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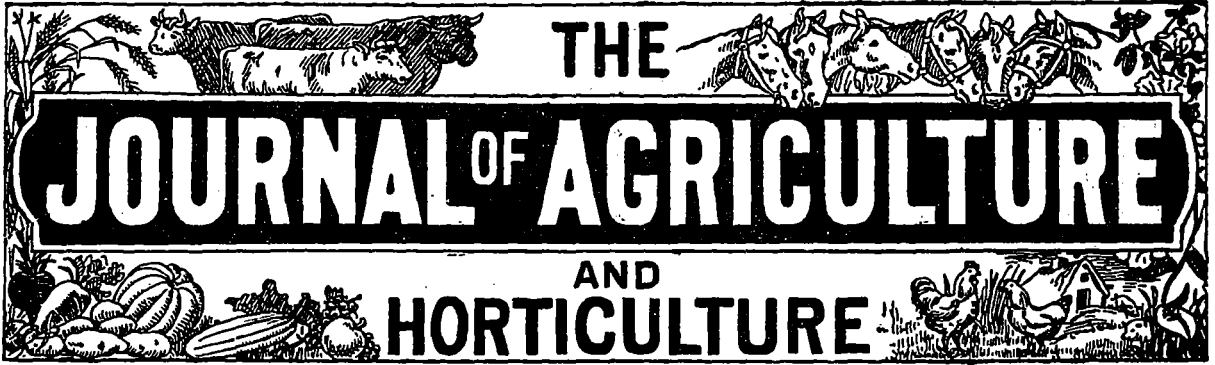
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THE JOURNAL OF AGRICULTURE AND HORTICULTURE

Vol. 3. No. 24

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

JUNE 15, 1900

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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 &c. 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.

Experiments in pig-feeding.—Our good friend, Mr J. H. Grisdale, of the Ottawa Experiment-farm, has been making several very interesting experiments on the feeding of hogs, not only to discover the most rapidly fattening combinations of foods, but also to find out which combination produces the best quality of meat.

Three lots, of six pigs each, were selected for the purpose; not all of the same breed; there being among them, crosses as well as pure-bred hogs.

The food combinations were: 1. Mangels, and a mixture of grain, consisting of $\frac{1}{2}$ corn, and $\frac{1}{2}$ equal parts of oats, pease, and barley; 2. Clover and the same quantities and kinds of grain as above; while the third lot received the grain alone. In all cases, the grain was ground and given dry, water being supplied in a separate trough.

As might have been expected, the mangel fed hogs did not turn out very well as regards quality, they being classified by the packer to whom they were sold as "poor," "medium," "fair," and one, "good"; the four of those fed on grain alone, went under the heading of, respectively, one "good," two, "very good," and one, "excellent"; while the only two of the clover and grain lot that were tested, were classified as "very good."

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Why the whole lot of hogs were not tested is not stated. Selected specimens give but a partial idea of results.

English markets.—Mutton, as we mentioned in our last issue, seems to be creeping up in value, and beef is worth nearly a half penny a pound more than last year. As is invariably the case, small neat downs are selling much higher than anything else, though small Scotch sheep come very near them. Think for a moment: long wool ewes are quoted at 3s. 4d. a stone of 8 lbs., and best 60 lbs. to 64 lbs. down wethers are easily worth 6s. 4d. Would it not pay our people to breed and export some of the latter rather than send over stock that can only find a market in the slums of the larger towns?

Cheese.—While Canadian Cheddars are fetching 59s. to 62s. a cwt. of 112 lbs., the finest English and Scotch Cheddars are selling for 80s., both, of course, of last year's make. New Canadians; fodder-cheese, we suppose; are only worth 55s. to 57s. Trade very dull.

Butter.—Nothing new in the butter-trade, business being strictly confined to immediate wants. In many parts of the eastern district, good dairy-butter is being "given away" at 12 cts a pound. Finest Danish is worth up to 105s., and New-Zealand, where dairying is improving vastly, fetches 96s.; but the season in Australasia is pretty well over, so Canada has a chance to slip in to the trade.

Bacon and hams.—Fortunately for our people, the trade in these articles in England is very lively, prices in the open market being much higher for all the best qualities. Irish bacon is up 2s. a cwt., all kinds going as dear as 66s. Best Irish hams are worth from 78s. to 86s. No kind of stock fluctuates as much as pigs. They are quickly produced, and a run of high prices is soon followed by over production. In England, cheese and bacon are of the greatest importance to the labourer as articles of food, and the present certainty of higher rates of wages obtaining, not only in the manufacturing districts but still more in the case of the farm-labourer, almost ensures a continuance of the present high range of prices for the working-man being permanent.

