

I told him of the good service you rendered, and gave him the wink to wink also. You were fearfully rash to-day, Graham. You were not content to fight at my side, but more than once were between me and the enemy. What the devil makes you so headlong in a fight—you that are usually so cool and self-controlled."

Graham's hand rested on a fair woman's name engraved upon his sword, but he replied lightly, "When you teach me caution in a fight, I'll learn."

"Well, excuse me, old fellow, I'm going to write to Grace. May not have a chance very soon again. I say, Graham, we'll have the battle of the war in a day or two."

"I know it," was the quiet response.

"And we must win too," Hilland continued, "or the Johnnies will help themselves to Washington, Baltimore, Philadelphia, and perhaps New York. Every man should nerve himself to do the work of two. As I was saying, I shall write to Grace that your horse ran away with you and became uncontrollable until you were directly in front of me, when you seemed to manage him admirably, and struck blows worthy of the old French duellist, who killed a man every morning before breakfast. I think she'll understand your sudden and amazingly poor horsemanship as well as I do."

She did, and far better.

Hilland's prediction proved true. The decisive battle of Gettysburg, was fought, and its bloody field marked the highest point reached by the crimson tide of the rebellion. From Cemetery Ridge it ebbed slowly and sullenly away to the South.

POULTRY.

DISEASES AND THEIR REMEDIES.

A writer in the *Chicago Poultry Keeper* discusses certain complaints and difficulties as follows:

ROUP.

Whenever you have a northeast storm, with damp, chilly, disagreeable weather, look out for the roup. Roup is to the fowls what heavy colds are to human individuals, and as we may have cold in the head, cold on the bowels, sore throat, and other disturbances from cold, the term "roup" covers them all. Roup in some forms is contagious, while in other shapes it may exist in a flock without affecting any but those of weak constitutions. The first thing to do with the affected fowl is to clean out the nostrils, and every breeder should have on hand a small syringe, which should be put to use early. Roup, when malignant, makes known its presence by a peculiar, disagreeable odor. The sick fowl looks droopy, and slight pressure on the nostrils causes a discharge, which is very offensive in smell. Make a solution of copperas water, and with the syringe inject some of it into the nostrils, and also down the throat. If the bird is no better in a few hours, try a severer remedy, which is the injection of a mixture of coal and carbolic acid. Add ten drops of carbolic acid to a teaspoonful of coal oil, and force a small quantity into each nostril. This will cure when all other remedies fail. Night and morning give roup pills (ow powder) either in the food or by forcing it down the throat. Add some also, to the food of those that are well.

How to make roup pill is what most persons desire to know. The basis of all roup pills or powders is *asafoetida*. This is combined with tonics and cathartics. Here is the method, and by which a large quantity can be made at a small cost. Take one teaspoonful each of tincture of

iron, red pepper, ginger, saffron, chlorate of potash, salt and powdered rhubarb; mix them intimately. After thoroughly mixing add three tablespoonfuls of hypsulphite of soda, and mix together well. Incorporate this with one ounce of *asafoetida*, working it together until the whole is completely mingled, occasionally softening it, whenever necessary, with a little castor oil. This can be made into pills, or when dry, into a powder. It is of the same composition as many of the roup pills which are sold at 50 cents a box.

CONDITION POWDERS.

There are many suggestions for making hens lay, but their virtues depend upon stimulating the fowls and supplying them with materials for producing eggs. Here is a recipe, which is a good one (much better than the majority), the cost of the ingredients of which is but very little. Take of bone meal, ground meat and parched wheat (ground), two pounds each; sulphur, copperas, common bread soda and fenugreek, half pound each; saffron, red pepper, ginger and hypsulphite of soda, one-quarter pound each; linseed meal, common salt, ground oyster shells and charcoal, one pound each. Have all the ingredients in a fine condition, mix them together thoroughly and you will have about thirteen pounds of condition powder, at a cost of less than five cents per pound, and which is not only egg food, but a preventive and cure for many diseases. Give a heaping tablespoonful once a day to every ten fowls, in the soft food.

