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THE JOURNAL OF AGRICULTURE AND HORTICULTURE

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This Journal replaces the former "Journal of Agriculture,"
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JUNE 1st, 1901

THE
Journal of Agriculture and Horticulture

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. Jeaner 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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The Farm.

NOTES BY THE WAY.

A careful record of the milk given by the 55 cows in the model-dairy at the Pan-American show at Buffalo has been kept.

The Holsteins came out first in quantity; Ayrshires second.

In quality, Guernseys take the first place, Jerseys and Polled Jerseys, the second. By the by, what are "Polled Jerseys"? First time we have heard of them!

The weekly-average yields of the various breeds, in quarts, are as follows:

Holsteins.....	164
Ayrshires.....	153
Shorthorns.....	140
Brown Swiss.....	136
Guernseys.....	123
Red-polls (Suffolks).....	123
Jerseys.....	117
French-Canadians.....	108
Poll-Jerseys.....	77
Dutch-belted.....	77

The last named are what we used to call in England, some seventy years ago, "Sheeted" cows, and were then regarded as mere "sports."

What is a "quart" in America? A gallon, imperial measure, weighs, in round numbers, 10 lbs., but the American gallon seems to be 8.50 lbs.; so the quart would weigh, say 2.12 lbs. If this is correct, it would appear that the worst dairy yields, those of the Poll-Jerseys and the Dutch-

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THE SWINE

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belted, were 23.16 lbs., and the best, the Holsteins, within a shave of 45 lbs. ! The Shorthorns gave 42.40 lbs. a day, and the Canadians, 32.71 lbs.

"Prophecies" are pretty risky things, as a general rule, but, this year, we think it is pretty safe to predict a regular old-fashioned hay-crop. The winter, all along, was favourable to the young clover-plant, and the spring brought with it many propitious showers. Again we say, and that most earnestly: cut early, and let your clover-hay make itself; remembering that one pound of the leaf of that plant is worth at least two pounds of the stem. The timothy will bear any amount of "tedding"; in fact, it should be treated as our Middlesex (Eng.) farmers treated their "meadow-hay," that is, give it no rest. Five times a day is it spread and turned, and put into cock every afternoon before the dew falls; the cock of each day being larger than the cock of the preceding day, till the hay mown on Monday is fit for stacking on Thursday. You see, as all grass or clover is cut when full of juice, it cannot possibly be mown in the morning and carted in the afternoon.

And talking of "prophecies," what think our readers of this? Before any of the wheat-crop in Manitoba was above ground—braided, as our Scotch friends call it,—we saw in the papers a grave statement, that the seed-time in that province had been so favourable that a yield of forty million bushels was almost certain! We generally do have pretty bold predictions of this sort, but the present one out-tops them all.

We extract the following from the London "Globe" of the 1st of May, 1901:

A GREEN OLD AGE.

In the "Badminton Magazine" a delightful character sketch is given of Mr. Herbert Jenner-Fust, I.L.D., the oldest living cricketer. The veteran is now 95

years of age, and has lived under the reign of five British Sovereigns. He still enjoys life. Breakfast at nine still finds him in his place, and he is seldom late. After breakfast he goes for a walk, then writes till lunch time; another walk in the afternoon, tea, the "Times," and dinner at seven. Until a year or two ago he drank two glasses of old port after dinner. Now he sticks to brown sherry. Books or newspapers till 10.30, and then to bed. In his daily walks he cares little for the weather. Often when a figure is seen afar in pouring rain, and the question is asked: "Who on earth is that?" the answer comes: "Must be the Squire—no one else would be out in this weather!" and often the answer is right.

"The Squire" in question is the eldest brother of the Editor of this periodical. He played in his last match at cricket when 74 years of age, when he got eleven wickets, bowling and keeping wicket alternately throughout the game; beat the opposing club in one innings—and how many runs I forget,—and made eleven runs off his own bat!

"Standards."—The sellers of milk, in England, complain bitterly of the standards laid down for their product by the law. They say, and with some justice, that it is impossible to control the quality of the milk yielded by their cows, seeing that its richness both in butter-fat and in other-solids is affected by so many things. Take the weather, for instance. Cold, wet, storms, and wind will greatly influence both the milk and butter yield, while in winter a spell of bitter cold weather will not only reduce the yield of milk, but so rob that which is given of its normal amount of cream that only a very moderate quantity of butter can be gathered.

A large dairy farmer, Mr. W. Godwin, gives the following illustration of the above thesis:

"The milk of some cows is much below the assumed standard. When I kept cows some fed on the same food as the others

were greatly deficient to the others and to the standard in butter-fat. And the pastures also greatly affect the quality of the milk. One of my meadows would produce from the same cows nearly, if not all out, three times as much butter from a gallon of milk as the other would, and yet the milk from the latter was equally as pure and unadulterated as that from the former; and I think it a most serious matter to brand with the crime of adulteration an honest milk producer, who is at the mercy of the weather, and the animals, and the pastures, one or other of which would be the sole cause of the milk he sold being below the standard."

There must, of course, be some sort of a standard fixed by law, as long as milk is sold, but it should not be set too high, and the finding of a fault in milk delivered should not, necessarily, stamp the vendor as a rogne.

A very opportune paragraph in the French edition of the "Journal" runs as follows:

"The chief guides to the proper quantity of seed to sow for grain-crops are: the quality of the soil, its richness in the elements of fertility, its more or less perfect preparation, the good quality of the seed, the more or less favourable state of the atmosphere at seed-time, and, lastly, the manner of sowing, whether drilled or broadcast. The necessary quantity of seed will vary, in consequence, from 1 1-2 to 2 1-2 bushels, or even 3 bushels, and we believe that it will be always more advantageous to trust to plenty of seed, than to reckon upon the amount of ears produced by tillering."

As we have often, very often indeed, remarked in this periodical, one great cause of the small yield to the acre, in this country, is the absurdly trifling number of bushels sown. In early seasons, when grain can be got in by the end of April, 2 bushels of wheat, 2 1-2 of barley, 3 1-2 of oats may be enough; but as the seed-time approaches the middle of May, an addition of 2 pecks to the acre will prove beneficial.

The long "awns" of the Tartar oat, whether black or white, suggest an increase of seed, as the number of grains in a bushel of this oat must be fewer than the number of grains, in the same measure, of potato-oats, or other short kinds.

We should not in the least fear sowing even five bushels of oats to the "arpent" on some badly prepared land in poor condition that we have seen in this province.

Those who remember our success with increased quantities of seed at Sorel, in 1885, on Senator Guèvremont's farm, will remember how bravely the "poor sand" of that parish responded to the innovation. Twenty-three bushels of wheat to the arpent, without manure, was the yield from 2 1-2 bushels of seed to the arpent. This crop won the first prize for the best arpent of wheat in the parish, and, considering the sandy soil upon which it was grown, it was quite satisfactory to the grower.

MANURE WASTES WHEN WINTER SPREAD.

Parr Day, Clinton Co., N. Y.

I do not see how the advocates of the practice of drawing and spreading manure in the winter can claim that it does not waste as much in the field as it does in the yard. Why, will not the water off of a whole field leach it more than the water from the few square rods of the barnyard? The manure being on top and the lumps projecting up above the snow and being darker than the snow draws the heat, so they thaw out long before the ground is bare. The leaching proceeds and the ground being frozen the water cannot soak in and must run off the surface. As the snow all thaws off several times in the course of the winter the waste in this way must be considerable.

There are almost always one or two rains before the ground thaws out more than 1 in deep, which washes the manure and very little of the sediment lodges in the soil, as it is already full of water. If the manure is properly piled in the yard

where the stock can run on it I do not think it wastes much except on the surface, and on the bottom, where the weight presses the water out, if it is drawn in the spring. I have often had to stop drawing manure in the middle of spring work and wait for the centre of the pile to thaw, and it certainly cannot waste until it thaws. It may be all right farther south, but in this climate I think it is better drawn in the spring, even though it does not get dry enough in the fields to draw it until it is time to begin spring work.

SOME FORAGE PLANTS FOR SUMMER FEED.

The pasturage tests of a number of annual forage crops made in 1898 were, with a few exceptions, duplicated in 1900, the intention being to note such variations as might be induced by a difference in climatic conditions, or in the individual preference or aversion of animals for a certain feed.

The crops tested were rye, oats and peas, Indian corn, millet, sorghum, kafir corn, and cow peas, as representing the annuals, also alfalfa and awnless brome-grass. Records were kept of the amount of pasturage afforded, and the effect of the feed upon the production of milk and butter fat.

The following are some average results for the two years :

The crops giving the largest amounts of pasturage were rye and sorghum. Indian corn and millet gave less pasturage than any of the other annual forage plants. Alfalfa and awnless brome-grass gave the least pasturage of any, the former affording considerably more than the latter. It must be borne in mind, however, that the annuals may be pastured during only a certain period of each season, while the alfalfa and brome-grass furnish feed early and late.