Lucerne and rape.—One would really think, from the articles in the U. S. agricultural papers, that these two crops are of recent introduction. It is not so; we ourselves remember them as being well known in the South-east of England more than 60 years ago. A writer in *Heard* speaks of lucerne, or alfalfa (the word should be written *al falfa*, i. e., *the clover*), as being of great value to the farmer as a soiling food, but he recommends its being sown, on prairie-soils, two or three inches below the surface. If this is done, we doubt if the plant would ever make its appearance above ground. It should be treated just like any other clover: sow it, at the rate of 20 lbs. the imperial acre, with the spring-grain; harrow it in with light harrows; the chain-harrow if you have one; after the grain is harrowed, and finish the job with the roller. If to be sown with fall-wheat, sow the lucerne as soon as the land is dry in the spring, and cover it with the harrow, which disturbance will do the wheat much good. In England, we *always* harrow wheat in the spring.

Lucerne or alfalfa.—"Where alfalfa can be grown the farmers have a soiling food that is simply unexcelled. It is unfortunate that we yet know so little about the areas that are capable of sustaining alfalfa in good form. It is peculiarly unfortunate that the idea has become current that alfalfa is only specially adapted to those rainless or nearly rainless regions of the west and southwest where irrigation can be practised. And it is even more unfortunate that men, and good men, have preached that alfalfa has no mission for the farmers where good crops can be grown. The strong features of alfalfa, as compared with clover, are its duration and the number of cuttings. When once established it will last for many years. And without irrigation it should yield two or three crops a year. The first cutting would be ready before the first of May. (1) Where this crop grows well the farmer would not need to give himself much concern about any other soiling crop. In sowing alfalfa, prepare the ground in autumn. Arrange, when practicable, to sow on clean soil, as after a cultivated crop. The sugar beet crop leaves the ground in the best condition for alfalfa. On prairie soils put the seed two or three inches below the surface. Sow from fifteen to twenty pounds of seed per acre. Sow in the

(1) Here, by the 20th to the 25th of May. Ed.

spring but not too early. If sown with a light seeding of some other crop, as oats, cut the oats for hay and while yet immature. If sown alone, run the mower over the crop at least twice during the summer to prevent weeds from seeding, and cut closely to the ground.—*Hoard*.

The fly.—No horn-fly has, as yet, made its appearance, but it cannot be long before it will be at its usual work of driving the cattle crazy and docking the factories of a large proportion of their supplies of milk, particularly in wooded districts like the one in which we are spending the summer. We lately met with a very good recipe for a dressing against this beast, in *Hoard*, it is said to be cheaper than the common one, fish-oil, and is thus composed: Pulverised resin, two parts by measure; soap-shavings, 1 part; fish-oil, 1 part; tar-oil, 1 part; kerosene, 1 part; water, 3 parts. Place the resin, soap, half the water and half the fish-oil in a pot and boil them till the resin is dissolved. Then add the rest of the water, following with the tar-oil and kerosene mixed. Stir well and boil for 15 minutes. Apply the mixture with a large painter's brush (or with a *painter's large brush*. Ed.), two or three days in succession, at first; afterwards, every other day will do.

The cost of this mixture is about 30 cts. a gallon, and from $\frac{1}{3}$ to $\frac{1}{2}$ of a pint will be found enough for one application.

The season.—Such a change we never saw from what the appearance of the country was on the 15th May to what it is to-day, June 6th. The spring, as every one knows, was very backward, and grass was a long time before it made much show for hay; but now, thanks to the gorgeous rain of the 31st May, there seems a fair prospect of an average crop. The seeding was late; indeed, in many parts there is a great deal of grain yet to sow, particularly in the heavy lands, up the Ottawa. (2) Many farmers here have lessened the number of the cows they have in their herds, finding that this light land, which needs "a shower every day, and two on Sunday," is not to be depended upon for winter-keep, clover having utterly failed last year, and not being very promising this season. A good many acres of tares and oats, for green-fodder, have been put in,

but not more than half enough seed is used; it is not as if the crop is intended to ripen its seed: it is for cutting as soon as the flower begins to show, and 4 bushels to the acre, $3\frac{1}{2}$ to the *arpent*, are none too many. With us, we always grew tares with a few oats to support them; about $2\frac{1}{2}$ bushels of tares—vetches—are about enough.

There used to be, in South Wales, an idea that, on the lias-formation, the roots of *couch-grass* penetrated into the fissured rock, and that this accounted for the great difficulty there was of exterminating that robber of plant-food. And, indeed, it would almost seem as if the same thing might be predicated of the couch-grass here, at Ste-Anne de Bellevue; for, on land that has been carefully farmed, with hoed-crops every five years, the same vile weed persists in poking up its nose in almost every field, and if the reason of its luxuriant growth is not that its roots are embedded in the rock, which is very near the surface, we do not see how its persistence can be accounted for.

Corn-stalks.—What curious ideas people have about the hay-crop! At the meeting of the Woodbridge Agricultural Society, in May last, Mr. Peck asserted "that corn was a profitable crop; he considered that well cured corn-stalks were equal to the best hay for feeding purposes, and thought that they would pay for the work of raising the corn." If Mr. Peck would try to make a crop of clover into hay after the English fashion, i. e., after mowing early, let it lie unstirred till the upper layer is wilted, then turn it *very gently*, and get it into cock, carrying it from the cock without shaking it out again, he would change his opinion.

