

Solution of Breeding Problem.

JOEL B. CRAIG, Lambton Co., Ont.:—"As I have had occasion to work out similar problems to that of 'Query' in last number of FARMER'S ADVOCATE, I will send my solution of same, which I think is about as near correct as nature allows:

1st year, 10 cows—5 female and 5 male calves.	
2nd " 10 " 5 " 5 "	
3rd " 15 " 8 " 7 "	
4th " 20 " 10 " 10 "	
5th " 25 " 14 " 14 "	
6th " 30 " 19 " 19 "	
7th " 35 " 26 " 26 "	
8th " 40 " 35 " 35 "	

9th " 97 " 49 { yearlings } 48 "	
10th " 132 " 61 { calves } 61 "	

473 cows 110 231 males.

583 females
251 males

814 number of whole herd at 10 years.

*By changing these two figures, 7 heifers, 8 males, makes a difference of 8 less females and 1 one male at end of ten years, or 7 animals less in total of herd.

Horse Power from Old Mower.

W. J. B. N. Westminster, B. C.:—"Will you kindly publish the plan of horse power made from an old mower or reaper gearing."

[We will be pleased to receive from a reader and publish an illustrated description of a horse power such as is asked for by our British Columbia reader.]

Eradication of Sow-Thistle (Sonchus Arvensis).

R. O. D., Wellington Co., Ont.:—"I have discovered a small patch of sow-thistle. Can you tell me how to get rid of it, as I have heard it is a very difficult thing to do?"

[There are several varieties of sow-thistle, but the perennial sort (Sonchus arvensis) is most to be dreaded. It has an upright habit of growth from one to three feet high, and, like the common Canadian thistle, is frequently branched towards the top. The stems are hairy and bristly; the leaves resemble those of the dandelion, but are larger and have prickles along the edges and at the points. When the plant is wounded it gives out a milky juice, and is therefore sometimes called milk thistle. Its blossoms are bright yellow, resembling those of the dandelion. After getting a foothold it spreads rapidly from the roots, also from the seeds, and should therefore be vigorously and promptly dealt with. It usually makes its appearance in May and continues to grow all through the summer. It blossoms in July and later and soon ripens its seeds, which are numerous, and being attached to downy appendages are readily carried from place to place. Its propagation by the root stalk is similar to that of Canadian thistle. All along the creeping root stalks are numerous latent buds which send up new plants. The secret of eradication lies in not allowing the seeds to ripen and in clean surface cultivation, which latter serves to cut off the upright plants without disturbing the creeping root stalks which are always a few inches below the surface of the ground. A well-worked summer-fallow, followed by a cleanly cultivated hoed crop, will usually do a good job. A crop of buckwheat plowed down in the summer-fallow will smother many of the weeds and weaken those that remain.]

Slugs and Root Maggots.

GARDENER, Middlesex Co., Ont.:—"I am having a great battle with insect pests this season, two of the most difficult to manage being small snails (shell-less) or slugs which have been particularly destructive on beans; and a small white maggot, about a quarter of an inch long, which is destroying cabbage and onions by eating the roots about an inch underground. I tried lime for the slugs, but it did not stop them, and am now using salt sprinkled under each bunch of beans. If you, or any reader, can offer helpful suggestions for either, or both, of the above pests I will be greatly obliged."

[Slugs are frequently referred to the entomologist for some remedy against their injuries. They are not insects, however, but belong to the Mollusca. The best remedies against these troublesome nocturnal marauders are frequent dressings beneath the plants with freshly slacked lime or salt. The lime is preferable, as some plants are injured by salt. The effect of the lime is to dry up the viscid secretion which covers the slugs' bodies. It is sometimes necessary to make three or four applications, sowing the dry lime broadcast beneath and among the plants. The best time to apply it is in the evening. The slugs are able to pour out a considerable amount of the slime, and thus crawl away from the lime, but the glands which secrete this protection, after two or three consecutive nights of liming, become exhausted and the creature is killed by the fresh lime. Salt is also an excellent remedy and very fatal to slugs, but must be used with caution. A remedy which I have seen tried in Vancouver Island is to place in greenhouses where slugs were troublesome small heaps of damp oatmeal with which a small quantity of Paris green had been mixed. These were placed on slips of glass, which were easily moved from place to place where required.

The troublesome root maggots which every year do so much injury to market gardeners by destroying radishes, onions and cabbages, are the maggots of small gray flies about one-third smaller but

very similar in appearance to house flies. Many remedies have been tried, but none give perfect immunity. For radishes, the best results have been secured by watering the young plants from the time they appear above the ground with a carbolic soap wash made by adding two quarts of soft soap to two gallons of water. When heated to the boiling point add one pint crude carbolic acid. For use, take one part of this mixture and mix with fifty of water; then sprinkle directly upon the plants once a week.

For onions, mix one pint of crude carbolic acid with fifty pounds of land plaster; scatter along the rows close to the onions. Kainit has been highly recommended by some, but when the insects are very abundant is only partially successful.

