

cakes," or words to that effect. In addition to the profits on the original outfit, the party purchasing was to have permanent employment starting other agencies.

After considerable manipulation, it was found that, with one of the "scales" sent "The Farmer's Advocate," the weight of milk in a can could be roughly approximated, but there seemed to be a good deal of latitude for error, even, as a correspondent said, to within three or four pounds. We sent a description of the implement to the Inland Revenue Department at Ottawa, and the reply of the Weights and Measures Branch was that it could not be sold or taken into use without their approval, and that it had not been submitted.

One of the parties to the sale was an American. When the question was raised as to peddling the "sticks," the ridiculous claim was made that they had paid the Canadian Government last year \$27,900, but what for was not stated! However, it was said to be big enough to give them the right to sell and "stand between their agents and all harm." Persons cannot be too careful about making deals for unknown appliances with persons whom they do not know.

Lard and Coal Oil for Garget.

A Wisconsin reader contributes to Hoard's Dairyman the following sensible treatment, which we used recently on a mild case of garget in our own herd, with satisfactory outcome. He says: "To the many inquirers of your paper for a remedy for garget, I would say, if they will, as soon as the swelling appears in one quarter of the udder, take two tablespoonfuls of pure lard, melt same on stove, add the same amount of kerosene oil and bathe the quarter while warm, in twelve hours there will not be the slightest swelling left. In three or four days the quarter will be just as good as ever. I have practiced this for the last five years, with not a single failure."

POULTRY.

Turkeys.

When the autumn and winter festive season comes round and the price of turkeys soars almost out of reach of the average individual, one is led to wonder why more of this class of fowl are not produced. The turkey flocks of the country do not seem to increase anywhere in comparison with the growth of the population. This is, no doubt, due to a great extent to the fact that the inexperienced have difficulty in raising young turkeys, and a year or so of extensive loss causes them to give up this branch of the poultry industry for others which are more easily managed. To scores, yes hundreds, turkeys have been a disappointment. Too many have tried in vain to raise turkeys in a yard like that provided the ducks and geese. Others have killed their birds with supposed kindness by overfeeding, and others, again, by allowing the birds to become lousy, owing to filth or lack of precautions. While the mature turkeys are hardy, and withstand adverse conditions well, the young poults are very tender, and three things are absolutely essential to success, viz., free range, care in feeding to avoid overfeeding, and care to keep the birds free from lice. It has been found by experience that, to be successful year after year with an increasing number of turkeys, it is necessary to have almost unlimited range, for the land becomes in time "turkey sick"; that is, it is more difficult to raise the young poults on land that has been used exclusively for turkeys for some time than on land on which they have not been raised. Free range is one of the first requisites. Where turkeys are hatched by natural incubation, it is well to keep the hens cooped for from four to five weeks. A slatted-front coop should be used. This gives the young turkeys an opportunity to run out at will, and they will cover a sufficiently wide range for a few weeks. Care must, however, be taken to move the coop daily, or dead turkeys will result. Nothing is more fatal to young turkeys than roosting night after night on the same spot. This cooping system avoids loss from dampness, as the young birds will get into shelter of their own accord when it commences to rain. The young turkeys will cover a wider range each day, and so gradually become accustomed to covering a large area, which is in their best interests. If the weather is fine at the end of the four or five weeks, the hen may be let out with them, and they are then allowed absolute freedom. Do not shut the turkeys in close, ill-ventilated pens at night, as this is almost certain to prove fatal to a large proportion of the flock.

The feeding gives considerable room for choice. Curds from sour milk, boiled rice, oatmeal, corn meal, cracked wheat, are all good, and shorts mixed with skim milk make one of the best feeds up to four or five weeks of age. Stale bread, soaked in skim milk, forms one of the best "starters" for the turkeys, and may be fed ex-

clusively the first day, and gradually substituted by shorts, until, at the end of three days, milk-soaked shorts form the entire ration. Mix the shorts quite moist, but not sloppy, with the milk, and avoid all sour food. Keep the feeding troughs scrupulously clean. Allow all the skim milk and buttermilk the young birds will drink, and give fresh water in separate, clean dishes two or three times daily. Do not fail to clean all the dishes at each feeding or watering. About one-fifth of the daily feed should be green food, as onion tops and dandelion leaves cut fine and mixed with the shorts. Cleanliness and being careful not to feed more than the flock eats readily, are the main points in feeding. Many young turkeys die as a result of feed being left in their troughs until soured, when they return and consume it, causing fatal bowel trouble. Be very careful in changing feed and in making any other changes with the birds. Turkey hens make better mothers than hens, and it is well, when turkey eggs have been hatched under hens, to give the young to a turkey which has been set at the same time. When the turkey hen is allowed to run with the flock, it is almost proof against any loss from crows, which, if opportunity affords itself, will carry away large numbers.

Guarding against lice, the third precaution necessary, can best be accomplished by giving the old turkey a thorough dusting with insect powder two or three days before the eggs hatch, and by dusting the little turkeys from time to time. In dry weather, if dusting places are provided, the poults will dust themselves free of vermin. They must, however, be kept free from these pests, or poor success will result. Turkeys are profitable under proper care, but slipshod methods invariably lead to failure.

Keep the Chicks Growing.

Most chicks are well fed and cared for while their mothers are confined in coops, but when allowed to range, regular feeding is too often neglected, and, as a result, growth is retarded, and they become what is termed "stunted." It appears, from statistics furnished by produce dealers, that but 7 per cent. of the spring chicks marketed weigh four pounds December 1st. By this time, all the spring stock of the general-purpose breeds, like the Rocks, Wyandottes, Orpingtons and Reds, should average at least six pounds, live weight. Plymouth Rocks have been made to weigh seven pounds, dressed, at Thanksgiving time, by judicious feeding for growth and development while on range.