SPRING SEEDING AND PLANTING.

To the Editor of the JOURNAL OF AGRICULTURE:

Dear Sir,—Although not much snow in some sections, the spring on the whole has been rather later than usual. The sugar season was very short, hardly half the usual quantity having been made this year. The weather has been cool, and frosts during this month have been pretty general, in some sections quite severe. The damage done to the fruit trees has not been very great, and there should be a fair crop this year, if the tent-caterpillars can be kept under control.

(2) Even on this light land, at Ste-Anne de Bellevue, the grain was not all in on the 10th of June. Ed.

And now to my text, the great crop of this province is oats. I suppose that nearly one-half of all the grain grown in this province is oats. This year will be about as usual.

Wheat.—There is not a great quantity of this cereal sown, the price of flour is quite moderate, in fact, it is very doubtful if it pays to sow wheat at its present low price. There is some talk of the farmers uniting together and making a monopoly of the price and put it up to a dollar. There will have to be a lot of mission work in Russia, India and elsewhere before we can hope to see such a result. Until there is somewhat of a rise in the price, the farmers would do better to sow some other grain, as it always takes the best piece of land on the whole farm to grow wheat, and some years only an indifferent crop at that.

Oats.—As I said previously are the staple crop and about the usual quantity is sown again this year, the early sown is looking very well, whether there will be any eaten by the wire-worm or grub it is almost too early to say just now.

Pease.—They did not do well last year as a rule, not a great quantity sown this year; few adopt the proper method in order to secure a good crop, they want to be covered very deep, in fact the best way is to plough them in with a shallow furrow. (1)

Barley.—There is a fair amount of this grain sown, it is usually a fair crop and makes good feed for the cows or pigs.

Rye.—Only very little, on light sandy soil, is sown, although it makes a very good mixture to sow with oats.

Buckwheat.—The season for buckwheat is too early, next month will be time enough.

Corn.—In the southwestern part of the Province there is a great quantity of corn grown, mostly for the silo. The weather has been rather too cold in many sections to plant corn. Corn wants heat, heat when planted, heat to make it grow well, and quite a heat when in the silo.

Potatoes.—There was a great crop of these last year as I predicted last spring there would be a great quantity grown last year—as the price was very high—every one planted more than usual, this year they are very low in price. I would now predict that there would not be so many planted this year as last.

Other root crops.—There are not so many roots

grown as there should be. A great many farmers are short of help; and one cannot raise many roots without plenty of help.

Hay.—The land in hay has come through the winter fairly well—not very much being winter killed, we had lots of snow fell through the winter, but mild weather usually followed the big storms—so that, though the fields did not have very much of a covering, on account of the mild weather they were not much hurt.

Grass.—The same applies to grass or pasture land that applies to the hay crop. In some sections, cows are doing fairly well on the grass, while others are still feeding in the stable.

Fruit.—The apple trees are now in blossom and a fair show, but those who expect much fruit will have to work to save it from that dreadful pest the tent-caterpillar. Some try to poison them, some attempt to burn them with coal oil, others try to shoot them off with a gun, while others keep killing them by hand as they gather on the limbs and branches. The best time is early in the morning as they are then in great clusters altogether.

Other small fruits have a fair show of blossoms for the season of the year.

Butter and cheese.—The make of butter will be small the early part of the season as cheese has been ruling high; so far the shipments to date of butter are very small.

Cheese.—The price has been ruling high, and the shipments are some 10,000 ahead of last year. Both butter and cheese did exceedingly well last year, they can hardly be expected to do quite so well this year. The great drought in England helped Canada last year. Feed the cows well and I feel sure you will not regret it before next Christmas; allow them free access to salt, and plenty of good pure water, and you will have a good deal of money in due time for your cheese and butter: if you persevere.

Yours truly,

PETER MACFARLANE.

May 29th, 1900.



(1) Quite right. Ed.

Household Matters.

(CONDUCTED BY MRS. JENNER FUST).

KHAKI.

At one time, this bid fair to become a perfect craze, but owing to its very unbecoming colour, few people have been found brave enough to wear it. I saw the other day two very fair looking little boys dressed in it, and very nice indeed they looked from cap to boots with just the relief of a white sailor's collar. This made the little fellows look quite the thing with their fair complexions, but the colour would be too severe for older children; hence it can never become a great favourite. It is in reality only fit for the purpose for which it has served in the present war, namely to keep our brave soldiers from serving as an easy target for the enemy.

THE BOLERO.

As soon as the warm weather really comes, the Eton Jacket will have to be replaced by itself without sleeves, for that is just what the bolero is only very much smaller; it is oftener made in lace or net and is only worn as a trimming or finishing to a plain shirt or blouse waist. Black or cream lace over a white muslin waist caught up by buttons, or tied by a dainty bit of ribbon at the bust, where the bolero is often gathered or cut almost to a point.

It is really only a very pretty bit of finishing, for what might otherwise look quite common, for a plain dress.

