves. Then, again, destruction was more complete when the day was dull than when bright.

At Outchester, for instance, the spray was applied when a thick haze was blowing up from the sea, and the effect of the solutions was so rapid that the plants had practically collapsed within two hours. One very important point to be noted is this, that at Ilderton and Castlesteads most of the weed is not the common charlock, but the wild radish, a plant which is evidently very resistant to poisonous solutions. Sometimes, too, a gusty wind made equal distribution of the spray by a small hand-machine impossible, and this accounts for small patches of the weed surviving on plots where nearly all has been killed. This difficulty would not be likely to occur with a horse-machine taking a breadth of 20 feet or more.

THE SOJA BEAN AS A SUBSTITUTE FOR CLOVER.

ED. Hoard's *Dairyman*.—In your issue of April 14 I note an inquiry by T. A. W., of Mo., in regard to cow peas for winter dairy feed. Having had some experience with them, I will report what I know about peas.

A few years ago, after scoring my fifth consecutive failure on clover, I gave it up and turned to cow peas. They did not fail, but, Oh my! the memory of their harvesting makes my back ache now after four years' rest.

The vines grew from twelve to fifteen feet long. They were waist high, all in a tangle, rotted next to the ground, and when cut with a mower it took two men and a boy to part the swath before I could cut another swath.

I could have rolled up the cut swath like rag carpet for two hundred yards in a strip without a break in it.

They were so matted and lodged that it was impossible to cut them clean. Some vines, after the swath was torn apart, showed three or four feet of uncut vine straightening up towards the sun. The vines would not cure evenly. The leaves on top parched and shattered off while the vines were still green and wet underneath. There were only a few seeds on them. The soil was quite rich.

On thin soil they were somewhat more prolific and do not run to vines so badly. Horses and cattle ate them fairly well after they got used to them and I considered them a good forage crop, but not good for hay as they take too much work to cure and if a soaking rain comes, they are almost sure to rot enmasse, for it is next to impossible to tear them apart and dry them out as you can clover.

The next year I tried the medium early soy and soja beans and will not bother with either clover or cow peas any more. Instead of waiting fourteen to sixteen months for a more than uncertain clover crop, I can grow as much and better feed in four months' time. Instead of having to cut the crop inside of a week, wet or dry, to get it at its best, I can have six weeks time to suit the weather and my convenience in which to cut.

Instead of a long sprawling, matted rotting mass of vines, I have an upright growing plant holding its leaves and stem up out of the dirt, with large pulpy leaves which cure much quicker and more

thoroughly than the cow peas. They can be cut at any time for feeding, either green for soiling or hay from the time they bloom till ready to ripen for a seed crop.

Alfafa is a very uncertain crop here in Illinois and of little or no value the first year for either pasture or hay, and only grows on porous clay loam. Cow peas are good crop to grow to plow under, or pasture off, but if you try to grow them for hay you will be disappointed.

Clover yields no grain crop for feeding purposes. Cow peas on very rich soil run to vines with few seeds. On thin soil they yield better, but make less forage and hay.

Soja beans thrive on any soil. They will grow where it is too poor to grow clover, and unlike cow peas will yield all the more both of hay and seed on rich soil.

With us in central Illinois, cow peas will yield seed, 10 to 20 bushels per acre, soja beans 10 to 60 bushels. Cow peas will tear the "inards" out of a threshing machine with their long tough vines, but sojas thresh easily.

As to the comparative value of the three crops, according to the Government bulletins, clover contains when cut green, 4.4 per cent of protein or nitrogen condensed into food; cow peas contain 2.2 per cent; soja beans 4 per cent. Of fat or carbohydrates, clover has 1.1 per cent; cow peas 0.4 per cent; soja beans 1.0 per cent. If made into hay they contain respectively 12, 16, and 15 per cent protein but if the seeds are allowed to mature on the vines, they add to the latter in their composition as follows: cow peas, protein 20 per cent; fat 1.4 per cent. Soja bean seeds add $\frac{3}{4}$ per cent of protein and 17 per cent of fat.