Cowpeas and alfalfa increased most largely the yield of milk and butter fat. Next to these came rye, oats and peas, sorghum, kafir corn and awnless brome-grass.

Cow peas produced an actually greater quantity of milk and butter fat from a given area of land, than any other crop.

A comparison was made of the amount of feed produced and the effect upon the yield of milk and butter fat, when certain crops were pastured and when they were cut and fed. The crops so tested were alfalfa, sorghum, and Indian corn. In the case of each of these, from two to three times as much feed was procured from a given area of land, when the crop was cut and fed, as when it was pastured.

The same tests indicated that the average daily production of milk and butter fat was greater for the same feed when it was pastured, than when cut and fed. This, on an average, amounted to 1.17 times greater butter fat production from the pastured, than from the soiled crop.

T. L. LYON.

Nebraska Experiment Station.

" Press Bulletin."

RAPE AND ITS CULTIVATION.

Rape is a succulent plant belonging to the cabbage family. It grows rapidly, making a large amount of green food, upon which pigs and sheep grow well. To make a success of rape, select a rich piece of land free from weeds. Plow deep, then roll—if not too moist, and harrow till the soil is finely pulverized and well firmed down. Finish the preparation by running a plank drag over it. Such a seed bed will germinate the seed quickly, and enable the plants to withstand dry weather. I prefer to have the plowing done just before sowing. This will give the rape an even start with the weeds.

Sow with garden seed-drill, three pounds or five pounds broadcast, per acre.

When drilled the rows should not be more than 20 to 24 inches apart. Drill sowing will permit cultivation, which will keep down the weeds, conserve moisture and increase the yield. Where drilled the animals destroy less as they walk, and lie down between the rows.

If sown broadcast, cover with harrow or weeder and roll. In many cases it is well to roll the drill-sowing also.

The season will control time of seeding. Do not sow until the ground has become warm enough to quickly germinate the seed, as it comes up better and grows more rapidly. Usually it should not be sown before the middle of April—in this latitude of north central Indiana. It is best to sow at intervals of ten days to two weeks. By the use of low hurdles, this will give fresh pasture throughout the season, as the early sowing can be grazed off a second time. This also makes less waste as the stock does not run over it so much.

Rape may be sown in the corn just before the last cultivation. If the soil is not too dry, it will grow well, unless the corn is very large and thick. Where thus sown it makes splendid pasture for lambs from September till cold weather.

Where sheep have access to both rape and grass, they should not be turned on the rape until the middle of the day, when the animals are not hungry enough to gorge themselves, and the rape is free from dew. If they do not have the run of the pasture, turn them on the rape for an hour a day, gradually increasing the time, until they become accustomed to it. Then keep them on it continuously till the end of the season.

J. H. SKINNER.

Assistant Agriculturist.

Purdue Experiment Station.

"Press Bulletin."

FAIR FEATURES WORTH IMITATING.

The royal agri show of England is much like a big state fair in America. The exhibits are primarily live stock and machinery, with butter, cheese, honey and cider. There is no attempt to display farm and orchard products, flowers, garden truck, kitchen products, fancywork, works of art, etc. There is no horse racing of any kind and all side shows, fakirs and like nuisances are rigidly excluded. There

is usually quite a collection of these outside the grounds, but so far away that they do not interfere with the fair. Another admirable feature is the splendid organization of the different departments of the show and the precision and promptness with which every event is performed. The variation in entrance fee from day to day has much to command it. The first day, Monday, when all the judging is in progress and a large crowd is detrimental to best work, the fee is \$1 per person. The next two days it is 58c., and the last two, when everything is in order, it is put down to 25c., so that even the poorest can enjoy the best English fair.

Among the special features this year were a horse-shoeing competition in which 40 blacksmiths competed; lectures and demonstrations on dairy topics; lectures on beekeeping; sheep-shearing machines at work; milking machines at work; parades of prize-winning live stock (an admirable practice now discontinued in most American shows), fancy cheese and butter-making. It may interest makers of milking machines in this country to know that the judges at the late show refused to award prizes to any of the machines, insisting that none of them showed sufficient merit.

Household Matters.

(CONDUCTED BY MRS JENNIFER-FUST).

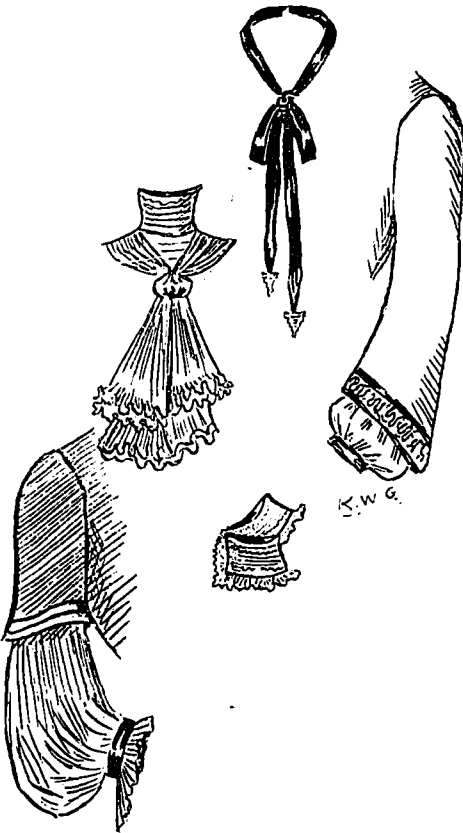
Many people who would never dream of making a whole dress, often make their own washing skirts and blouse-waists; but as washing, like many other things in these extravagant times, is so very expensive, people of moderate means have to content themselves with a good supply of washing-waists.

So they turn their whole attention to this one article which always looks well with almost any kind of skirt, materials for which can always be got of many colours and textures to suit the seasons of the year.

The simple blouse suitable for morning wear is well known and needs little work on it.

The more dressy ones are made in many and various ways, in white muslin, tucks, and insertion between them, form the whole waist. Sometimes, the whole muslin is tucked and the waist and sleeves cut from it.

In fact, the more varied the style, it seems all right, as long as it suits the wearer and it certainly gives free scope to the ingenious mind, which can sometimes hit upon quite a novel idea, and when asked by a friend where the very pretty, and novel garment can be bought with pride, can the inventor say: I did it.



The sketch will give a little idea how very much the sleeves of dresses have altered during the last year or two, so much so as to be not unlike those of long ago; but then fashion is always working from one extreme to another. The neck-ties also are

a great factor to the helping out a plain waist to look dressy. The lace tie is always becoming to youth or age. The velvet ribbon, with its little fancy pendant, is most becoming, and is often worn caught up and pinned on the left shoulder.

WASHING DELICATE PRINTS.

It is a great temptation every spring to buy some of the delicate prints shown on every shop counter; but if your washing is sent out, the wiser thing to do, is to buy the enduring colours.

If you are fortunate enough to get your washing done at home, by carefully carrying out the rule here given your clothing will retain its beauty for a long time. Shred a quarter pound of best yellow soap into water, and, when quite dissolved, add some of this to warm, not very hot, soft water sufficient to make a good lather; put the article to be washed into the mixture, rubbing every part till quite clean. Never be tempted to rub it with soap, rather put it in a second lather. Use cool thin starch, hang to dry in the shade. Take down, a little damp, and roll up, and set aside for an hour or so, then iron with a moderately hot iron on the wrong side.

ON GOOD COOKING.

To be a good cook means the knowledge of all fruits, herbs, balms and spices, and of all that is healing and sweet in fields and groves, and savory in meats. It means carefulness, inventiveness, watchfulness, willingness and readiness of appliance. It means the economy of our great-grandmothers, and the science of modern chemists. It means much tasting and no wasting. It means English thoroughness, French art and Arabian hospitality. It means in fine that you are to be perfectly and always ladies (loaf-givers) and are to see that everybody has something nice to eat.—John Ruskin.

KIDNEY SOUP.

Cut 1 lb. of ox kidney into small pieces. Roll them in flour, season with pepper and salt, and fry them in a little butter for 5

or 6 min. ; add to them a quart of stock (the bone of a sirloin of beef makes excellent stock for this purpose), a small bunch of herbs tied in muslin, and an onion. Let them all simmer gently for 2 hours. Take out the herbs, add 1-4 lb. of mushrooms that have been chopped small and fried in a little butter. Thicken the soup with 1 oz. of butter stirred in a small pan over the fire with a tablespoonful of flour until brown. Add this gradually to the soup. Let it boil for a few minutes, then serve.

CHICKEN SOUFFLES.

As it is generally the legs and wings of a chicken that are used the first day, the following is a good way of making up the breast. Take about 3 oz. of the meat and pound it in a mortar with a little butter, and any seasoning that may be preferred ; work into it a little white sauce, or cream, and the yolks of three eggs, then at the last mix in quickly the whites of the eggs whisked to a very stiff froth. Fill small paper cases, bake quickly in a hot oven, and serve immediately.