The silk petticoat is a thing of the past, and now very nice and more durable ones are made of coloured linen or drill. A petticoat should be carefully made to fit the figure about the hips. One or two frills at the hem, headed by a crossway band stitched top and bottom, and if wanted to be very nice indeed, the frills might be edged with baby ribbon or lace, or both: this will make a very dainty under skirt.

SUNSHADES.

Fashion decrees many things, but nothing can beat the last one, which is to have a sunshade to match every dress, and to do this the covers are made detachable.

It takes a couple of minutes to make the exchange.

Some covers are very elaborate and are trimmed with lace and chiffon, but the more simple are made in pretty checks; also with light chiné silk often covered with flowers and foliage.

Beefsteak should certainly not be chopped or pounded before it is cooked. The correct way is to have the steak tender, cut thick, and broiled over a perfectly clear fire. The pounding or chopping allows the juice to escape, rendering the meat dry and tough.

For fish balls prepare a pint of cold salt fish, after it is freshened and boiled, and chop it fine. Have some fresh-boiled potatoes, mashed fine, a cupful of broken butter, and two even teaspoonfuls of made mustard, with salt to taste. Beat up an egg light, and mix these last-named ingredients, adding a little cream or sweet milk; then add the chopped fish, mixing all thoroughly together. Make into balls on a floured board, and fry in boiling lard like dough-nuts. When uniformly browned, remove from the fat with a skimmer, drain, put on a hot dish, and serve. Carefully prepared, these fish balls are exceedingly appetising and nutritious.

Russian pancakes are prepared thus:—One and a half ounces of butter, two ounces of flour, two ounces of sugar, two eggs, beat the butter to a cream; then add the sugar, then the flour by degrees. Beat in a separate basin the eggs until very light; add the eggs to the other ingredients quickly, and beat all well together. Grease well four breakfast saucers, and half fill them with the mixture. Bake in a quick oven for 20 minutes. Place a little marmalade or jam in each, and fold them together. Very good with sugar only.

BANANAS IN JELLY.

This may be prepared in the same way as the preceding. Slice the bananas with a silver knife, and arrange the slices so that they may overlap one another in the bottom of the mould. A pretty effect is obtained by placing the banana so that it will almost line with the mould. The fruit may be cut either in cross-section or the length of the banana. If desired, the jelly may be flavoured with maraschino. If preferred, use one of Chivers's table jellies instead of making the jelly yourself.

SWEET SCRAMBLED EGGS.

These make a dainty pudding for an invalid. Have ready a slice or two of sponge cake, spread thinly with raspberry jelly. Prepare the egg as for savoury eggs, but leave out the pepper and salt. When the eggs are set, pour over the sponge cake. Take the pan off the fire always in scrambling eggs whilst the egg is still liquid. Many people fail in scrambling eggs by omitting this. The heat of the saucepan is sufficient to finish the egg, which must be stirred the whole time.

Egg cutlet is a delicate dish. Cut small a hard-boiled egg; add a table-spoonful of breadcrumbs, the same quantity of grated cheese, with a pinch of curry powder, salt, pepper, and grated nutmeg. Mix the whole with a yolk of raw egg, and shape like a mutton cutlet. Dip it in the white of the egg, then into the breadcrumbs, and fry brown; garnish with fried parsley.

Fish blen is well with mushrooms. Put a pint of milk into a stewpan with a piece of butter, a sprinkling of salt, and a little lemon juice; then put it in the fish, and set the stewpan over a moderate fire, letting them simmer very gently till done: then take them up, place them on a cloth to absorb all the liquor from them, lay them on a dish, and pour over them a good mushroom sauce, or add parsley well minced and seasoning to the milk, thicken, pour over the fish.

Cream cakes are made thus:—Half a pound of butter, three-quarters of a pound of flour, eight eggs, one pint of water; warm the water, and stir the butter into it; bring it slowly to a boil; stir often; when it boils, put in the flour, stirring all the time; turn into a deep dish, and allow to cool; beat the yolks and whites of the eggs separately, until very light; mix into the cool paste, beating in the yolks first, and then the whites: butter a sheet of paper, and drop in large spoonfuls upon it; do not let them run or touch each other; bake ten minutes.

HEALTH FOR THE PEOPLE.

"HEALTH IS THE FIRST WEALTH"—Emerson.

BY DR. ANDREW WILSON.

(Written exclusively for *Lloyd's Newspaper*.)

In last week's article I discussed with my readers the causes of the ailments which the hot

weather of summer is apt to bring in its train. To-day I propose to deal with the ailment of infancy known as *infantile diarrhoea*, a malady which we saw was responsible for the deaths of thousands of children, mostly under one year old, in all our great centres of population. We noted that this disease arises for pollution of the milk by germs, that it is worst in the slums and overcrowded places, and that while breast-fed children practically escape, hand-fed children, as might be expected, readily fall victims to attack. The milk tainted by germs which gain access to it from the foul air of its surroundings, develops poisonous properties, and it is these "Toxins," as they are named in the milk, which are the cause of the mortality which thus besets infant life in the hot season of the year. How all important it must be for every mother to know now to prevent this disease is a statement that carries reason on its face.