Soja seeds are two per cent richer in protein than oil cake meal, 20 per cent richer than wheat and oats, and 24 per cent richer than corn. Of fat the sojas contain 17 per cent, linseed oil cake meal 3 to 7 per cent, corn 5 per cent, bran and middlings 4 per cent.

When siloed with green corn, the sojas make a perfect balanced ration. For calves and pigs, the beans, either green or dry, make the best possible feed, to produce health, bone and muscle.

In protein or fat they are a rich condensed food, far superior, in fact, to any of the high-priced mill products, and one you can grow anywhere and on any soil. If fed judiciously there is no danger in feeding them to any stock as a hay crop,

but the seeds are too rich to feed horses; they are too loosening, owing to the fat in them.

Both the cow peas and soja beans can be sowed broadcast, or with a grain drill for a hay crop, but for a seed crop it is better to plant in drills, 20 to 30 inches apart, and 10 to 15 inches apart in the row. A drill corn planter does the work nicely, and they require but little cultivation. A half bushel to one bushel will sow an acre for a hay crop, and for seed in drills $\frac{1}{2}$ bushel is enough.

Either crop will add to the fertility of the soil where grown, enough to pay a good rental. When they become known and rightly appreciated they will become for the farmer and dairyman as much a standard crop as corn or oats. W. H. S.

ALFALFA OR LUCERNE FOR PASTURE.

To the Editor of FARMING:

I have found alfalfa or lucerne a profitable crop, but only for pasture. Its greatest benefit as a pasture is that it gives an early bite, and in a dry time when all other grasses are withered it grows right along. I have never cut it as a hay crop. It would have to be cut very early and be well saved to be much good as hay.

The second cutting is considered the best for seed, although either will yield seed. Lucerne and orchard grass make a pasture that will carry a lot of cattle through a dry time when all else fails.

RICHARD STUTT.

Forest, Ont., July 13th, 1899.

NOTE.—This letter is in reply to one we sent Mr. Stutt some time ago regarding the curing of alfalfa or lucerne hay. He has had a wide experience in the growth of this clover for feeding purposes. EDITOR.—*Farming*.

CURING SORE TEATS.

Ed. *Hoard's Dairyman*:—In your issue of March 24, Subscriber, Kerrmoor, Pa., wishes to know how to cure teat on young cow. I am no veterinary, but have had forty years experience with dairy cows.

The first symptoms of a closed teat is scattering of the milk; you rub your finger over the end of the teat and you will find there is a glutinous substance. On discovering this, take a small dish with kerosene oil about one-half inch deep in it, and everytime for a week, after a milking, soak the teat for about three minutes in it. I have

never failed to cure a case when I started as soon as I saw the first symptoms of it.

If the teat has got bad, do not pick the scab from the end; take warm water and castile soap and soak it off gently. Piking irritates the teat and makes it sore. It takes a little time, but a man can afford a little time for a good cow, and no man who read the *Hoard's Dairyman* one year will keep anything but a good cow any longer than he is obliged to. J. E. ROWELL.

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BACILLOPHOBIA

It is reported that Professor Virchow, in his address at the International Conference on Tuberculosis, recently held at Berlin, made the following statement:—"The question of milk was much more serious, and a single cow could depopulate whole villages. . . . He believe that just as the war with trichinosis had been carried to a successful issue, the struggle with tuberculosis would also be successfully settled."

To me, and probably to many others, this statement demands an explanatory account of the way in which the war with trichinosis was carried on. As far as my recollection goes, we in Great Britain took no steps, either by action of local authority or by legislation, to deal with trichinosis. Our medical and veterinary advisers simply reiterated what from time immemorial had been in accordance with our general practice, viz., "thoroughly cook your pork." It is not for an Englishman to set out what steps the Germans have taken with regard to the stamping out of trichinosis. It may or it may not be that trichinæ still may be found in the flesh of hogs. At any rate, the scare of trichinosis in human being has passed away. But did the Germans slaughter all the hogs in which clinical symptoms of trichinosis had been diagnosed? If the Germans did not so slaughter, then the parallel which Professor Virchow recommends for adoption in the case of tuberculous cows cannot be maintained.

