part of the article applies to my mare; that there must be diseased bone somewhere in the upper jaw, the cause of the fœtid breath. When I took her in to the V. S. the last time I thought it might be a case of glanders, but he said there was no symptom of that disease. I have since bred the mare. Will her ailment be likely to harm her foal?

"In answering could you give me information as to what should be done with her, and advise whether she should be kept alone or not?"

[The case is probably one of chronic catarrh, in veterinary language usually called nasal gleet; if so, it is neither contagious nor infectious. Nasal gleet occurs as a sequel of acute catarrh, but there are other causes from which it may arise, such as external injuries, diseased upper molar teeth, disease of the upper jaw bone caused by contact with an elongated lower molar tooth, etc. The offensive smell plainly indicates the presence of decaying teeth or bone. As the case is one of long standing, the treatment will necessarily consist of either a dental or surgical operation, and I would advise you to employ a competent and reliable veterinary surgeon. Have nothing to do with so-called "horse dentists," for a large majority of them are simply humbugs.]

CHOKING.

SUBSCRIBER.—"I have a young mare rising four years old that takes a fit of choking sometimes after eating, and then she will cough and something like saliva will run out of the mouth and nostrils in large quantity. Sometimes the choking spasms will last for quite a while, and hay or other food will come back through the nostrils.'

[By swallowing their food faster than it enters the stomach, horses with ravenous appetites are sometimes subject to the condition you have mentioned, especially when fed on dry rations, such as a mixture of oats and bran, chopped hay or chaff, etc. Choking also results from certain abnormal states of the apparatus immediately employed in the processes of mastication, salivation, and deglutition, such as faulty teeth, disease of the salivary glands, producing in those bodies functional inactivity, inflammation of the pharynx or the adjoining structures, spasm of the œsophagus (gullet), pharyngeal polypus, or any other condition that would interfere with the act of swallowing. In the case of your mare, if choking is caused by greediness in eating, I would advise you to feed grain from a wide, shallow trough, so that the animal will be prevented from taking too large mouthfuls. I would advise you to have the mare examined by a veterinary surgeon.]

OPEN JOINT.

J. S. C., Muskoka, Ont.:—"Some time ago my mare got kicked on the inside of hock joint. I took her out to draw some wood, but next morning she could not put her foot to the ground. It swelled terribly for several days, when it broke. That is about two weeks ago. She cannot put her foot to the ground now, and the wound keeps running a little all the time. What had I better do for her?"

[At first this is difficult to say, as it will depend on the value of the animal. The symptoms are well described. The lameness is always very excessive, the animal evincing acute and agonizing pain by partial tremors and sweats on her body. The animal, although not able to put her foot to the ground, keeps it in an almost continual state of motion. The synovia or joint oil coagulates upon the lips of the wound, and oozing through this there will be a thin, watery discharge. The treatment is almost hopeless, even to a well-trained surgeon, but the object is to get the wound closed by pressure. If you have no veterinary surgeon near, ask your nearest medical man to provide you with a small piece of perchloride of mercury and place that immediately in the wound, and should you succeed in stopping the discharge, treat as a common wound, by dusting on boracic acid four parts, iodoform one part. DR. W. MOLE.]

CATARRH.

N. H. F., Lenox Co., Ont.:—"I have a thoroughbred sheep which is very bad with discharging in the head. I have used pine tar quite frequently, with no good effect. What is good for her?"

[This sheep has catarrh, a condition quite prevalent in some sections. There is no better treatment than tar. Mix a liberal supply of pine tar in their salt and keep her from the rest of the flock. Spray the pen with disinfectants. A dry, well-ventilated pen must be provided, and mix a twenty-grain dose of sulphate of iron in her feed (one a day for a month), and feed well.]

LUMP ON JAW.

T., Vernon, B. C.:—"A heifer calf, ten months old, that has lump on jaw, but not quite underneath, as in lumpy jaw. It is a long way back and on lower jaw. I have tried to examine for anything wrong with teeth, but couldn't do it very satisfactorily on account of its being so far back?"

[You do not mention whether the lump is hard or soft, movable or immovable. Does the calf chew properly, or does it drop imperfectly chewed food? Write again.]

HORSES' HOOFS DRY AND HARD.

N. B. S., Truro, N. S.:—"My horses have to travel a good deal in snow and ice water, which has caused their hoofs to become dry and very hard. What is best to keep them in good condition?"

[Apply every night with a brush an ointment made of equal parts of raw linseed oil, crude petroleum oil, neat's-foot oil and pure tar.]

CAUSE OF LUMP JAW.