Let us first endeavour to note the symptoms of the disease, those warnings which the wise will rapidly recognise and interpret, and be thus enabled by timely treatment and attention to avert the usually serious consequences which follow an attack. The attack may either be of sudden or of gradual nature, usually it is sudden. The child suffers from diarrhoea of a persistent and exhausting character. It is sick, and throws up its food. Its skin is hot, and its temperature rises, showing that it is feverish, and the stomach is usually swollen and distended. That the infant is in pain, is shown by its drawing its legs up on its stomach. The matters passed from the bowels may consist of bile and like substances in the early stages of the complaint, but later on the discharges become colourless and of watery nature. The vomiting may be very severe when the ailment has become duly established, and the infant is very soon reduced to a state of collapse which is piteous to behold. Its strength is exhausted, it lies helpless, with pinched, pale features, the skin is cold and clammy to the touch and in a fatal case, the infant perishes from sheer exhaustion. Recovery, on the other hand, begins to date from the time when the diarrhoea becomes less persistent, when the vomiting stops, and when the condition of collapse is gradually replaced by one in which the coldness of the skin is replaced by returning warmth.

Such is a brief description of the disease which practically massacres the innocents in all our great centres of population in the hot weather. Let us now attempt to see what can be done by way of preventing the disease, and also by way of treating it, so that the mother may aid the efforts of the doctor in an intelligent fashion. In the first place I have already shown fully that the disease owes its origin to pollution of the milk and that this pollution arises from germ-life. No doubt whatever exists on this head. Physicians are at one in attributing the origin of the disease to contamination of the infant's food, and, as I have said, this fact is proved by the usual escape of the breast-fed infant, because the mother's milk is not liable to the chances of infection which await the food of the hand-fed child. Therefore, the counsel to the mother here is that which applies to the case of ordinary foods. If she sees to it that the milk is kept pure and clean, and free from risks of pollution, her child will escape attack. The milk must be kept in a clean, cool place, and on any indication of souring must be at once rejected, although I daresay milk may be dangerous without being absolutely soured. Then I should see that the milk is boiled before use, or sterilised by means of a steriliser. This will ensure the destruction of any germs it may contain originally, and specially the germs of consumption.

(To be continued.)

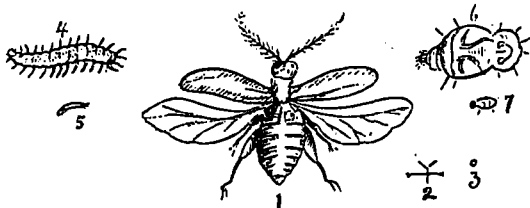
The Garden and Orchard.

(CONDUCTED BY MR. GEO. MOORE).

INSECTS INJURIOUS TO VEGETATION.

TURNIP "FLY" OR "FLEA."

Phyllotreta nemorum.



1 Fly much magnified. 2, Natural length and expanse of wings. 3, Legs natural size. 4 Larva much magnified. 5, Larva natural size. 6, Pupa much magnified. 7, Pupa natural size.

The Turnip Fly or Flea is a small beetle which thrives in dry dusty and cloddy soil, and in dry

seasons causes much harm to turnip plants as they cannot grow fast enough to escape his attacks. Directly the young plants come from the seeds their leaves are riddled with holes and can make no further progress, or if they continue to grow are so weakened that they are practically useless. In condition favourable to the fly, namely, in dry weather, they increase with amazing rapidity, clearing off every particle of growth as fast as it appears.

The turnip flea is very small, as appears by the above illustration (Fig 3); but can jump 18 inches at one leap : 216 times its own length.

It passes the winter in the flea form under clods and stones or in tufts of grass, weeds and rubbish, by the sides of fields, hedgerows and ditches. It is sustained through the early spring time, until the turnips have sprouted, upon wild plants of the same natural order, such as charlock, hedge mustard and wild radish.

It has large, powerful wings expanding to about 1 fourth of an inch (Fig 2).

It lays eggs upon the second or rough leaf of the turnip. From these eggs tiny yellow larvæ (Fig. 4) come in five or six days and feed upon the soft tissues thereby much weakening the plants. In the course of from 5 to 7 days they fall to the ground and change to pupæ (Fig. 6 and 7) from which in another 12 days the perfect flies come and proceed to attack the turnips. It is said that as many as six generations may be produced in a season.

The methods of prevention are the following : Do not sow on fresh ploughed land, and be sure that the seed bed is fine and not cloddy. Soil that is finely powdered does not allow the moisture to evaporate so quickly, and it is well to keep the moisture in it as long as possible, because the flies object to moisture and it helps the growth of the plant. For the same reason rolling the land after the drill should be adopted as it keeps in the moisture and levels the earth, enabling the plants to start as quickly as possible. Artificial manure or nitrate of soda should be drilled in with the seed, so that it may be close (1) to the plants to help them to grow quickly away from the attack of the insects. Plenty of seed of the previous years harvest should be sown. The importance of using perfectly fresh and pure seed of good germinating power cannot be insisted upon too strongly.