BROILED FOWL.

As it is the legs and wings of a chicken that are eaten the first day, so it is the breast of a turkey, leaving the legs and thighs to be dealt with. Separate the two, and score the flesh deeply on both sides of the bone. Mix together a teaspoonful of mustard, the same of Worcester sauce, a tablespoonful of salad oil, and a little cayenne pepper ; cover the meat with this mixture, getting it well in between the scorings, grill for about ten minutes, and serve very hot.

POTATO PANCAKES.

Pare and wash six raw potatoes, separate the whites and yolks of two eggs and whip the whites to a stiff froth. Grate the potatoes into a bowl and add quickly to them the beaten yolks, one-half of a

teaspoonful of salt and a tablespoonful of fine bread crumbs. Beat this gradually into the whites and saute (1) by spoonfuls in smoking hot fat.

MACARONI.

To bake with cheese, use 1-2 a box of macaroni, break it into inch pieces and boil in salted water for 15 minutes. Drain off the water. Put it in double boiler with a cup of milk, and boil till quite soft. Butter a pudding dish, sprinkle the bottom with grated cheese, and put cheese and macaroni in layers, sprinkling each layer with a very little pepper. Cover the last layer with grated bread crumbs and bake (2) 15 minutes in a hot oven.

HOUSEHOLD HINTS.

To keep butter cool in summer is always somewhat of a difficulty, but a butter-cooler is easily improvised by turning a basin or clean flower-pot over the butter on a plate. Place that on a larger dish or basin in which there is water, cover over the top basin with a piece of flannel, the ends of which should rest in the water, and the evaporation of the moisture will keep the butter cool. The water must not be allowed to touch the butter itself.

Gas-pipes that are hot in use are elements of danger, and great care should be taken not to knock them in any way, or hang things upon them so as to cause a leakage. This is very easily done and is not always readily perceived, so that there may be serious mischief before it is discovered.

Children should all be taught to eat salad olive oil. It obviates the necessity of administering other oils as medicine, and they get to like it very much. But care

(1) Fry in deep pan in plenty of fat ; sauter in a shallow pan merely smeared with, preferably, oil. Ed.

(2) Better, if you care for your digestion, to simply pass a red-hot shovel over it. Ed.

should be taken that it is got from a good maker, and that it really is olive oil. With salad or even with cold potato and a few drops of vinegar, this is most wholesome.

If the grate in your dining-room is of iron, polish with black lead; if burnished steel, use sweet oil and powdered emery. Should it be rusty, wet with oil; then coat with unslacked lime, and let it stand for several hours, after which proceed as before. Polish with soft paper or a piece of chamois leather. (1)

Grease spots on carpets may be taken out by covering the spots with fuller's-earth, wet with spirits of turpentine. Let it stand until the earth is a fine, dry powder. Another method is to place blotting-paper under the grease spot, wet the place with spirits of turpentine, place a piece of blotting-paper over it, and on the upper blotting-paper set a hot flatiron.

To clean the railing of banisters wash off all the dirt with soap and water, and when dry rub with two parts of linseed oil and one of turpentine. If the odor of turpentine is objectionable use two parts of sweet or cotton-seed oil and one part of alcohol; but the mixture of linseed oil and ting-paper set a hot flat-iron.

The Garden and Orchard.

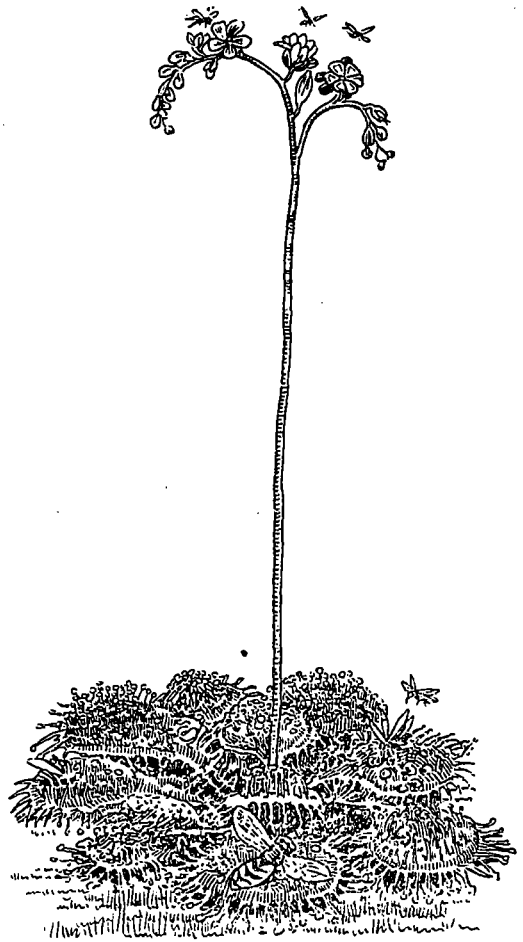
(CONDUCTED BY MR. GEO. MOORE).

PLANTS THAT FEED UPON INSECTS.

We have been giving of late some articles on Insects that live upon plants, and now, for the amusement and edification of our younger readers, we will notice a few instances in which the order is reversed, and plants live upon insects; for, strange as it

(1) *Shammy*, formerly made from the skin of the chamois, but now of lamb-skin, etc. Ed.

may appear, plants, like insects, must eat to live; they cannot grow without food, and as soon as the seed begins to germinate, that is to say, when life commences, this food is supplied; every seed is stored with starch which feeds the seed, until the plant can take hold upon the soil. Most plants obtain their nourishment by means



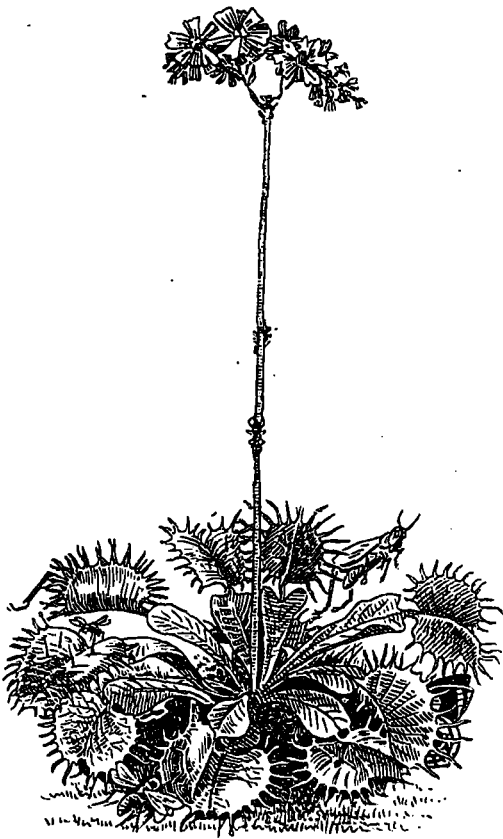
The Sundew.

of their roots, and from the air through their leaves, but a few are not content with this, but subsist also, partly, on insects, to capture which they are provided with parts which we may call traps and are among the curiosities of the vegetable kingdom; such plants are called "insectivorous." The most familiar of these, in cool climates, is the Sundew (*Drosera*) so called because the leaves are fringed

with little bristles which are glands and exude a drop of clear, liquid like a dew drop, "drosera" being derived from the Greek for "dewy." Insects alight upon these leaves and are caught and held by the sticky fluid, until the little bristles, at the tips of which are the glands, begin to bend towards the captive and finally close down upon him, pouring upon him a much larger quantity of the fluid.

After a number of days, the leaves resume their normal position and nothing is

The Venus's fly trap (*Dionæa muscipula*) is somewhat similar to the Sundew, only that its leaves are veritable traps, they are of two parts, a narrow-winged stalk, and a wider portion which is called the blade (see diagram), the blade is hinged in the middle, so that the two halves can close together. On the upper side of the blade are a few fine bristles, and the edges are fringed with stiff prickles; if one of the little bristles is touched ever so slightly, the two halves of the leaves spring quickly together and enclose the intruder; the prickles at the outer edge of the leaf, however do not



Venus Fly-Trap.



The Pitcher-Plant.

left of the victim, but the hard shell or wings, all the eatable part having been digested and assimilated by the plant. These conclusions are arrived at by the observations and experiments of naturalists who have even found that tiny bits of meat are digested, if placed upon the leaf, and that plants, thus fed, are more vigorous than those which are not.

allow the halves to come too quite close, so that very small insects may escape, as in the "sundew." The leaf remains folded until the captured insect is consumed and then expands again, to be ready for another comer. Few animals are better equipped for capturing their prey, and they only lack the power of locomotion to enable them to go in search for it, which creatures of the animal kingdom possess.

