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POULTRY MANAGEMENT

To Make the Farm Flock Pay Best Only One Must Have Charge.

Electric Lighting Is a Great Convenience on the Farm—Wiring Costs About \$100, While a Small Plant Should Not Exceed \$500.

(Contributed by Ontario Department of Agriculture, Toronto.)

SUCCESSFUL poultry-keepers are found much more frequently among those who operate what is termed a "one-man plant" than elsewhere. This simply means that poultry require some one person's attention, or that personal attention is so important that it is usually not to be found efficient among the ordinary laborers.

Poultry know the time of day when it is customary to feed them, and, perhaps, equally as well all other daily tasks. They respond fairly well to the bond of sympathy of the feeder. If the feeder rushes into the pen and throws the feed around the poultry usually rush out of the way or out of the doors if they can get there. Fright reduces egg production. Particularly nervous hens, when badly frightened, sometimes cease laying for several days. The person caring for the poultry should be fond of them and take an interest in them. One's interest usually goes up or down with the production of the flock. To maintain keen interest when the production is low, or when the flock is out of condition, is the real test. If you hold on and study the flock, generally speaking, you will succeed.

A change of attendants, even when both are good at the work, nearly always means a decrease in production for some days. The careful feeder knows just about what this or that flock requires as to quantity of feed, etc., and further, he or she usually goes about the work on a definite plan so that in time the birds know just what to expect, not only as to time and quantity of feed given, but the movements of the attendants in the pen.

No line of live stock responds more to careful attention than poultry. The boy or girl on the farm can learn much of how to feed and what to feed. They may learn something of the problems in breeding. Successful poultry-keepers know that there is a time to hatch and rear, a time to cull, a time to sell, a time to clean and disinfect, as well as a time to feed.

Principles of Electric Lighting. In the year 1800, Volta, a famous Italian physicist, discovered that if a plate of copper and one of zinc were placed in weak sulphuric acid, and connected by a wire above the acid, there was transmitted along the wire a certain amount of energy, which transmission we speak of as a current of electricity, comparing it to a current of water. As it requires pressure or head to make water flow, so it requires electric pressure to make electricity flow. The pressure of the simple cell described above is called a volt, in honor of its discoverer. A dynamo generating 32 volts would have a pressure equal to that of 32 simple cells.

Electric energy passing through fine wires will heat them white hot, hence electricity may be used for lighting. Current for this purpose usually has a pressure of 110 volts, when supplied by light and power companies, but private plants usually generate only about 32 volts. All current generated by dynamos is alternating when made, i.e. it flows

in one direction for half a revolution of the dynamo and then in the opposite direction during the other half, but by fitting the dynamo with a commutator (which means changing) these waves of current may all be sent in the same direction along the distribution lines. It is then called direct current or D.C.

Now alternating current, or A.C., may be used for lighting, just as well as D.C. If the alternations are very rapid the light is perfectly steady, but if too slow the lights will fluctuate in brightness, and the light is hard on the eyes. Many light and power companies supply A.C.

However, A.C. cannot be used to charge storage cells and hence private plants which usually have storage batteries must be of the D.C. variety. This is also true of lighting systems for automobiles.

One-horse power will run 30 ordinary tungsten lamps, each giving from 23 to 24 candle-power, while if they are nitrogen filled each lamp will give about 45 c.p., hence it would take only about half as many to give the same light as before. As the ordinary farm probably would not require more than, say, four lights on an average of two hours per day, taking the whole year round, it is easily seen that the amount of power required is very small. The outlay for wiring the buildings varies a great deal with circumstances, but probably \$100 would be a fair average.

Where one is too far from the distribution lines of any existing power plant he may install a small plant of his own. The original cost of these will run from \$300 to \$500, depending on size and type, and the interest on this amount would be the largest part of the cost of light for the farm, the cost of running the plant being only a few cents per day.

R. R. Graham, B.S.A., O. A. College, Guelph.

UNDERDRAINAGE PAYS

Proves Methods of Draining Low Land, Swamps and Springs.

Mutual Respect and Confidence Are the Keynotes of Successful Co-operation—How These May Be Developed In Any Community.

(Contributed by Ontario Department of Agriculture, Toronto.)

IN general the conditions making drains necessary are those where the gravitational or free water is either on the surface of the land or so close to the surface as to interfere with the proper growth of plant roots. The instances where the water is lying on the land, such as in pond holes, sloughs, pockets, swamps, etc., are very common in Ontario, and it is usually an easy matter for these conditions to be remedied. They may be remedied either by means of open ditches or a system of tile drains.