Little chicks, as soon as hatched and dry, should have litter in which to scratch, so that their toes may be straightened and strengthened. Fine, sharp sand or grit should be scattered in the litter for them to pick up, and fresh water should be supplied. After forty-eight hours their first feed should be given, consisting of a hard-boiled egg mashed up with a piece of stale bread moistened in sweet milk, but squeezed dry as possible. This should be fed five times daily, at intervals of two hours. Mixed grains of finely-cracked corn, wheat and pinhead oats may be scattered in the litter after the fourth day. The grain may also be fed in the little hoppers, but scratching must be encouraged by scattering some feed in the litter.

Johnny-cake, made of two parts corn meal and one part of bran, should be baked and fed frequently after the fourth day. "Dutch" or cottage cheese is fine to produce growth in chickens, and may be fed twice daily. It should not be cooked hard, however, but the pan of clabbered milk should be heated just enough to separate the whey, and then the soft cheese should be squeezed or pressed dry in a cloth. Sweet milk or sour may also be given, but fresh, pure water should be supplied at all times. When table scraps are fed, they may be mixed with bran or shorts and fed as a wet mash, but dry mashes will be more satisfactory.

When the chicks are weaned, at six or eight weeks, and are on range, their grain ration, with grit and charcoal, may be supplied in hoppers. The hoppers should be so placed or so constructed that the old fowls will not rob the chicks or drive them away. A small enclosure, made of lath and covered with wire, will admit the chicks and keep others from frightening or molesting the chicks while eating. Coops of ample space should be furnished, well ventilated, but secure from the depredation of night prowlers. The coops, utensils and surroundings should be kept scrupulously clean and sanitary, and the flock kept free of vermin.

Cracked corn is one of the best grain feeds for growing poultry. When new corn begins to harden, whether sweet or field corn, it may be "whittled" or shaved from the cob for the eager chicks. On range, they will secure bugs, worms, grasshoppers, and pick up grit and bone-making material.

When they have reached full height, all those intended for market should be put in fattening crates and fed ground feed and skim milk for three

weeks. An average of two pounds per head may be added to the weight of fowls, old and young, by this method, at a cost of about five cents per pound. By all means, keep the chicks growing, and fatten them before putting them on the market.—[N. E. Chapman, Poultryman, Extension Division, Minn. College of Agriculture.

Orchard, Poultry and Bees.

Poultry and bees are the natural allies of the orchardist in stimulating the productivity of his trees and improving the quality of their fruit.

A flock of chickens, domiciled in one or more movable "colony houses," will feed to a large extent on the insects and larvæ of insects found in the ground. Especially will they do this if the ground is cultivated—as it should be for the best results in orcharding. Many of these insects, at future stages of their existence, if not thus destroyed, may become agents of injury and destruction to trees and fruit. Chickens will also devour the wormy fruit which falls from the trees, thus again assisting in the destruction of the codling moth and some other pests. We read much of the valuable work done by insectivorous birds in general, in this direction. They certainly do enough to merit protection against the shot-gun, even though they do occasionally "take toll" of the fruit. But the faithful hen does the same work, and without taking any toll. The droppings of poultry also continually add a valuable fertilizer to the soil of the orchard, and their constant scratching helps contain the moisture-conserving "dust blanket." Meanwhile, if the feed they gather from the soil is properly supplemented with grain rations, their production of eggs is as large as anywhere else, and they can be fattened for the market with equal facility.

The presence or absence of bees in an orchard is often of sufficient importance to determine whether the fruit crop shall be large or small. Since practically all fruit blossoms are fructified by the passing of pollen from one flower to another, and since the wind too frequently fails perfectly to perform the office of pollen-bearer, great numbers of blossoms must remain unfertilized but for the friendly offices of the bees, which seldom skip a bloom as they pass from one to another in search of nectar. The pollen gathers on their wings and bodies to such an extent as often to change their color, and it is dropped on the waiting pistils of blossoms before unfertilized, thus insuring the "setting" of the fruit. A few hives of bees in the orchard not only make the services of the little creatures in this way far more reliable than when dependence is placed upon the visits of wanderers from distant colonies; but, if clover and other blooms are near to supply them with food after the fruit blossoms have performed their office, the hives may afford a profitable crop of honey.

The three in combination—orchard, poultry and bees—would seem to constitute, in trained hands, a very lucrative form of "intensive farming"—a form which makes the realization of a fair income from a few acres entirely possible. The "poultry," however, should not include ducks and geese. These fowls will occasionally snap up the bee, and the poison of its sting is fatal to them. With chickens, bees are safe company.—[C. R. Barns, Extension Division, Minnesota College of Agriculture.

Cool Water for the Fowls.

The following simple device, recently described in the Agricultural Gazette, is said to be a very satisfactory method of keeping water cool during the hot weather of summer. The device consists of a large stone bottle, with a bung-hole at the bottom. Seal top of bottle to keep air out. Get a bung a few inches long, bore a hole through center, insert a small piece of tube (bent so as to deliver water into a dish), then get a box, put in bottle at a small hole in box opposite bung, then pack tightly with sawdust, using paper or rags to keep sawdust from dropping out near bung. Nail lid on box. To fill, lay box with bung uphill; nail a piece of wood V-shape to cover dish.

If the experience of all those thousands of amateur poultry enthusiasts who enter the poultry industry, with high hopes and expensive stock, emerging with dilapidated equipment, bad eggs and a lone chicken or two, could be woven into a tale, it would make a rare story of pathos and humor. But the poultry papers are regularly turned from the presses fresh with inviting pages of reading and illustrations, beguiling new corps of beginners into the game. That is one part of the service the poultry paper renders the fancier. As the game goes on,