There is also an aquatic catchfly which lives in the water and preys upon very small fish in a similar manner.

A very pretty plant, quite common in the northern States of America and in Canada, is the "sarracenia," or side-saddle flower; its most familiar name is the Pitcher plant, and it is sometimes called Hunts-man's cup, or Trumpet leaf. The leaves are shaped like open cups, standing in clusters, and are generally about half full of water, in which many insects are drowned, and no doubt furnish food for the plant. The pitchers are gaily coloured so as to attract insects,—green with crimson or purple veins, and sometimes all purple.

The *Darlingtonia* of California, is very similar to our pitcher-plant except that its capturing apparatus is more complicated; even a bait is provided in the shape of



The *Darlingtonia* of California.

sweetish sticky substance which tempts the insects to enter the recesses of the treacherous leaf in search for more. Now, the inside of the cup is covered with stiff hairs which point downwards which make it easy work to crawl down, but very difficult to climb up again and so the adventurer, after vain attempts, usually falls into the depths beneath him and his cap-

ture is achieved. But supposing he gets past the hairs, he finds the opening quite dark, while the hood covering the pitcher is lighted up by yellow dots which are covered by a thin, transparent membrane, and so the captive beats against these until he is utterly exhausted, falls and shares the same fate as his fellow prisoners.

Like most things in California, this fly-catcher is big, and captures large insects, such as grass-hoppers, bees, hornets, butterflies, and sometimes a snail; he is a gross feeder to say the least.



Nepenthes.

The *Nepenthes*, or Monkey cups are found in the Malay Islands, and Northern Australia. Unlike those we have discussed, all of which grow near the ground, they are mostly climbing plants, reaching often to the tops of the tall trees of those regions.

The leaves are exceedingly curious, first a fat blade, not unlike a lily leaf, and at the point of this a tendril is formed which twists round the stems and branches of shrubs and trees, and at the end of this stalk or tendril is a pitcher with a well fitting lid. The rims of the pitcher, and the under side of the lid give out a sweet fluid; the inside of the rim of the pitcher, and below the rim, is smooth and polished, so that the insect who crawls over finds no hold for his feet and tumbles into the fluid contained in the pitcher, is there drowned and digested. In some of the large species of nepenthes, small birds are sometimes entrapped.

Insectivorous plants are curious and interesting in the extreme; they usually grow where the roots cannot find much food, in the condition of the atmosphere is unfavourable to vegetation, and so Nature has planned that they should be furnished with food in another way, and to a certain extent, has reversed the order by making the vegetable feed upon the animal.

A NOBLE EXAMPLE.

Mr. Andrew Carnegie, whose deeds of philanthropy have lately been so magnificent, has written several books, in one, "The gospel of wealth," he states how another philanthropist, a Mr. Phipps, of Alleghany, has given conservatories to the people, which are visited by many every day of the week, and crowded by thousands of the working people on Sundays; for, as Mr. Carnegie says: "with rare wisdom, Mr. Phipps made it a stipulation of the gift that the conservatories were to be open on Sundays." Then our author goes on to say: "To lovers of flowers among the wealthy I recommend a study for what it is possible for them to do in this line of Mr. Phipps example; also taking note that Mr. Phipps is a wise, as well as liberal giver, for he requires the city to maintain these conservatories, and thus secure for them,

"for ever the public ownership, the public interest, the public management, and the public criticism. Had he undertaken to manage and maintain them, it is probable that no popular interest in them would have been achieved. For my part, I think Mr. Phipps put his money to better use in giving the workingmen of Alleghany conservatories, filled with beautiful flowers, orchids, and aquatic plants, which they, with their wives and children can enjoy in their spare hours, and upon which they can feed their love for the beautiful, than if he had given them bread; for those in health who cannot earn their bread, we can scarcely consider, the care of such being the duty of the State. The man who erects in a city, a conservatory or a truly artistic arch, statue, or fountain, makes a wise use of his surplus: 'Man does not live by bread alone.'"

The wealthy of Montreal have been very generous in throwing open their conservatories at certain seasons and on certain days; but it is doubtful whether the working classes have reaped much of the advantage. They would naturally feel a certain amount of diffidence in taking their families and would not feel at home as they would in a conservatory in which they had a joint ownership, and which they could visit and enjoy at all seasons by such right. To the credit of Montreal's millionnaires it can be said, that they have applied munificent sums to the founding of hospitals and institutes of learning, and if this article should meet the eye of another who could see this subject in the same light as Messrs. Phipps and Carnegie, and would devote a few thousands of his surplus in so desirable an undertaking; he would confer a great boon upon all whose means, or occupations, debar them from the pleasure of seeing and studying the wonderful works of the Creator, and which were intended by Him for the gratification of the senses, and elevation of the souls of the poor as well as the rich.

The Dairy.

CHEESE-MAKING.

To the Editor of the "Journal of Agriculture."

Dear Sir,—Some short time ago I wrote an article to your Journal on this subject and giving some suggestions. Since the article appeared in print, I have received some information which may help to throw some light on the question. A gentleman who is shipping quite a lot of cheese to the other side, was over here during the winter, seeing his customers and finding out what the market demands. In order to get the very best price for our cheese and butter we must give the Englishmen just what they want, and how they want it. Now, the cheese buyers, after they have found out what is wanted in Great Britain, should let the makers know if any changes have taken place. I do not for a moment suggest that the buyers should teach the makers how to make cheese, that part should be left to the instructors to do. I see by the papers that the Inspectors of this province, at least a great number of them, had a meeting in Montreal with the Cheese and Butter Association not long ago. This is a step in the right direction, and should be repeated at least once a year, and I feel satisfied that good results will follow. As I said previously, a buyer having returned from his annual trip informed me that he thought some of the makers were using an inferior rennet. Now this is quite probable, as in 1896, an inferior grade of rennet was put on the market and the losses were very heavy.

He also informed me that the greatest fault found with the cheese, was mostly with Eastern Ontario cheese. They lacked texture and seemed to be deficient in butter-fat.

This may have been caused also by cooking very high; and allowing too much acid might be another reason also. If the

action of the rennet was weak, it might have a tendency not to be able to overcome the stiffness in the cheese. There are many factory-men so beaten down in price for the manufacture of cheese, that they cannot afford to buy No. 1 supplies. Broken boxes seems to be another great complaint about our cheese landing over there. This is something that could be overcome quite easily: make better boxes, and pay for them what they are worth, instead of trying the cheapest possible thing that can be made for the money. I was pleased to hear that our cheeses stood the test very well as regards quality, but they looked wretched in the miserable broken up stuff called boxes. This speaks volumes for our system of inspection. Ontario has not taken to the inspectors as this province has done, they may have to adopt some system of inspectors or lose the prestige they have held for some time. The little isle down by the sea, Prince Edward Island, has a system of inspection, and I am informed by good authority that there are cheeses from other sections of Canada not so good as are made down there, and their boxes are away ahead of ours. Take courage brother cheese-makers; do not buy some poor cheap grade of rennet whatever else you may do; give a fair price for boxes and insist on the very best you can get for the money. Form yourself into syndicates, and engage an Inspector, get a fair price for manufacturing if you can, and do the best you can to elevate your profession. At all events, if you think you cannot do any thing to elevate it, do not do anything derogatory. Remember the old proverb: "Honesty is the best policy," it will hold good in cheese-making as well as in any other walk in life. I earnestly hope that Canadians will not lose the hold they now have on the English market, but will try if possible and excel in the future.

Yours truly,

PETER MACFARLANE.

May 10th, 1901.

LLOYD ON CHEDDAR CHEESE.

(Continued).

"Summary of Results."—From the preceding investigations we get some slight idea as to the processes which are taking place during ripening, and their practical bearing is both interesting and important. So long as lactic acid is being developed in the curd, so long is the cheese ripening. When the maximum acidity has been attained, it then begins to gradually diminish, decomposition sets in, and the taints, or rather the bacteria of taints, which up to this period seem to have been compelled to lie dormant, now re-assert their sway.

The process of ripening is followed by that of decay, the rapidity of which will depend mainly upon the impurity of the original milk and curd. We also understand why it is that cheeses which, if examined during the period of ripening, are found of fair quality, when kept over that period "go off," diminish materially in value; and become in time absolutely valueless.

It cannot be too strongly impressed upon cheese-makers that a cheese, when ripe, is at its best, and from that time it begins to deteriorate. The warmer the room in which the cheese is kept, the more rapid is both the ripening and the subsequent falling off. Thus it is that cheese made late in the season keeps better and longer than that made early. The early made cheese is ripening in a continually rising temperature; the process of ripening is therefore continually increasing in rapidity. The late made cheese ripens in a continually falling temperature, and therefore the process of ripening is week by week more and more checked. Hence it is that a cheese-room requires to be artificially heated in the autumn or the cheeses will not properly ripen. The temperature of a cheese-ripening room should be about 65 deg. F.