For cabbages, the carbolic plaster mentioned above, as well as kainit or nitrate of soda, a small quantity round each plant, have been highly recommended. In my own experience the best results have been secured by removing the earth down to the small roots and pouring in either a decoction of white hellebore (four ounces to the pailful of water) or applying a small quantity of the dry powder around the stems and hoeing the earth well up to the collar of the plant again so as to induce a growth of new rootlets. JAS. FLETCHER, Entomologist, Central Exp. Farm, Ottawa.

Potato Bug Remedies.

"OLD SOD" writes:—"What is the best remedy for potato bugs, which threaten to be bad with me this year?"

[There is no better application than Paris green and water. At the Ontario Agricultural College various plans and remedies were tested, with the result that two teaspoonfuls of the poison in ten quarts of water, applied with a watering can (fine spray), secured the highest yield of potatoes—100 bushels per acre—while no treatment at all gave but 70 bushels. Apply as soon as bugs appear.]

Insufficient Fertilization of Pear Tree.

A Nova Scotia correspondent writes:—"I have a Bartlett pear tree which is in full bloom every spring. The fruit sets and gets about as large as a pea and then falls almost totally. What remains is usually twisted and does not develop to full size. Very few develop fully. Will you inform me through your journal what is the trouble and the remedy?"

[A Nova Scotia correspondent's query about the Bartlett is not easily answered. He says: "The fruit sets and gets about as large as a pea and then falls almost totally. What remains is usually twisted." It looks to me as if insufficient fertilization of the blossom was the trouble. The Bartlett is a self-sterile variety, and would unquestionably do better if it had some self-fertile variety near it like it, such as Angouline, Flemish Beauty, Keiffer, or Tyson. The curculio is possibly the cause of the twisted fruit. The pear bitten by this insect does not, like the plum, drop off, but develops into a gnarled and deformed fruit. If the tree in question stands by itself, plant one or two of the self-fertile varieties near it. If hardness is wanted, try Keiffer or Flemish Beauty; if flavor, select Tyson or Beurre Rose. In any case give the tree a good dressing of hardwood ashes or muriate of potash. M. BURRELL, Experimentalist, Niagara Fruit Station.

SHOWS AND SHOWING.

Exhibitions for 1906.

Trans-Mississippi, Omaha.....	June 1 to Nov. 1.
Killarney, No. 1.....	June 27 and 28.
Shoal Lake.....	July 6 and 7.
Winnipeg Industrial.....	July 11 to 16.
Portage la Prairie, Man.....	July 18 to 20.
Brandon Western Agr. & Arts Ass'n.....	July 19 to 22.
Manitou.....	July 21 and 22.
Carberry.....	July 21 to 23.
Glenboro.....	July 26 and 27.
Cypress River.....	July 27 and 28.
Stanstead, Rock Island, Que.....	Aug. 24 and 25.
Toledo Tri State.....	Aug. 22 to 27.
Toronto Industrial.....	Aug. 29 to Sept. 10.
New York, Syracuse.....	Aug. 29 to Sept. 3.
Ohio, Columbus.....	Aug. 29 to Sept. 2.
Minnesota, Hamline.....	Sept. 5 to 10.
Eastern, Sherbrooke.....	Sept. 5 to 10.
Metcalfe.....	Sept. 6 and 7.
Morrisburg.....	Sept. 6 to 8.
London Western.....	Sept. 8 to 17.
Indiana, Indianapolis.....	Sept. 12 to 17.
Quebec.....	Sept. 12 to 21.
Prescott, Vankleek Hill.....	Sept. 13 to 15.
Richmond.....	Sept. 13 to 15.
New Brunswick, St. John.....	Sept. 13 to 23.
Bay of Quinte, Belleville.....	Sept. 14 and 15.
Northern, Walkerton.....	Sept. 14 and 15.
Renfrew.....	Sept. 15 and 16.
Bowmanville.....	Sept. 15 and 16.
Ottawa Central.....	Sept. 16 to 24.
Brantford.....	Sept. 17 to 22.
Wisconsin, Milwaukee.....	Sept. 19 to 23.
Napanee.....	Sept. 20 to 21.
Northern, Collingwood.....	Sept. 20 to 23.
Peninsular, Chatham.....	Sept. 20 to 22.
Prescott, Prescott.....	Sept. 20 to 22.
St. Thomas.....	Sept. 20 to 22.
Lanark, South Perth.....	Sept. 21 to 23.
Stratford.....	Sept. 22 and 23.
Lindsay.....	Sept. 22 to 24.
Halifax.....	Sept. 22 to 24.

Illinois, Springfield.....	Sept. 26 to Oct. 1.
Lanark, Almonte.....	Sept. 27 to 29.
Centre Bruce, Paisley.....	Sept. 27 and 28.
Northwestern, Goderich.....	Sept. 27 to 29.
Peel, Brampton.....	Sept. 28 and 29.
Prince Edward, Picton.....	Sept. 28 and 29.
Oxford, Kempville.....	Sept. 29 and 30.
Elgin West, Wallacetown.....	Sept. 29 and 30.
Ontario and Durham, Whitby.....	Sept. 29 to Oct. 1.
Peterboro, West Peterboro.....	Sept. 29 to Oct. 1.
St. Louis, St. Louis, Mo.....	Oct. 3 to 8.
Woodstock.....	Oct. 3 to 5.
Norfolk, Tilsonburg.....	Oct. 4 and 5.
Markham.....	Oct. 5 to 7.
Caledonia.....	Oct. 6 and 7.
Norfolk, Simcoe.....	Oct. 11 to 13.
Woodbridge.....	Oct. 13 and 19.
Ontario Fat Stock Show, Brantford.....	Nov. 30 to Dec. 2.