Professor Virchow goes on to say that "the intervention of legislation is necessary," and that "the only radical cure is to kill the infected animals." Presumably the infected animals to be killed are milking cows. From the context, we may legitimately assume that Professor Virchow does not recommend compulsory slaughter, of animals infected with tuberculosis other than cows,

because of the possibility of infection of human beings through cow's milk. But we are told, and, in my judgement, correctly told, that beasts of the earth and all cattle—with few exceptions—are, like human beings, liable to tuberculosis. We are told also that the bacilli of tuberculosis are numerous in the soil of low-lying land, and that at any time, whether in the crowded assembly or in the open air, we may inhale tuberculous germs. If, therefore, the tubercle bacillus is to be met with on all hands, Professor Virchow must extend his edict of extermination if he is to succeed by slaughter. We know with sufficient clearness how efficacious the process of stamping out pleuropneumonia has been. But with pleuropneumonia we were dealing with a disease supposed to be confined to cattle, and supposed, also to be directly communicated through the respiratory organs from cattle to cattle in close contact. On the strength of these suppositions we have stamped out pleuropneumonia, and we can, happily claim success as the proof of the merit of our means.

It is true that Professor Virchow has confined within narrower limits than are generally recognised the area of animal life in which tuberculosis exists. To my great surprise he states that what farmers generally consider to be the disease of tuberculosis in fowls is not identical with tuberculosis in cattle. Not so long ago we had in Great Britain an account in detail how fowls is roosting in a shed in which tuberculous from inhaling the the germs expired by the disease d cows.

For myself, I am prepared freely to grant that we are surrounded by living bacilli; some beneficent, some maleficent. Are there at present any practicable rules by adhering to which we can avoid contact with the maleficent, and maintain contact with the beneficent? Would life be worth living if we spent our time in considering what to eat, drink, and avoid? The old Latins, with great wisdom, strove to possess *Mens sana in corpore sano*. If we lose the *mens sana* in a vain effort to attain the *corpus sanum* our labours will be lost, and for the sake of mere life we shall destroy the worth of life itself.

But let us return to the parallel which Professor Virchow sets up between trichinosis and tuberculosis. If my memory serves me correctly Germany made much more of the trichinosis scare than Great Britain. And Germany did succeed in obtaining legislation. But was there any legislation other than the prohibition of importation of

hog products from the United States and other countries in which the existence of trichinæ in hogs was suspected? We in Great Britain have not succeeded in carrying to a successful issue the war against swine fever, and we are not a bit likely to enter upon a new war against tuberculosis on the same lines. Possibly even in the case of swine fever we may adopt a new line of battle, and take for our standing orders *Sanitas, sanitas, omnia sanitas*. (1) In any case in the struggle against tuberculosis my faith is centred in the provision of pure air, good food, and an outdoor life. With these three prophylactis bacillophobia disappears.—S

A NEW FOOD FOR STOCK.

In both Denmark and Sweden, for the past few years, experiments have been made with blood as an ingredient for animal feed. Similar experiments have been made in Germany, with apparent success. A patent has been issued for the manufacture of an animal food mixture called "Kraftfutter" (strength feed) or "Blutmelassefutter" (blood molasses feed), of which the principal ingredients are fresh blood (collected at the city slaughter houses), sugar refuse, and "grain cheat," by which I mean screenings or blowings from wheat, rye, oats, etc. Turf mull, or turf flour, has been tested as a substitute for "cheat," but not with success.

This feed is prepared in three different mixtures—for horses, for cattle and swine, and for poultry. The retail price is 6 marks (\$1.41) per 100 pounds. The preparation is not intended to be fed raw, but as a mixture with other regular feed—for instance, when the amount of oats given per day is 15 pounds, with the use of "Kraftfutter" the quantity of oats is reduced to half, or seven and one-half pounds, to which is added five pounds of "Kraftfutter."

I have been informed that at present the government is experimenting with this feed on artillery horses, it being claimed that the albumen in blood, coupled with sugar and the other ingredients, makes an exceptionally strengthening food, in addition to being inexpensive.

Factories for the production of this mixture are now in operation at Berlin, Stettin, Kiel, and Königsberg.

JOHN E. KEHL,

American Consul.

(1) Disraeli's parody on "Vanitas, etc." Ed.