The only possible means of checking the ripening of a cheese beyond a desirable point is to at one place it in a low temperature. I am informed by Messrs. Douglass, who have had exceptional opportunities of judging what temperature is best, that, as the result of their experience, they recommend 40 deg. F., and this temperature is one which would agree with the dictates of science, so far as we are at present able to judge. Still I have reason to think that even at this temperature certain changes will take place, though the subject is one which has not yet been thoroughly investigated. I merely mention it to warn cheese-makers that cheese could not be kept indefinitely even at this temperature.

If a cheese has been made from exceptionally pure milk, the changes which proceed in the cheese, after what may be termed complete ripeness has been reached, are such as will not materially injure the cheese, and they will proceed comparatively slowly. But if any taint was in the milk when the cheese was made, then the changes which take place after complete ripeness has been reached are more rapid and more destructive to the quality of the cheese.

It is impossible to study these results without feeling that the question of the rapid ripening of cheese and its consequent results needs, indeed demands, serious consideration. Has not rapid ripening been carried too far? While, on the one hand, it is not imperative to make a cheese that requires a twelve-month in which to ripen, is it desirable to make one which is ripe three months after it is made, and commences to show signs of decomposition a month later, unless made under exceptional conditions or kept at a temperature which few cheese-makers can ensure.

"Composition of Ripe Cheeses."—A large number of the cheeses made each year have been analysed, and the average results obtained are collected in the following table:—

AVERAGE COMPOSITION OF CHEDDAR CHEESE
DURING 1891-97.

Made in	Number analysed	Water	Fat	Casein etc.	Mineral water.
April.....	21	35.75	31.51	28.71	4.03
May.....	10	35.71	32.89	29.39	4.10
June.....	25	35.10	30.8	30.12	3.97
July.....	29	34.63	31.23	30.18	3.96
August.....	25	35.51	31.51	29.05	3.93
September.....	29	35.74	31.47	28.86	3.93
October.....	27	36.59	31.87	27.66	3.88
Average.....	175	35.58	31.33	29.12	3.97

It thus appears that the average composition of ripe Cheddar Cheese is as follows:—

Water.	Fat.	Casein	Mineral Matter.
35.58	31.33	29.12	3.97

(To be continued).

**HOW I WON THE GOLD MEDAL AT THE
BATH AND WEST SHOW AT BATH,
JUNE 4th 1900.**

*By the champion butter-maker, Miss Mabel
Kate Harris, of Gibb's Marsh,
Stalbridge, Dorset.*

After comparatively few attempts, I have been fortunate enough to gain that envied position. I have pleasure in jotting down the following particulars for the information of young readers. The appliances that I used were the Dairy Supply Company's (Ltd.) End-over-End champion butter churn, Cunningham butter-worker, with a sieve, Scotch hands, thermometer, and scoop. These I thoroughly scalded and scoured with salt, then well rinsed with cold water. Each competitor was given an equal quantity of cream. After receiving mine and taking the temperature, which was 62 degrees, I stood the cream in ice water, which brought it down to 54 degrees, at which temperature I commenced churning. After churning 20 minutes my cream thickened. I carefully watched the glass of my churn, and when the grain was sufficiently large, I added

some cold water at 50 degrees, and after churning again for a few minutes I found the grain was large enough. I then drew off the butter-milk, and poured into the churn a bucketful of water at a temperature of 44 degrees, and after a few swift turns found the grain of the butter was quite large enough. I then drew off the water through my sieve, which came out fairly clear. I then strained the brine into my churn at a temperature of 42 degrees; of course all these waters were prepared before I commenced churning. Having allowed the brine to remain in the swift turns found the grain of the butter from the churn to the butter-worker with the scoop and sieve, taking care not to crush the grains together, but to have them all as separate as possible. I next commenced working the butter very slowly, so as to get out the moisture with the least possible injury to the grain, and when I considered it sufficiently worked, I made it up into pounds and half-pounds according to instructions. I placed it all on the board, covering well with damp muslin and placing a little ice round it. It was then quite ready for judging. I then thoroughly cleaned and scoured my utensils, and reported my work to be finished in one hour and twenty-seven minutes after I commenced churning.

I first competed at the Bath and West Show at Southampton in 1897, where I gained two first prizes.

My first lesson in butter-making was received at Lydlinch in 1893 under the tuition of Miss Benjafield, Instructress for the Bath and West and Southern Counties Society School, where I gained first prize. I have also been successful in gaining twenty-one first prizes, thirteen seconds, and five thirds. I also gained second champion at the London Dairy Show last year. I need not say that dairy work is to me a great delight, and that I wear my honours proudly.

"Ag. Gazette, Eng."

The Poultry-Yard.

OPPORTUNITY FOR EXERCISE.

It will be noticed that as soon as the weather opens the hens will gladly accept the privilege of being outside the poultry yards, as liberty is to them the highest enjoyment.

Plenty of room with opportunities for exercise, is their natural condition and they will keep in health and lay more eggs when the long winter confinement is ended. As soon as the frost is out of the ground, spade up the yards, and thus allow them fresh earth in which to scratch, and if they have free range, plow a few furrows where they run, and they will keep busily at work.

DRESSING FOWLS FOR MARKET.

The directions sent out by the Sprague Commission House, Chicago, are as follows :

To dress chickens and turkeys keep from food twenty-four hours, kill by bleeding in the mouth or opening the veins in the neck ; hang by the feet until properly bled ; head and feet should be left on and the intestines and crop should not be drawn. For scalding poultry the water should be as near the boiling point as possible without actually boiling ; pick the legs dry before scalding ; hold by the head and legs and immerse and lift up and down, three times ; if the head is immersed, it turns the color of the comb and gives the eyes a shrunken appearance, which leads buyers to think the fowl has been sick. The feathers and pin-feathers should be removed immediately, very cleanly and without breaking the skin ; then " plump " by dipping ten seconds in water nearly or quite boiling hot, and then immediately into cold water, hang in a cool place until the animal heat is entirely out ; it should be entirely cold, but not frozen, before being packed. Dry picked chickens and

turkeys sell best, and we advise this way of dressing, as they sell better to shippers. Scalded chickens and turkeys generally are sold to the local trade. To dry-pick chickens and turkeys properly the work should be done while the bird is bleeding. Do not wait and let the bodies get cold, dry-picking is more easily done while the bodies are warm. Be careful and do not break and tear the skin. Pack in boxes or barrels ; boxes holding 100 to 200 pounds are preferable, and pack snugly ; straighten out the body and legs so that they will not arrive very much bent and twisted out of shape ; fill the package as full as possible to prevent shuffling about on the way. Mark kind and weight and shipping directions neatly and plainly on the cover. Barrels answer better for chickens and ducks than for turkeys or geese. When convenient avoid putting more than one kind in a package. Endeavor to market all old and heavy cocks before January 1st, as after the holidays the demand is for small, round, fat hen turkeys only, old Toms being sold at a discount to canners.

For geese and ducks the water for scalding should be the same temperature as for other kinds of poultry, but it requires more time for it to penetrate and loosen the feathers. It is a good plan after scalding them to wrap them in a blanket, providing they are not left long enough to partly cook the flesh. Another method, and no doubt the best for loosening the feathers, is to steam them, and whenever proper facilities are at hand, we advise this process. It is poor policy to undertake to save the feathers dry by picking them alive just before the killing, as it causes the skin to become very much inflamed, and greatly injures the sale. Do not pick the feathers off the head, and it is well to leave them on the neck, close to the head, for the space of two or three inches. The feet should not be skinned, nor the bodies singed for the purpose of removing any down or hair, as the heat from the flame will cause them to look oily and bad. The process of plumping and cooling is the same as with turkeys

and chickens. There is no kind of poultry harder to sell in this market than poor, slovenly dressed geese and ducks, and those who send in such must not be disappointed at low prices. No poultry of any kind sent to this market should be drawn.

RATS AND THE POULTRY YARD.

In the spring and early summer, when young chickens are plentiful, the question of rats, always more or less to the fore, becomes acute. Few of us are so fortunate as to have none of these pests in the vicinity of the poultry yard, or the room or shed where the poultry food is kept; we have to be continually planning how best to keep down their numbers and protect chickens and ducklings from a summary end.

It is next to impossible to entirely escape loss, and when a rat manages to get at the chickens he does considerable damage owing to his habit of killing all he can, though one or two victims content his appetite. It is thus lust of killing and his amazing cleverness in avoiding trapping or capture that render him so formidable an enemy to the poultry yard. Elaborate traps are useless, but the ordinary iron spring trap often used to catch rabbits are sometimes successful.

Suppose rats' footprints are discovered round a chicken coop when visited in the morning, the trap should be set the same evening after the coop is shut up for the night. It should be sunk in the ground on the path the rat has traversed, lightly covered with earth, and a little chicken food sprinkled over. The trap should be handled with gloved hands, as the rat's scent is abnormally keen, and if set with skill, and its presence concealed effectually, the rat not infrequently walks in the same night.