Where there is a large area of low-lying land which is uniformly wet, such as we have in the southwestern counties, namely, Kent, Essex and Lambton, the drains augmented by open ditches are used, and sometimes when the wet land is the same or possibly lower than the lake level dikes are constructed and pumps installed to remove the water. Other instances where low-lying and flat lands require drainage are those which are occasionally flooded either during the spring freshets or during heavy rains. If no means has been provided for this water to be removed quickly the crops growing on this land will be killed out, and thus cause financial loss to the land owners.

In the case of underground springs we have a condition where the impervious layer of the subsoil has caused the underground water to be blocked and held to such an extent that eventually it comes to the surface. These can be prevented by having a tile drain put in a short distance above the springs so that the water may be cut off and conveyed to a proper outlet.

Another instance is that where irrigation is being carried on. In some of the irrigation districts the water is fairly saturated with alkali salts. When this water is used for irrigation it is spread over the land and eventually is evaporated from the surface of the soil or from the leaves of plants and trees by the sun, the alkali being left on the surface. This alkali accumulates until it becomes so strong as to prevent the growth of plants or trees.

To remove this alkali it is necessary to install a system of under-drains, then thoroughly flood the soil which is saturated with alkali, thus dissolving the alkali and allowing the water to pass off through the drains, thereby removing the alkali. After this has been removed it will be necessary to use a greater amount of water for irrigation of this soil, and after each irrigation as soon as the water has been evaporated to such an extent that the remaining water is almost saturated with alkali the free water remaining in the soil and containing this saturated solution of alkali must be allowed to run off through the drains.

Across many Ontario farms we see small creeks flowing at least part of

the season, in most instances where this occurs the drain can be placed parallel to this creek, and except during the spring freshets or after very heavy rains the water will flow through this drain, thereby obviating the use of the creek. When this drain is installed the creek banks could be levelled, and instead of being a creek with ragged banks and weeds and small trees growing alongside, could be converted into a scoop ditch. This ditch could be of such a nature as to allow farm machinery to cross back and forth, and would take care of the occasional heavy flows of water.

In all conditions where the ground water comes within two and a half feet of the surface of the soil it is necessary for this to be removed in some manner so that plants may have proper root growth.—W. R. Scott, B.S.A., O. A. College, Guelph.

Philosophy of Having a Good Time.

Take the "it" out of toil and you have oil. You can't take the hard work out of farming as easily as that, but a little run robs it of much of its drudgery. Good times are the oil in the toil of agriculture. That is what a great many sincere persons overlook who study economics more than human nature.

When we attempt to organize a farmers' association, what is done? Why right away a vast amount of talking is committed anent education and improvement. Both are good, of course, and the farmer, in common with all humanity, wants to improve — there's a difference between improving and being improved — but he's not always too sure that the association will effect the improvement.

To begin with, he is often not too well acquainted with his real neighbors—the men in the inside of the men he knows now show themselves only to kindred spirits. Then after a hard day's work he is prone to stay quietly at home in preference to driving several miles to discuss, under a smoky lamp, the old problems in much the same old way.

But there's one thing everyone wants—a good time. Everyone takes his revenge on his victim of breath. It's there's nothing collective about it; each goes his own way at his own time. Really persuade the neighbors once that they can have a better time at the club meeting than they can at home, and they'll go without coaxing.

So that seems the logical starting point. A leader never finds it hard to get people to organize for pleasure—to have a good time. And it leads to better things, too. As people become better acquainted mutual respect and confidence develop. That is the fundamental and first step to business co-operation.—Ontario Department of Agriculture.

The Terror of Asthma comes like a thief in the night with its dreadful throbbing, robbing its victim of breath. It seems beyond the power of human aid to relieve until one trial is made of that remarkable preparation, Dr. J. D. Kellogg's Asthma Remedy. Then relief comes with a rush. Life becomes worth living, and, if the remedy refused persistently, the disease is put permanently to rout. Take no substitute.

Read the Guide-Advocate "Want Column" on page 4.

MAKE CONCRETE TILE

Well Cured and Properly Made Cement Tile Equal to Clay.

Strangles, an Infectious Disease of Colts May Be Controlled—The Cause, Symptoms and Treatment of This Serious Disease.

(Contributed by Ontario Department of Agriculture, Toronto.)

TO make concrete tile satisfactorily many things must be taken into consideration.

In the first place it is very necessary that the manufacturer have experience in the making of concrete tile; besides, it is essential to have good strong machinery, a good quality of sand and gravel, or crushed rock, first-class cement, material and cement thoroughly mixed, and a kiln where the tile may be steam cured.

Only strong, heavy and durable machinery should be used. With respect to material a good aggregate would be one part material, which would pass through a twenty-mesh sieve, and two parts, which would range from the previous size mentioned up to one-quarter inch stone. Only good sharp material should be used — one in which there is clay should be avoided. If this cannot be procured a sand washing machine will have to be added to the equipment of the plant.