[NOTE.—If Secretaries of Fair Boards will send us dates of their shows we will include them in the lists of succeeding issues of the FARMER'S ADVOCATE.—EDITOR.]

Central Canada Fair.

Elsewhere will be seen the advertisement of the Central Canada Fair. This is the eleventh year of the show, which since its inauguration has progressed and improved until now it is nearly equal to even the Toronto Industrial, the greatest exhibition held in North America. That the directors of the Central Fair know their business is evident by the annual revisions and additions to the Fair price list. Every year sees changes in the interest of the exhibition. The live stock men and farmers generally have ever been treated especially well. Two years ago the directors erected new buildings—the finest in Canada—for the stockmen. Last year the prizes were greatly increased in many lines in which the farmers are the competitors, and this year there have been still further increases. Every suggestion of a competitor has been thoughtfully considered, with the result that the Association never loses an exhibitor. A new class in horses this year is for heavy draft, owned in the counties of Eastern Ontario. Heretofore farmers had to compete against city men and professional stock-raisers in the heavy draft class. A new class in the prize list for swine is for hogs suitable for export. The values of the second and third prizes have been increased in the poultry department, while the building has also been remodelled and a large addition added so that there will only be one story of coops instead of two as in the past.

Thirty-two gold medals are offered as special sweepstakes prizes for horses and cattle. As usual, there is a special prize for a milk test during the fair. And all this besides the extension and improvement of the grounds, the construction of a new main building and the enlargement of the machinery building. Farmers who have exhibited at Ottawa in the past will be there again this year; those who have not been at the Capital's great fair will do well to take their stock there this year. All particulars can be obtained by writing E. McMahon, Secretary, C. C. E. A., Ottawa.

Toronto Industrial Exhibition.

The prize list for the Toronto Industrial Exhibition, which is to be held this year from the 29th of August to the 10th of September, has been issued, a copy of which we have received. The exhibition is to be formally opened by the Governor-General and the Countess of Aberdeen on Tuesday, the 30th August, and this will probably be their last official public act in the Dominion previous to their departure from our shores. The exhibition this year promises to be more interesting than usual on account of Great Britain and France each sending large exhibits.

The Winnipeg Industrial Exhibition.

Opens on the 11th July and closes on the 16th. Everything points to the most successful show of the series. The live stock department will be immensely stronger than heretofore, and many new and interesting as well as practical features are on the programme. No better time could be chosen for making a trip to the Prairie Province to see it at its best, both on its farms and in its great agricultural and industrial exhibition. The exceptionally low railway rates of fare are also a strong inducement to go west and view the vast heritage we have there.

MARKETS.

FARM GOSSIP.

Crop Prospects from Ocean to Ocean.

From the Pacific to the Atlantic, throughout Canadian territory, there comes the story of exceedingly brilliant prospects in almost every agricultural product. The seeding season has been generally favorable throughout, except perhaps in the far east, which was somewhat delayed by cold rains. All grains well put in have had a peculiarly favorable growing season, with the gratifying and cheering results below given. Fruit districts report very favorably, except where insect and fungus pests have committed depredations. The peach leaf-curl seems difficult to combat even by careful and thorough spraying, but the loss from insects and other forms of fungus are being largely overcome by the use of the spray pump and proper mixtures. We have the country, the weather, the people, and the sources of information, which, if made the most of, can have but the one result of keeping us in the forefront of agricultural nations. The following reports from west to east contain much encouragement:

BRITISH COLUMBIA.

The weather is warm, and growing crops are in splendid condition. The grass on the ranges of the interior in consequence of the copious rains is in excellent condition. Growing stock is reported in prime condition for butchering. The prices of all classes of farm produce are still high. There is a larger area in the Fraser Valley under crop than ever before. All classes of fruit are in the best possible state.

NORTHWEST TERRITORIES.

INDIAN HEAD DISTRICT.—We had a fine rain Monday (the 20th June), and crops of all sorts are recovering fast from the frosts. The hay crop is very poor; up to the 20th there had not been enough rain to give it a fair start, and it is rather late now to make up. We have a good catch of grass seed, and I hear of no complaint in this respect. For the first time our raspberry bushes are in poor condition. We never had better canes, or had them come through the winter in better shape. I attribute the injury to frosts of 27th, 28th and 29th ult., combined with lack of moisture at that time, but two rows close to a hedge, which must have received the effects of these frosts as well as the outer rows, are in fair condition. The outside rows were covered the same as the inside, but had suffered more than appearances indicated. The crops in this and other districts outside the Indian Head municipality are looking much better than any previous year in my recollection, and I have also seen that weeds are abundant everywhere. Angus MacKay, Supt. Experimental Farm.