(1) But not in contact with them. En.

The destruction of charlock and other weeds must be effected because such encourage the flies by affording them sustenance until the turnips are ready.

Remedies — Dressings of very fine ashes, or lime and a mixture of one bushel of lime, one bushel of gas lime, very finely powdered, and 10 lbs of sulphur mixed well together, then dusted lightly upon the plants while wet with dew, have frequently done good service.

Coal oil and carbolic acid in very small quantities may be sprinkled on the leaves so as to render them distasteful to the flies.

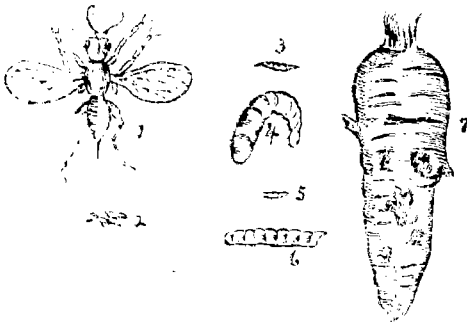
Extract of quassia chips mixed with soft soap and water have been proved to be of service.

Rolling infested plants with a light roller, especially if the soil is cloddy, disturbs the flies and presses the soil around the plants, keeping in the moisture.

Pushing a light wide framework upon wheels with well tarred boards fastened upon it, so as to come just over the turnips plants, has been found to catch many flies, which being disturbed, jump into the tar. The tar require to be renewed as it gets dry, and the flies which accumulate in masses must be scraped off.

The expense of preparing and sowing turnips is too great to allow the crop to be lost by neglecting any precautions that can be used to save it.

THE CARROT FLY (*Psila-rosæ*).



1, Fly magnified. 2, Fly natural size. 3, Larva natural size. 4, Larva magnified. 5, Pupa natural size. 6, Pupa magnified. 7, Pupa magnified. 8, Carrot showing rust spots.

Carrots are frequently much injured by the larvæ of this fly which bore into and feed upon their roots, living upon them and causing them to become brown and rusty, and finally rotten.

The early carrots pulled for market are not

injured, as the fly does not, as a rule, attack that root until later in the season. It has been remarked that the fly is more injurious in dry seasons when the growth of the roots is not so rapid as when moisture is plentiful and the soil is closer, which may hinder the fly from laying eggs, as the female goes just under the surface to do so.

Carrots badly attacked by this insect have deep cracks in the roots in which the larvæ are found. These frequently extend to the centre of the roots and cause them to rot. The tops become brown, wither away, and even at the commencement of the attack, the foliage changes and betrays the presence of the maggot.

In bad cases, the decay of the roots is hastened by other insects attracted by their unhealthy condition.

It is stated that the fly also infects rape and turnips, and that the flies can be found in great numbers in the early spring on the lower branches of bushes and trees growing in moist situations.

The carrot fly is shiny black in colour and about *one-fifth* of an inch long with a wing expanse of nearly half an inch. The wings are shining and with dark yellow veins.

When the carrots are well established, the flies lay their eggs upon them just below the surface of the ground. It is believed that the eggs are laid only just below the surface and that the larvæ when hatched pass down by instinct to the lower part of the root where it is soft and easily penetrated, they then work their way upward and make passages with frequent holes to the outside.

The larvæ is without legs, looks like old parchment, it has no distinct head but its fore end comes to a point on which there are two claw formed hooks for biting and boring.

The maggot at length leaves the root, goes into the earth and there is changed into the pupa. The changes of this fly are accomplished in about 3 or 4 weeks. Two or more generations are produced in a summer and the last pupæ remain in the earth or roots during winter, and the flies come forth in the early spring.

Methods of prevention and remedies. — When it is noticed that the tops of the carrots change colour and become rusty, the roots should be examined, and those that are infested must be forked up so that no part of them is left in the ground, and at once destroyed. This will prevent further damage.

If the flies are seen near or on the carrots they should be sprinkled with coal oil emulsion, made as described in former articles. Ashes, sawdust, sand, or wood ashes well impregnated with coal oil at the rate of from three to four quarts per hundred weight, may be put into the drills with the seeds, or a gallon of spirits of tar to a wheelbarrow full of sand may be used in like manner. Pressing the earth firmly about the roots will prevent the females from laying eggs. Immediately after sing'ing the plants the earth should be trodden about them ; or when carrots are grown on a large scale a roller will answer this purpose. It is well to scatter sand, or ashes mixed with carbolic acid, among the plants while they are being singled.

The great object is to prevent the flies from depositing their eggs, hence the use of these, to them, offensive substances. After the crop is removed, dig or plough the land deeply ; before, which top-dress with a little lime.

by making incisions in the unripe capsules which contain the seeds, and allowing the milky juice which flows out from them to become thickened by exposure to the air. The common red or corn-popy is one of the most beautiful of weeds ; its scarlet petals are gathered and used to prepare a syrup, which has a soothing effect if taken as a medicine, but is more frequently used as a colouring ingredient.