SUBSCRIBER, Grey Co., Ont.:—"Could you or some of your many readers give me the cause of 'lump jaw' in cattle. Also, is it injurious in any way to use the milk from a cow that is bothered with it? I think the FARMER'S ADVOCATE a valuable paper for farmers. I have taken it a year and am much pleased with it. I must say your Christmas number is *elegant*. It surpassed all my expectations."

[The cause of lump jaw in cattle is a germ, which gains access to the jaws by being taken into the mouth, and is supposed to enter the gums around the teeth. It is communicable to man as well as animals, consequently the milk from such a cow is unfit for food, and if in the advanced stage of the disease should be destroyed. For treatment of a case of short standing write Fleming Bros., St. George, Ontario.]

Miscellaneous.

HATCHING GOSLINGS—TOMATO CULTURE—PROTEIN, CABBOHYDRATES, ETC.

R. GRAHAM, Peterboro Co., Ont.:—"(1) To what address should I write for a copy of the Farmers' Institute Report of 1897-98, and what is the price? (2) Could you please publish a list of the seeds that are distributed from the Guelph Experimental Farm, making special mention of the different kinds of potatoes. (3) Please give short article on the raising of geese. Last year we set 30 eggs under geese. They sat well, but most of the eggs were rotten, and we only got five or six goslings. What was wrong? Should they be fed specially during laying time, or is there feeding to entice them to lay early in spring? (4) Please give an article on the culture of tomatoes when you have space. (5) Explain the terms protein, carbohydrates, dry matter, etc. I think this is a good batch of questions."

[(1) Department of Agriculture, Toronto, Ont. The copies are sent free. (2) See elsewhere in this issue, and write C. A. Zavitz, O. A. C., Guelph, Ont. (3) In all probability a number of the eggs that did not hatch last year were infertile, or they may have become chilled by some accident. We would recommend keeping a gander for every two or at most three geese. Keep the eggs in a box of bran in a cool place from the time they are laid till they are set, and turn them every day. It is generally preferred to put a sod in the bottom of the nest if the nest is not on the ground. No special feeding is required. Access to water to drink is necessary, and an occasional swim is also considered helpful. If it is desired to keep the goose laying the eggs may be set under hens—four to a hen. It is well to set a number of hens at a time, and on the seventh day the eggs should be tested and the infertile ones removed and the good ones set under a less number of hens. (4) This request will be complied with. (5) Protein is a name applied to a collection of compounds in a plant, all of which contain the element nitrogen. The gluten of wheat, the slimy matter of boiled flax, white of an egg, and the curd of milk are all largely protein. Cattle food must contain protein in order to supply and repair the nitrogenous tissues and compounds of the animal body, such as the muscle, the milk, internal organs, as liver, heart, kidneys, blood, etc. Without protein in the food the animal would have nothing to grow these materials from. Carbohydrates include the starches, such as potato starch, cornstarch, and the different sugars, gums, celulose, fiber, etc. All the cereal grains are rich in this compound. A large part of the carbohydrates of a ration is burned in the animal body to furnish it with necessary heat and energy, while some is converted into animal fat and perhaps milk fat. The term fats of food refers to the vegetable oils, such as cotton-seed oil, linseed oil, rape-seed oil, etc. It furnishes heat, energy and fat. Dry matter is the entire dry substance of food.]

CROSS SOWS.

SUBSCRIBER, Argenteuil Co., Que.:—"We have two pure-bred sows—one Poland-China, the other a Berkshire. Both have proved themselves to be very wicked to their young ones, especially the Poland-China. They were fed together in the same pen until five days before they were due to farrow. They were fed on boiled carrots and ground provender, sour skim milk, with an occasional feed of clover hay and chaff. What is the matter? Is it the feed or the want of something else that they have not had during the time of pregnancy?"

[The feed mentioned would seem to have been very suitable for sows in that condition. You do not say whether they have been allowed out of the pens for exercise, which is very essential. This and access to grit of some kind—gravel, sand or ashes and cinders, or sods. A subscriber gives in this issue a plan for handling a cross sow, which is rather an extreme measure, and should not be necessary when all the conditions are natural and favorable; but there may be extreme cases where it might be used to advantage.]

RATION FOR PIGS.

SUBSCRIBER, B. C.:—"Would you kindly let me know through your columns what you would consider the cheapest of following grains, at the prices named, for feeding young pigs: Wheat, $22 per ton (chopping, $2 per ton extra); oats, $18 per ton (chopping, $2 per ton extra); peas, $25 per ton (chopping, $2 per ton extra); shorts, $23 per ton; bran, $22 per ton. I have a quantity of small potatoes which I propose to boil and mix with the grain and feed that from weaning until clover comes. Then it would be clover and whatever grain would be best. What proportion would you advise mixing the potatoes and grain for best results?"

