## POULTRY DEPT.

Conducted by S. Short, Ottawa

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By now the hatching season has sufficiently advanced, that all hatching operations should be under way, or definitely arranged. While the suburbanite may hatch and rear late chickens successfully, it is a different proposition in the city, where grass runs are scarce, and the chicks have to be more or less confined, and artificially fed. At this season, too, there are many who have had under consideration serious ideas of embarking in poultry keeping. If a start is to be made, now is the most favorable time to begin. The first purchases to be made are the incubators. Then decide on the variety or breed of fowl, and order the eggs, or, better still, before buying, inspect the local stocks and see what terms may be got, and how the birds look,

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being careful to note that not more than ten to twelve females are mated to one male in the heavier breeds, such as the Rocks, Wyandottes, Orpingtons and Brahmas, and not more than fifteen to eighteen of the light breeds, such as Leghorns, Minorcas, and others of that kind. Note also the sprightliness of the fowl, and general healthiness, for healthy parents beget healthy progeny, and likewise sickly dumpy fowl transmit their weakness to their offspring, should any of the eggs from such fowl hatch.

A small room, free from draughts, will do for the incubating chamber, and the brooders may be put out doors, in most localities, at this season. While the chicks are growing the winter buildings may be erected, if that has not already been done.

A fault with many beginners, is that if they are not successful the first season, the breed of fowls kept is blamed, when usually the fault is the breeder's own. Sometimes the start is made so late in the season that the laying stock has not had time to mature to give laying results the following winter. Of course it is discouraging not to get eggs, but not a good reason for discouraging the breed of fowl, and adopting another, simply because a neighbor had good results from another breed. At least two seasons is needed to determine if a breed or strain of fowls kept are poor layers. Hatch early the second season, and give the birds the same treatment as to food and care as some other breeder who is making a success of poultry. several years' experience for the experience for the best to make good. If at all convenient, join a poultry association or club, where discussions on seasonable topics are carried on during the winter, and where many valuable ideas may be picked up, and also subscribe to a good poultry magazine. In any event, if the beginner has had no previous experience in poultry keeping, start with a small number of birds and expand and increase as experience may warrant.

## Management of Soils

At a meeting of the Niagara Peninsula Fruit Growers' Association, held in Grimsby, Mr. Farnsworth dealt with the management of soils. "Quantity and quality of fruits depends largely on an abundance of moisture in the soil," said Mr. Farnsworth.

The various forms of moisture in the soil and the conditions that control its conservation were mentioned. To receive large quantities of moisture in the form of rains and snow, the soil should be made open and porous. It must be drained well to get rid of surface and surplus moisture. This should be done because plants require warmth and air as well as moisture; an excess of moisture excludes warmth and air. Moisture has two main purposes in the soil as it effects plant growth; namely, it acts as a carrier of plant food and aids in breaking down unavailable plant materials

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Plowing is a more important operation in soil management than most farmers think. Moisture exists in one form as a film around soil particles. Plowing breaks up the large particles and increases the surfaces that are exposed for attracting moisture. The soil should be deeply plowed if cold subsoil is not too near the sur-

A potent factor in holding moisture in the soil is vegetable matter or humus. For this reason, plenty of vegetable matter should be plowed in in the form of green crops. Cover crops should be grown in orchards. They should be plowed under as early in spring as possible, to prevent loss of moisture through transpiration and assimilation by the crop should it start to grow. On gravelly and sandy soils, vegetable matter will fill the open spaces that occur between the particles in such soils; on heavy soils, it improves the texture by making them more open.

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Mr. Farnsworth said also that good tillarge plays on important part in controlling moisture. Rolling should be practiced to compact the soil so that water will rise easily by capillary attraction. A light harrow attached behind the roller will produce a shallow surface mulch to prevent the escape of moisture to the air. Tillage also prevents loss of moisture through appropriation and transpiration by weeds. Tillage should be thorough and incessant.

In a discussion on this article, Mr. Farnsworth said that hairy vetch is the best cover crop. It costs about eight cents a pound and about 20 pounds should be sown to the acre. Mr. W. T. Macoun suggested the use of summer vetch instead as it kills down in winter and the grower thereby is not tempted to leave it too late in spring before plowing under. It costs about \$1.50 a bushel and about three-quarters of a bushel should be sown to the acre.

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