Rats in a store-house can be caught with these traps in a similar way. Supposing the poultry food is kept in casks, as it often is (empty casks which the grocer will generally sell at 6d. or 9d. apiece

make excellent bins for a sack of meal or corn, and if stood on a dry floor will last for years), and rats begin eating it from the top, set a couple of traps in a meal cask full to within a few inches of the top. Just cover them with meal, placing them 3 or 4 in. from the edge. When the rats return to the cask they jump in unsuspectingly, and one will walk into the trap; this plan seldom fails, and by covering up all the casks but the one with the traps in it, they are bound to go to it.

Catching them out of doors, if the steel trap fails, is by no means easy. Ferreting is effectual if their holes can be found, but when the coops are in a field, it by no means follows their holes are in the vicinity, and a prolonged hunt fails to find them. There only remains poisoning, and a certain risk invariably attaches itself to this means. A favourite dog or cat not infrequently finds the poison before the rats, in spite of all precautions. The safest poison, if poison must be resorted to, is plaster of Paris, which can be bought at any chemist's. It is a white powder, should be mixed with an equal quantity of poultry meal, sharps or barley meal, and three or four saucers of the mixture should be put down in places which the rats frequent. The rats, it must be confessed, do not die painlessly, for the stuff once swallowed turns into a hard mass and causes a stoppage. But it kills them, which is the main thing, and a poultry-keeper, after a rat has wantonly killed a dozen ducklings in a single night, need feel no tenderness towards these bloodthirsty brutes. The advantage of plaster of Paris is that wandering fowls, dogs and cats, or any quadruped will not touch it, and it has the additional merit of cheapness. Phosphorus paste is another effective poison if used fresh. A threepenny bottle of it, spread on bits of bread and butter, will kill many rats, and it has great attraction for them.

When the weather is warm enough for poultry-keepers to dispense with bottom boards to the coops, 1 in. mesh wire netting should be used in its place, unless the coops stand on perfectly level, hard

ground. A rat will not burrow under level, hard ground, but if the land is un- equal and there is a tiny hole owing to this cause, he will enlarge it and insinuate himself through. It is best to use loose pieces of netting to protect the coops, and turn them up at the edges, as this saves knocking nails into the wood. Bricks set round the coop, will protect it from rats, but the netting is safer. The front board should always fit securely. When the coops are home-made this point should be re- membered.

Ducklings and goslings must be protect- ed from rats till quite big, as they prefer them to chickens. It is when rats have tasted blood in the poultry yard that they are most troublesome, and will even chase and kill chickens in broad daylight. If the young stock are securely protected at night and no food is left lying about, there is far less fear of rats developing into a danger. To put it bluntly, it does not pay to raise poultry if rats decimate the stock, and if the poultry-keeper is not clever enough to keep down loss from this head to an insignificant number he had far better give up poultry-raising altogether.

SUSSEX.

The Grazier and Breeder.

COMMON DISEASES OF ANIMALS.

Disease of the Liver.

Disease of the Liver, one of the causes of the obscure abdominal pains in horses which are so puzzling to farmers and horse- men in general, presents itself in many forms. Ordinary functional derangement is, perhaps, not so common in the lower animals, as it is in man, because they are not such frequent victims to the effects of errors in diet; and a genuine bilious at- tack is not often met with in herbivora, although it might very well be added to the list of affections to which dogs, especi- ally pet animals are subject. Horses which

have been got into what is called "sale condition"—fat and sleek—suffer from a state of liver which may be mistaken for fatty degeneration; and the term fatty liver is properly applied to it, but no degenerative change has occurred, and the only thing which has really happened is the infiltration of fat globules into the gland structure, and into the cells which line the biliary tribes. The liver then be- comes enlarged, and easily broken down by pressure of the fingers.

Horses with fatty livers do not neces- sarily suffer any marked inconveniences from the accumulation of fat; but the secretion of bile is defective, and a distinct yellow tinge is seen in the mucous mem- brane of the mouth, nostrils and eyes. The manure is light coloured, and some- times covered with mucous and always very foetid. In some cases the appetite is impaired, to the great alarm of the owner, who is at once apprehensive of a loss of condition, and feels himself bound to give the horse a mild dose of physic, which has a very beneficial effect, by causing a cer- tain amount of nausea, and rendering the animal disinclined to take food, and, fur- ther, by clearing away the contents of the large intestines.

Young horses just got ready for sale, in this state of plethora, are bought and in the course of preparation for work, get heated, and are then often exposed to cold air, or are caught in a heavy shower dur- ing exercise; a cold is the result, of which but little notice is taken. A warm mash with a little nitre in it is given, and the animal is otherwise treated as if he were in good health. The cold, which in a horse in hard condition, would be of no conse- quence, assumes the form of bronchial catarrh, and soon becomes broncho-pneu- lungs, a dangerous malady under any cir- cumstances, but rendered far more than ordinarily so, by the want of resistant power in the system of a horse in a state which is expressively called "soft condi- tion." Hundred of young horses are lost every year before they are got into work-

ing condition under the system of—happy go-lucky—treatment to which they are subjected.

On post mortem examination of horses which have died from lung disease under above circumstances, the state of the liver always attracts attention by its size and its bright yellow colour.

It is not intended to say that deposit of fat in the liver constitutes a serious structural disease, on the contrary, it is a temporary disorder, which will be corrected by the ordinary system of dieting and exercise necessary to get the animal into working condition.

Fatty liver in old horses is a much more dangerous condition than in young animals. It is in fact, the state which precedes rupture of the gland. Occurring in horses which have reached an advanced age, the disorder seems to be due to a peculiar tendency to the part of the animal to lay on fat, and if, as is often the case, this tendency is fostered by stimulating food and inaction, the liver invariably suffers.

Fatty liver in old subjects is not so easily remedied as it is in young ones, by adopting a system of training, in short, it partakes more of the character of a morbid state than it assumes in the young subject, in which it amounts to a storage of the excess of fat rather than to actual disease.

Fatty liver is common in all animals which are used for food, as the natural result of the system of feeding which is adopted for the purpose of getting them into condition fit for the butcher. In these animals it is no more a disease, than is the general state of the structures of the body, all of which are charged with a quantity of fatty material. When the fattening process is carried on, as it usually is, as quickly as circumstances permit, and the animals are slaughtered for the market, no question arises as to the existence of disease. A certain percentage of the over fed animals may succumb to the influence of the system of overfeeding, but the proportion is not so large as to cause any alarm in the mind of the feeder; indeed, it is usual

for the fatality to be ascribed to other causes.

Fatty liver in old dogs is by no means an uncommon condition, and it is hardly necessary to remark that it is in most cases the outcome of an inactive and luxurious life. It cannot be asserted that the disease shortens the animal's life to any marked extent, and, when it does kill, its victims are generally of an advanced age.

Dogs which suffer from enlargement of liver from the deposit of fat, betray the disorder by very definite signs—the abdomen is increased in size and hangs down, and the swelling is most marked on the right side, while above it there is a distinct depression, which gives to the animal's body an appearance which is very characteristic. No cure is possible; but when the dog loses its appetite and is abnormally ill, relief may be obtained by a dose of sulphate of magnesia. Usually it is with sick dogs as with sick men, that their considerate friends exhaust their ingenuity to find something which will tempt the failing appetite, though Nature commands in such cases "total abstinence."

W. R. GILBERT.

THOROUGHBRED STOCK FOR SALE.

Names and addresses of the leading breeders of the Province of Quebec.

The Father Trappists of Notre-Dame du Lac, County of Two Mountains.

75 pure-bred registered Chester-whites, large Yorkshires, and Berkshires.
20 lambs and 20 ewes—Shropshires. 15 Canadian calves.

*The Hon. S Fisher, Knowlton, Brome Co.
Breeder of Guernseys.*

Two yearling Guernsey bulls, registered.

**The Hon. M. H. Cochrane, Hillhurst Station
Compton.**

*Breeder and importer of Scotch Shorthorns ; also of
Shropshires and Hampshire-downs.*

Three yearling registered Shorthorn
bulls ; bred from milking strains.

20 yearling Shropshire rams.

1 Hackney stallion, 6 year-old.

Robert Ness and Son, Howick, Chateaugay.

5 imported Clydesdale stallions, and 2
thoroughbred Clydesdale stallions born
here ; ages as follows :

1, 9 year-old ;

3, coming 3 years ;

1, coming 2 years ;

1, yearling.

All these are entered either in the British
or the Canadian stud-books.

6 Clydesdale mares of various ages.
Several Ayrshire bull-calves, got by the
imported Ayrshire bull that, two years in
succession, took all the first prizes at To-
ronto, London, and Ottawa, and from
cows equally well-bred.