[Replying to "B. C. Subscriber," I beg to say that, in my estimation, the wheat is the cheapest of the foods mentioned. Next to this would probably be the oats and shorts. A mixture of two parts wheat and one part shorts should prove about as satisfactory a combination as could be made from the grains mentioned. Another very good mixture would be two parts wheat, one part shorts, and one part oats. For finishing I would prefer to use wheat largely and leave out the oats—say three parts wheat and one part shorts. A few peas would improve the ration, but the price is so high that it would be well to use them in small quantity, if at all. At first I would use very few potatoes, but as the pigs get older they may constitute from forty to fifty per cent. of the total weight of the ration. G. E. DAY, Agriculturist.
Agricultural College, Guelph, Feb. 24th.]

HEATING WATER FOR STOCK—CEMENT FLOORS.

W. W. FAWCETT, JR., Upper Sackville, N. B.:—"I propose to renovate a barn next summer, and wish information on several points.

"1st. Do you know of any practical way, not expensive, of putting water in barn from spring 50 yards from barn with about 10 feet rise? I wish to provide for 25 head.

"2nd. Do you know of any practical way of warming the water for the stock? In answering, state probable cost.

"3rd. Will steers keep as dry on cement floors as on plank floors one inch apart laid lengthwise of steer?

"4th. What are the principal points in favor of cement floors versus water-tight plank floors?"

[1st. If a fall of a few feet can be secured from the spring, a hydraulic ram will be the simplest and cheapest plan to employ. An ordinary ram will raise water from 10 to 15 feet for every foot of fall one can secure in the drive pipe from the spring to the ram. The distance of 50 yards will be no obstruction, provided there is a fairly strong head of water. If the fall cannot be obtained, a small windmill would do the work well.

2nd. A reader of the ADVOCATE uses a simple device for this purpose. A galvanized-iron box heater, about 2 ft. 6 in. square, with two lengths of pipe with an elbow on a pivot so as to fan the wind by means of a tail—a door on top, where big chunks of wood may be put in, with a damper beside it, similar to the "Queen" stove—is placed in the large water-trough for a while before the cattle are let out to drink, and a fire started, which raises the temperature of the water in a short time. We understand that the water in the case referred to is pumped by a windmill into a large, square trough or tank in the barnyard or near the barn. The heater would be more durable if made of boiler-iron plates.

3rd. Yes, if a fair amount of bedding is used.

4th. The fact that cement absorbs no offensive odors, and can be readily flushed with water and washed if desirable, besides being durable and lasting.]

A GOOD EGG YIELD—GREEN BONE—ANIMAL MEAL—BONE CUTTER.

G. C., Queen's Co., P. E. I.:—"In your issue of Feb. 1st appears an article, 'Cut Bone vs. Animal Meal.' There seems to be something lacking to make the test of much value, and that something is eggs. With the treatment given, there should, I think, have been more than twice the number of eggs, leaving out the cut bone. I have 45 hens that have laid 660 eggs since the first day of January (44 days), and we are having severe weather right along. Please answer the following: 1. What is meant by green cut bone? 2. What is meant by animal meal? 3. Where could a bone cutter be procured? What would one cost, to be worked either by hand or horse power?"

[1. Green cut bone is fresh bones right from the butcher shop run through a bone-cutting machine. 2 Animal meal is simply lean meat dried and ground into meal. 3. Mr. C. J. Daniels, 221 River St., Toronto, advertised bone mills in the FARMER'S ADVOCATE of Feb. 15th, page 106. A postal card addressed to him will bring the price.]

REGISTERING SWINE.

BEGINNER, Lincoln Co., Ont.:—"Will you please inform me, through the columns of your valuable paper, how to proceed in order to register pure-bred swine; also cost?"

[Write to Henry Wade, Registrar of Live Stock, Parliament Buildings, Toronto, for blank forms of application for registry of the breed of swine you wish to record. The fee for registration of each pedigree is to members 50 cents, to non-members $1. The membership fee to the Swine Breeders' Association is $2 per annum, which entitles the member to a free copy of the Record for each year that he is a member. A similar question was answered in our issue of Feb 15th.]

CHOKING PIGS.

MR. THOMAS BATY, of Middlesex Co., Ont., recently called at our office to give our readers the advantage of his observation and experience with choking pigs, such as Subscriber, Lambton Co., refers to in Feb. 1st issue, page 69. In Mr. Baty's opinion the choking is due to the feed being mixed so thin with milk that the pigs endeavor to drink it and become choked. Mr. Baty has cured similar cases by feeding the chop or shorts dry or almost so, and giving the drink before and afterwards.