As garden ornaments, the poppies are very beautiful ; some of the species are perennial, as "Papaver Orientale" Fig A, the flowers of which are large and majestic, of the deepest, richest crimson or blood colour and with beautifully serrated, deep green foliage, and when once planted will require no further attention but will keep increasing, and the less disturbed or transplanted the better.

Fig. B, is Papaver Rhæus, the type of the annual species which contain many varieties ranging from brightest scarlet, orange, yellow, white,



POPPIES.

It is pleasant to note that these beautiful old friends are gaining in favour ; it is true that they possess one objectionable quality, or at least some of the species, a disgraceful odour if we get too close them, but there is a richness and a stateliness about some, and a fragile delicacy about others, that can only be surpassed by the Queen of flowers. From one species of the germs of the natural order Papavaracæ, to which the poppy belongs, *Papaver somnifera*, the valuable but sometimes injurious drug opium is obtained

self colours, while others are striped, flaked or spotted pink and white like the carnation and picotée. When once sown in plot appropriated to them they will often re-seed themselves and come up in the same spot year after year. In some parts of England they are troublesome weeds, very injurious to the wheat crop and difficult to eradicate on account of their prolific seeding, but as ornaments for the mixed flower garden and shrubbery they are worthy of attention.



The Grazier and Breeder.

DISEASES OF THE BREATHING ORGANS.

In a former article, if I remember rightly, I pointed out in reference to horses, cattle and sheep, that affections of the breathing organs are very common and also that an ordinary cold may, under certain circumstances, advance to serious organic disease of the lungs. The two classes of animals, pigs, and dogs, differ very much from each other in their susceptibility to disorders of the breathing organs, the first being to only a slight extent, and the second in a much higher degree, liable to such affections.

Swine of the class which would be described as stores are, perhaps the most healthy animals of the farm: they lead an equable life, are exempt from the ordinary causes of acute diseases, and, excepting certain accidents, as exposure to contagion, or the consumption of deleterious substances which may be mixed with their food, they have a fair chance of passing their short lives without suffering from any of the ills to which other animals on the farm are exposed.

To hear a pig cough is by no means an ordinary experience, and the symptom would, as a rule excite some apprehension as suggesting probability of the beginning of swine fever, or, perhaps, the presence of thread worms in the tubes of the lungs.

Fat pigs, especially those which have been kept in show condition, are often affected with difficulty of breathing, much of which may arise from defective power in the heart, owing to fatty infiltration of the muscular structure of that organ. The animals are also liable to a species of asthma, which is distressingly apparent when they are compelled to move, and now and then, during a spasmodic fit of coughing, the pig ceases to breathe altogether. Fatal congestion of the lungs is a disorder which occasions the loss of a certain proportion of show-pigs every year. The animals suffer from a sluggish circulation, owing to the want of exercise, which in their obese condition they are not inclined, nor, indeed, are able to take and at the same time they are exposed to change of temperature and other forms of hardship in their frequent travels from one show to another.

All the adverse conditions are likely to cause

pulmonary apoplexy, which quickly ends in death.

Symptoms of congestion of the lungs are rather passive than active. The pig lies in a half unconscious state, breathing by short and quick movements of the flanks: the surface of the body is cold and damp, and continues in this state until the respiration gradually ceases and the pig dies without a struggle, unless the butcher is called in to anticipate what any practical pig-feeder would know to be an inevitable consequence of the attack. Pig are unthankful subjects for the practice of the medical art, and it is generally agreed that prompt slaughter is the economical course to be adopted in cases of serious disorder.

Dogs, especially house pets, are subject to diseases of the breathing organs, perhaps in a higher degree than any other domesticated animal, and in addition to ordinary cold, with its several consequences, they are liable to the specific and often fatal form known as distemper. A common cold is caused by the action of the ordinary influences which determine the development of the disease in other animals, and the house-dog is exposed to those influences quite as much as his owner. Symptoms of cold in the dog are of the ordinary kind—discharge from the eyes and nose, coughing and sneezing are the earliest and most characteristic signs. Sometimes, especially with puppies having very short noses, the breathing is carried on with a peculiar snuffling noise, and in these cases, if the examiner should chance to apply his ear to the sides of the chest, he will probably be surprised to hear what sounds like the mucous *râle* of bronchitis. It will, however, be ascertained by careful observation that the sound really originates in the nasal cavities, and is only reflected down the trachea and bronchial tubes.

Besides which there are no signs of fever, which would be present if the animal were suffering from acute bronchitis.