Ar-ène Denis, St Norbert. Berthier.

Pure bred breeding stock, entered in the
herd-book ; winners of first prizes at the
provincial shows at Sherbrooke and Otta-
wa, and at the Berthier show. All sprung
from stock know to be producers of large
quantities of rich milk.

2, 3 year-old Canadian bulls.

2, 2 year-old Canadian bulls.

2, yearling Canadian bulls.

2, 9 months' old Canadian bulls.

Several Canadian bulls and cow calves.

1, 3 year-old Ayrshire bull.

1, 2 year-old Ayrshire bull.

1, yearling Ayrshire bull.

Several Ayrshire calves.

Lincoln, Shropshire, and Cotswold sheep.

Berkshire and Yorkshire pigs.

All entered in the herd-books.

**W. W. Ogilvie, Rapids Farm, Lachine
Rapids, P. Q.**

30 head of young cattle and calves—pure
Ayrshires, from registered stock, both sire
and dam, imported by Mr. W. W. Ogilvie.

**A. Lafortune, advocate, 46 St Vincent
street, Montreal.**

Three registered Ayrshire bulls :

No. 10,863.—Lord Minto, calved March
16th, 1899.

No. 12,609.—Fabiolus, calved March
17th, 1900.

No. 12,610.—Nero, calved March 13th,
1900.

Joseph Deland, L'Acadie.

Several fine Berkshire pigs, littered in
January and February, a few registered
Canadian horses.

L. P. Sylvestre, Acton, County of Bagot.

Two registered Canadian stallions, res-
pectively 3 and 6 years' old.

33 head of registered Canadian cattle.

Several Yorkshire pigs.

Cotswolds and Oxfords.

Georges H. Jones, Bedford, Que.

George H. Jones ; Bedford, Que.

Ayrshires : females of all ages. One 2-
year old bull ; several bull calves.

(From the French, by the Editor).

The Flock

**A BEGINNER'S MANAGEMENT OF A
FLOCK OF SHEEP IN MANITOBA.**

**By A. D. Gamley, Brandon, read before the
Sheep and Swine Breeders' Association.**

In the management of sheep, how to pro-
duce the greatest profit from the flock is
the first consideration ; not how to pro-
duce the greatest number of lambs, as is
usually the case with the young shepherd,

but to produce an animal that will give the greatest profit for the labor and expense involved.

We will suppose that the shepherd has secured his flock of ewes in the fall. What breed? Well, that is a matter of fancy; any of the good breeds will do, so long as they have been judiciously selected. The next and greatest consideration would be the selection of a ram. He should be big, strong and rugged, and, above all things, typical of his breed and full of quality. The ewe influences only her own progeny, the ram the whole flock, and on him depends its improvement or retrogression.

A strong shearling or over is capable of serving from 50 to 70 ewes, or more, according to treatment. If he has only 50 ewes, he may be allowed to run with the flock, and fed night and morning. If from fifty to one hundred, he will require to be kept inside and only allowed one service of each ewe, night and morning, as they come in season. It is a good plan to mark the ram's breast with lamp black mixed with oil, and in ten or fifteen days change the color to red. The ewes rump is thus marked, and according to the color the time of lambing is calculated.

The lamb crop, like any other, to be successful, must be prepared for beforehand; therefore, as the breeding season approaches the ewes ought to be getting in good condition, and it cannot be done easier than by giving them the run of the stubble fields after the grain is stacked. Before the breeding season is over the winter will have set in, and the flock will be in their winter quarters. No elaborate building is necessary. A hay rack running round the inside, with a small door in the centre, just large enough for one sheep to go in and out when the big door is shut. It must be dry and entirely free from drafts for the sheep to do well. 30x60 ft. will be ample accommodation for a hundred good sized ewes, until lambing time.

The winter feed should be hay, oat straw or oat sheaves. They may be allowed to run at the oat stack, if care is taken to remove the overhanging portions as

they eat it away from under, to prevent the chaff from getting into their wool. The hay is fed in the racks inside, and only what they will eat up clean. Always clean out the racks before the next feeding. I have often heard it said that sheep won't drink water, but that is a mistake, they will drink large quantities of water at the right time and place. They won't drink out of a water hole on a cold day, but watered in their pens and in troughs, a hundred head will drink almost two barrels a day. (1) I think good water is most important. Keep salt where they can get it at all times, summer and winter.

The hay, oat straw and chaff will have brought the ewes along nicely till about six weeks before lambing, when, if the lambs are expected when the flock is in winter quarters, the ewes will require a little extra feeding, to stimulate the secretion of milk. Oat chop, or oat sheaves, one sheaf between four, the bands cut and scattered over the snow, will, along with their usual feed of hay, tone them up and bring them along. When they are let out to the sheaves, be sure and have the door wide open, to prevent them crushing their sides, which is dangerous to in-lamb ewes, being liable to kill lambs.

As the time for the coming of the youngsters approaches, the shepherd will be making preparations. If the lambs are coming in May very little is necessary to be done, but if in March, and the sheep pen is not warm enough for new-born lambs, then warmer quarters must be provided. My plan is to have a shed built of poles, covered with straw and well banked with manure, into which turn the cattle, making the vacated stalls into temporary pens, by nailing a few boards across the ends.

Now for the lambs. As the ewes lamb, bring them into the warm stable, where the pens have already been prepared, examine the udder, draw some milk, so that the lamb will get it more freely, clean all the wool and filth away from around it, so that the lamb will have no trouble in getting hold of the teat. If the lamb is

(1) When on dry food alone, of course. Ed. J. of Ag.

strong, don't be in too great a hurry to get him to suck, he will soon find the teat, and the less they are handled the better. If the lamb is weak, assist it to the teat, holding it up for a few times or until he finds his legs. If too weak to suck, draw some milk from the ewe into a warm teacup, feeding two or three spoonfuls at a time, until strong enough to help itself. If a lamb is chilled and apparently lifeless, pour a teaspoonful of gin in a little warm water down its throat, and submerge it once, all but the head, in warm water, or put in a warm oven. The latter, the hot air cure, I think is much the surest plan. I have brought round lambs in that way that have been picked up for dead. Never give up a lamb that has been chilled and never sucked, without trying one of the aforesaid methods for its recovery, the chances for that lamb living are a good deal better than for an ailing lamb a few days or a week old.

As the lambing progresses, the shepherd will have observed that some ewes are much heavier milkers than others, and that the poor milkers very often have twins; put one of the twins on a ewe with a single lamb and a good milker. The best and easiest plan is to pick out a ewe giving indications of being a good mother, and watch for her lambing. As soon as she has lambed, and before she gets up, place the twin lamb beside the new-born lamb, and roll and rub them together, which will give the same appearance and smell to both, and when the ewe turns round to survey her progeny, she will never suspect the fraud, but will commence licking both lambs. I have never seen this plan fail. If a ewe loses her lamb, make her foster a twin (aim to make every ewe raise a lamb). This requires a little patience. My plan is to skin the dead lamb and sew the pelt on to the twin lamb, putting the dam and foster lamb in a dark pen for a few days, always keeping a sharp lookout to see if the lamb is doing all right. It is as well in their case to tie up the ewe for the first day or so. Take off the pelt in 24 or 30 hours.

Out of condition and young ewes require watching at this time. The former are very often indifferent to their lambs and will leave them. Shut them up by themselves in a pen for a few days until the ewe thoroughly knows its offspring. The young ewes sometimes take unkindly to their lambs, and require to be held a few times while the lamb sucks or until she gets accustomed to it. If the ewe is hard to manage, a good plan is to get her with her rump in a corner, so that she can't back, the shepherd kneeling on one knee and the inside of the other leg against the breast of the ewe, one arm around the neck, and the lamb in the other hand holding it to the teat. A little practice and one soon becomes expert.

(To be continued).

A NEW SHEEP SHEARING MACHINE.

Flockmasters will be interested in a new hand-power sheep-shearing machine which is now being introduced into this country by the Chicago Flexible Shaft Co., of Chicago, and 6, Denman Street, London, S.E. The remarkably low price at which the implement is sold brings it within the scope of the owners of small flocks, while its capacity is equal to dealing with the largest flocks in this country. In construction it is very simple, with comparatively few parts, while the good wearing qualities are best evidenced by the fact that the manufacturers guarantee to do all repairs free of charge for three years from date of purchase, including the grinding of the knives. A large-toothed driving wheel transmits the power to the gear, which is enclosed in a stationary frame, and drives a hardened steel cut pinion, to which is connected a universal joint flexible shaft. The pinion shaft is fitted with a small balance-wheel, which revolving at a high speed keeps the machine running smoothly and steadily. The Universal jointed flexible shaft calls for special notice, and it is quite different from the ordinary link type, and is made up of two solid steel rods or

spindles, running in tubular steel sheaths, the connections being made with universal joints which carry steel joint cogs turned from solid bar steel, and the whole wonderfully true and free running at any angle required. The cutter, which is of an improved pattern, fits into the shaft with a bayonet socket, and has a screw tension device which can be regulated with the fingers, and gives a very fine adjustment. The bracket carrying the driving gear can be fitted to a wooden post, and a boy can drive the machine with little effort. At a trial held this week under the supervision of Mr. Ia Chance, the London manager of the company, a fairly heavily-fleeced Hampshire Down sheep was operated on; the machine did good work, the shearing being done quickly and cleanly, showing close, even cutting, and the skin free from the red marks so often observed after shearing. By the substitution of a pulley in place of the ordinary handle, the machine can be adapted for power. The company issue an illustrated catalogue, which gives full particulars, and will be supplied by them on application.