Where a great many tile manufacturers make a mistake in the making of concrete tile is in the fact that they use too "lean" a mixture, that is not enough cement to the material. The proper mixture for first-class tile is one part cement to 2 1/2 parts of crushed material, and in no case should the mix be more lean than one to three of a total aggregate, sufficient water being added to the mixture to make a gum consistency. When the tile are completed they should be placed in kilns where they may be steam cured and left there for a period of not less than 48

The kiln should be about six feet in height and of a width sufficient to allow the required number of trucks on which the tile have been placed to rest during the curing process. The tile should be placed in the kiln not more than 1 1/2 hours after it has been manufactured and kept there for 48 hours during the steaming process. After it has been cured it might be removed from the kiln and piled in the yard, and should have at least two weeks hardening before being again disturbed. Before the product of any tile plant is offered for sale samples should be tested either at the plant or sent to the Drainage Department at the O. A. C. Guelph, to be tested to see if it is of the proper strength.—W. R. Scott, B.S.A., O. A. College, Guelph.

Strangles—Its Cause and Cure.

Strangles, commonly called "Colt Distemper," is an infectious, febrile, eruptive disease peculiar to horses, especially to colts or quite young horses, but those of all ages are liable to suffer. One attack does not render an animal immune from a second, but there are few cases in which an animal suffers the second time.

The disease appears in two forms, known as (a) Regular Strangles, (b) Irregular Strangles, often called "Bastard Strangles." As with all contagious or infectious diseases it is caused by a specific virus which is communicable from animal to animal by contact or surroundings, may be carried from a diseased to a healthy animal on the hands or clothes of the attendant, on palls, forks, harness, clothing, etc., and it is possible it may be carried considerable distances in the air.

Symptoms—When the abscesses form in the space between the arms of the lower jaw (called the maxillary space) the general health is often so little affected that nothing wrong is suspected until the abscesses break, but in most cases there is a dullness, more or less loss of appetite, increase of temperature, nasal discharge, at first watery, but soon becoming purulent, cough, often difficulty in swallowing. A tumor or tumors can be felt, and generally seen in the neighborhood of the head, usually in the space already referred to in the throat or higher up, just posterior to the lower jaw. In severe cases the patient becomes unable to swallow, the cough becomes very painful and breathing more or less labored and difficult; and he usually stands with his nose protruded, facing a supply of fresh air if at liberty.

Treatment.—In mild cases good care and comfortable quarters are all that is needed, other than flushing out the cavities of the abscesses three times daily with a five per cent. solution of one of the coal tar antiseptics or carbolic acid. In more acute cases in addition to the above it is good practice to steam the nostrils occasionally by holding the patient's head in steam escaping from a pot of boiling water, to which has been added a little carbolic acid. Feed and water out of a high manger, as he swallows with greater ease when his head is elevated. Give the patient two to four drams of hypsulphite of soda (according to size) three times daily. Keep hot poultices to the throat, lance abscesses as soon as ready and treat as above. Feed on soft, easily swallowed and easily digested food. If he won't eat keep up his strength by giving new milk and raw eggs with an oz. of sweet spirits of nitro several times daily. Do not attempt to drench him. Give the powders out of a spoon, placing them well back on the tongue. Give the liquids with a 2-oz. syringe. If there is danger of suffocation, and the amateur cannot relieve it, a veterinarian should be sent for promptly. In cases of irregular strangles the same treatment, less the local attention to the forming abscesses is all that an amateur, and, after all, that a veterinarian can do.

Japan and China.

Now that the terms of the China-Japanese military agreement are definitely known, Chinese confidence in the good will of Japan is largely restored throughout North China; but the Tokio Asahi reports dissatisfaction in the southern provinces, which are still in a state of opposition. The editor says the motive of opposition is the same as that which developed when China joined the Allies against the Central Powers of Europe. South China sees in the agreement a measure to increase the military strength of the north. The monopolization of China's military and foreign policy by the Peking Government, the editor thinks, is what the south objects to, and this protest is quite natural since the south does not recognize the Tuan Ministry as a lawful government. The new agreement goes into effect only when the supposed German menace results in actual military operations by the two countries.

Nature of Fatigue.

Fatigue is the presence in the blood of poisonous by-products of life combustion. While we are awake the poisons accumulate faster than the system can remove them. When we are asleep, when the life combustion is slower than they accumulate, it is as though ashes accumulate in a stove at such a rate that the fire had to be put out every so often to allow a chance to remove them.

Children Cry FOR FLETCHER'S CASTORIA