As is the case in other animals, a common cold affecting a dog may go on to bronchial catarrh: but the tendency in the dog is toward acute inflammation, and the extension of disease to the bronchial tubes is likely to assume the form of acute bronchitis, with quick pulse, high temperature, quick and distressed breathing. A violent attack of this kind causes much excitement, and the panting respiration is carried on by the dog with the head elevated, and an expression of alarm and

anxiety on the face is one of the most marked signs of the disease, which is usually attended with a high percentage of fatal cases. Treatment of catarrh in its various stages in the dog may be conducted on the lines of the treatment adopted in similar forms of disease in man. First, it may be observed, that in the case of dogs which are habitually kept indoors, there is no difficulty in keeping them in a tolerably uniform temperature, and it is also easy to provide them with appropriate food: milk, meat juice, raw or cooked, and even more delicate viands are commonly at the service of the household pet; and the essential thing in the treatment of a cold.—good nursing—is not lacking, so that canine patients have every chance of gaining all the benefits of medical treatment, which the most sedulous attention can secure.

At first some laxative or emetic drug may be given, and for quickness of action and easy administration an emetic is to be preferred. A mixture of calomel and tartarised antimony in equal parts is very useful for the purpose. The dose, varying from half a grain to four grains, according to the size and age of patient, may be placed on a small piece of paper and thrown on the back of the tongue, while the mouth is held open by an assistant.

Dover's powder, is a very good general remedy in catarrhal affections of the dog, and may be given

2 Diseases of the breathing

like any other form of powder, by throwing on the back of the tongue. The dose is from three to five grains, and may be repeated two or three times a day.

When disease of the breathing organs assumes an acute form, as it does in bronchitis and in pneumonia there will not be any material difference in the treatment. Warm baths are available for dogs of moderate size, and for larger animals fomentations by means of flannels wrung out of water, as hot as the hands can bear it, may well take the place of the more severe and painful counter-irritants, which used to be in fashion.

Acute diseases of the lungs of the dog generally end fatally; and if possible a veterinary surgeon should be employed.

W. R. GILBERT.



The Poultry-Yard.

(CONDUCTED BY S. J. ANDRES).

SPECIALLY FATTED POULTRY.

(Continued).

The results of fattening.

The great bulk of the poultry marketed in America to-day is poorly fatted, or not fatted at all: is, in fact, "lean" when marketed. As a consequence it is tough and stringy, is not agreeable to the palate, and the caterer, after trying such poultry once or twice, decides that it is poor stuff to buy, and buys no more of it. Special fattening will greatly improve the quality of poultry put upon the market, and the improvement in quality will increase the public appreciation, consequently will increase the consumption of poultry and enhance the price. It has done exactly that in other countries, hence it is absolutely certain it will do that in America. In England, according to the report of Mr. Rew, assistant commissioner of agriculture, who was delegated to investigate the subject there, the lean chickens such as are bought for fattening, sell from forty to eighty-seven cents or even \$1 a piece to the fatteners; it costs about one shilling (24 cents) to fatten a chicken, and the chicken fatted is worth about double what it was lean. These figures are approximate, but are manifestly correct. It is perfectly obvious that men would not go on



LA FLECHE DEAD POULTRY.

(Winners of Prix d'Honneur, Paris Show, 1893). "From Poultry Fattening."

buying chickens and fattening them year after year if there was not a substantial profit in it. The London, Paris and Brussels marketmen all bear testimony to the advantage of fattening as

improving the quality and increasing the demand. It is unnecessary to argue this question, because it is well known that what improves the quality increases the salability of an article.

The lean chickens which are bought by the fatteners are exactly such chickens as are shipped to our markets by the carload. They are well fed and quickly grown, hence are in good condition as condition is commonly understood, and would be not at all bad eating when killed and eaten in that condition; but the fattening process encloses each fibre of flesh with a thin coating of fat, which when roasted penetrates (or permeates) the fibres, softening and enriching them, and making the most delicious and toothsome morsel of it. For this delicate article of food the public is very glad to pay a good price, and there is good money to be made in the fattening business. We give herewith illustrations made from photographs of the first prize birds at the Paris show in 1893. Anyone who will compare ordinary poultry with those illustrations will get an idea of the difference in appearance between our poultry as commonly marketed and this handsome product.

But the best purpose of poultry fattening will be served by our adopting the "half fattening" process, or adopting the process so far as feeding from the trough is concerned, and then marketing the product, which will be a very superior article of poultry, bringing a fancy price.

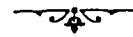
There is no doubt whatever but that cramming or "finishing" the chickens will still further improve the product and enhance the price; but that last step in the process is one step further than it would be wise for the Canadian poultryman to go — at least at present. The market is not yet ready for that finished fatted poultry, and has got to be educated up to it. For the half-

fatted poultry however, there is already a great demand because of the poor condition in which the bulk of our poultry is marketed, hence half-fattening, or fattening so much as can be done by the birds feeding themselves from the troughs, is the most desirable step for us to take. Every chicken so fatted will bring a better price in the market, and will relieve the market by so much, because it will not be sold in a less desirable form. The point will be better understood if we note the remarks of Professor Robert-



LA BRESSE DEAD POULTRY.
(1st Prize, Paris Show, 1893). From "Poultry Fattening."

son before the House of Commons in May last. I would advise our readers to procure a copy of his report before the select standing committee on agriculture and colonization, a report which is well worth reading many times, and note his statistical figures.



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