The Horse.

DRAUGHT HORSE BREEDING.

By James Mitchell, Goderich.

Notwithstanding the advent and increasing use of electricity as a motive-power, there is, and will be for many years to come, a place for the horse which no mere machine can fill. Especially is this true of the draught or heavy horse, and, therefore, any effort or information that will help in the production of the best class of draught horses is in the interest of the farmers and breeders, who constitute more than three-fourths of the people of Canada.

For years Canada had won a name on this continent for its draught horses, and, thousands were annually shipped at good

prices to the American cities for heavy draught purposes, and to those markets created by the development of the Western States for breeding purposes. This continued up to a few years ago, when there seemed to be a superabundance of horses, and prices dropped to a very low figure, as a consequence of which many farmers went out of horse breeding. In recent years, however, prices have gone up, and farmers are beginning to breed again. The question is, what class of horses are the most profitable for the farmer to breed, and most worthy of encouragement for their usefulness and good qualities? In our opinion, the heavy draught is the best horse the farmer can breed, and the most profitable, everything taken into consideration. The Clyde and Shire have proved the best class of draught horses, and command the best prices. There has been some difference of opinion as to whether the Clyde horses of Scotland and the Shire horses of England are distinct breeds, or two families of the same breed, and a few words as to their origin may not be out of place here.

ORIGIN OF CLYDESDALES.

Over one hundred and fifty years ago, one of the Dukes of Hamilton purchased and imported into Lanarkshire, in Scotland, six stallions from Flanders. Between 1715 and 1720 John Paterson, a farmer of Lochlyock, in the parish of Carmichael, Scotland, brought from England a Flemish stallion, which so greatly improved the breed of horses in the Upper Ward of Lanarkshire as to have made them noted all over Scotland. The Lochlyock mares were famous during the latter half of the eighteenth and the first two decades of the last century.

It is nearly fifty years since Lawrence Drew purchased three geldings in England of a type which he considered bore all the points of a good draught horse, as exhibited in the very best Clydesdales. Wherever these horses were shown at the great agricultural fairs in Scotland they were never beaten. Then he bought the celebrated

stallion Prince of Wales, whose granddams on both sides were English mares, and afterwards Darnley, another noted Clydesdale, with at least one-fourth of his blood English. After securing Prince of Wales as his stud horse, Mr. Drew purchased a large number of mares and fillies, principally from the Midland Counties of England, for breeding purposes; and it is an established fact that up to 1875 there was a continuous and extensive interchange of breeding animals between England and Scotland. After Mr. Drew's death a sale of his stock was held, and some of his colts are said to have realized one thousand guineas, while one of his fillies purchased by Sir William Stirling Maxwell brought five hundred and ninety-five guineas, a price which no agricultural horse ever realized before. These prices demonstrate Mr. Drew's success as a breeder along these lines.

Other facts and opinions might be quoted to show that the crossing or blending of these two types of draught horses has many warm advocates, and produces worthy animals which meet all requirements for draught purposes. A writer in one of the numbers of the "Canadian Live Stock Journal," discussing this a few years ago, quoted the remarks of the eminent veterinarian and Clydesdale breeder of Scotland, Prof. McCall, who at a meeting held in Blairhummock, attended by many prominent breeders, agreed with the general opinion expressed in favor of this breeding. Prof. McCall said it was a well-known fact that the most successful sires ever used by Clydesdale breeders had a considerable dash of Shire blood in them. He thought if they could but breed their Clydes with stronger backs and better ribs, the Clyde could hold its own with the Shire any day.

Holding this opinion, and desiring to assist and encourage those Canadian breeders who saw an advantage in the Clyde and Shire crosses, the Dominion Draught Horse Breeders' Society was formed and incorporated in 1886, and since that time it has registered nearly 1,300 stallions and

about the same number of mares, many of which have gone to the United States and there assisted in maintaining the high honors and good opinions our Canadian draught horses have won. The stock registered on our books is carried on the railways at the usual reduced transportation rates.

What we advocate and encourage—and this view is endorsed by many leading breeders to-day in Canada and elsewhere—is that farmers should breed their best draught mares to the best Clyde or Shire stallions they can secure, of good size and as much quality as possible. They are within the reach of the average farmer to breed successfully. They will earn their living from the age of two and a half years till they are old enough to bring the full market price, and they can be sold at a handsome profit.

"Farming."

Swine

FOOD FOR IN-PIG SOWS.

At this season one of the most important points in connection with pig-breeding in many parts of the country is the feeding and care of the in-pig sows. In those districts especially where dairying of any kind is carried on, an endeavour is made to have the sows fatten down so that the young pigs become old enough to consume considerable quantities of skim milk and whey, to which is added some meal, so that ere the season is ended the pigs will go out fat.

A question was recently asked by a reader as to the best kind of food and the quantity of it most suitable for an in-pig sow. The food at command and the accommodation were both extensive, since it was stated that conveniences existed for cooking the mangels, dried grains, meal, and grain which might be recommended, but that milk, ordinary brewers' grains, and wash were not available. The three kinds of food not obtainable are by no means

necessary for in-pig sows—indeed, it may be said that wash and ordinary brewers' grains are no loss, since both are very bulky foods to give to a sow carrying a large litter at the latter stages. Besides this, they frequently contain a large quantity of indigestible matter, out of all proportion to the nutriment to be obtained from them by in-pig sows. The same objection might not hold good to quite the same extent to the dried grains, but the railway carriage would seriously handicap these as a pig food save for consumption near the drying works. This heavy extra cost on very bulky food is not sufficiently considered by feeders of pigs, as these animals are so constituted that they can deal most profitably with a more concentrated food; besides, if mere bulk were needed, this is always to be locally obtained at a low price in the form of roots of some kind, or even small potatoes. The latter should be cooked, but, so far as I have been able to learn, no benefit is derived from the cooking of any other kind of roots, or of meal or corn. In very cold weather it is a great advantage to be able to feed the food to pigs warm, otherwise all the food has first to be warmed up at the expense of the food previously given to the pig, a greater quantity of food thus being required to make an equal gain of flesh or nutriment. So much will depend on location as to the best and cheapest food for in-pig sows; then these can be kept so much more economically on a farm than where everything has to be bought. All the early part of the period during the summer, a sow will require but very little corn in addition to a run on a pasture where there is plenty of grass, whilst in winter roots of various kinds will furnish the foundation food; the addition may vary with the kind of roots generally grown. In some districts white turnips are considerably grown and fed to the stock during the month of October and the early part of November; one of the best foods to give in addition would be beans or peas, if they be obtainable at a fair price—i. e., in districts where they are

grown. After white turnips come swedes or kohlrabi; as these are a more nutritious food, the less expensive maize may with advantage be fed with them during the first three months of the sow's pregnancy. Again, as the season advances, the roots available will be mangels; these appear to suit the sows in some districts better if fed with beans or peas or wheat meal as an adjunct than with maize as an additional food. But here a word of caution may be advisable, as in some light land districts, where the mangel crop is grown by the aid of artificial manures, pig-keepers look askance at mangels, and assert that it is difficult to get sows to breed or to carry their pigs when fed largely on them; it is certain that this complaint is well founded, as is the statement that feeding the boar on mangels tends to make him sterile for the time being. When I farmed light land I noticed this, and further, that shortly after the ceasing to feed the pigs on mangels they again became fruitful. (1) In the district in which I now farm, and where I grow the mangel with heavy dressings of farmyard manure and no artificial save nitrate of soda sprinkled up the rows when the plants have been singled, I have not noticed any ill effects from feeding the in-pig sows on mangels; indeed, these form the chief food from the middle of February—when my kohlrabi usually begin to decay rapidly—until the end of April, or a sufficiency of grass is obtainable.

During the summer months grass furnishes nearly all that the in-pig sows require during the early portion of their time; a little whole maize soaked and chitted is given once or twice a day, or a few beans for a change, then during the fourth month of pregnancy we usually give an increased quantity of grain, and prefer peas or beans to maize.

(1) The same fact was observed in Essex, in 1852. Ed J. of Ag.