LICE.

This is not a disease, but is not out of place here. To be rid of them provide a dust bath, dust the fowls with Persian insect powder, clean out the poultry houses and coops, rub the roosts with coal oil, and whitewash the buildings inside and out with hot whitewash to which carbolic acid has been added.

SCURVY LEGS.

Rub the legs two or three times (once a week) with lard and sulphur, to which a few drops of carbolic acid have been added or with a mixture of lard and coal oil; but do not grease sitting hens in any manner, as it injures the eggs.

TONIC FOR FOWLS.

Iron in any shape is beneficial to fowls. Copperas is sulphate of iron, and if a little copperas is added to the drinking water, or ground fine and mixed with their food, the benefit will soon be seen in the reddened combs and healthy look. If an old iron pot is used in which to keep the drinking water, the gradual oxidation of the iron by the water will cause particles of oxide of iron to be given off, which will be taken up by the fowls when drinking. A handful of nails or old pieces of refuse iron, iron filings, or even iron cinders if placed in the vessel containing the water, will more or less afford iron to the poultry. Iron is invigorating, stimulating and assists in guarding the system from disease. Iron is in the blood of every living creature, and any deficiency thereof causes weakness or debility. The use of copperas is beneficial in another respect. It is a remedy for a great many diseases, is a good disinfectant and a sure remedy against contagions of a certain character. Do not be afraid to use it. A tablespoonful of a solution of copperas in the drinking water for a dozen fowls is sufficient, and as it is cheap in price, the expense of its use is but a trifle.

Moulting is simply shedding old feathers. Feed liberally, giving both egg food and

tonic. Warmth is one of the best remedies for all diseases, especially roup. Pip, or thickening of the membrane of the tongue near the tip, impedes breathing, especially chicks. Clip off the end with a pair of scissors, if an extreme case, and give the bird a good mouthful of butter or lard, to which a few drops of coal oil are added. Bowel diseases other than cholera may be treated in this manner. Use castor oil for constipation, and castor oil with a drop or two of laudanum for diarrhoea. Always give clean water, free from filth.

HORTICULTURE.

GRAFTING—HOW TO DO IT.

Every farmer's boy should learn to graft. Few occupations give more pleasure or a greater reward. To convert a wild and thorny tree into one bearing large and delicious fruit is a wonderful and fascinating process. The kind of grafting most likely to be practised on the farm is that known as cleft grafting. The process is a simple one. Saw off the limb to be grafted where it is an inch or less in diameter; trim the edges of the "stub," smooth and split it with a large knife or cleaver made for the purpose. The cleft should not be more than four inches deep at the most. A wedge is now inserted in the center of the cleft, and a cion is set on each side of the cleft. The cions are made of twigs of last year's growth. They should be cut before the trees show any signs of starting in the spring. When the cion is prepared ready for setting it should contain about three buds. The lower end is cut wedge shape by slicing off each side of the cion. On each side of this wedge-shaped portion, and midway between its top and bottom, and should be left on one of the buds. When the cion is set this bud will be covered with wax; but, being nearer the source of nourishment, it will be the most apt of any buds to grow, and it will readily push through the wax. The cion is set into the cleft by exercising great care that the inner surface of the bark on the stub. A line between the bark and the wood may be observed. The line on the cion, in other words, should match this line on the stub. Wax the whole over carefully and thoroughly. Do not leave any crack exposed.

Grafting wax is made as follows; Melt together rosin, beeswax and tallow in equal parts and spread on cotton cloth. Tear into slips and wrap round graft.

Those who have neglected to pinch back the new canes of their raspberries and blackberries should lose no time now in shortening them into the proper height, which is from two to three feet. Shortened in to that height they at once commence to throw out laterals, and thus a compact stocky growth can be secured, which when the laterals are shortened in next spring leaves the spaces between the rows open for cultivation or for picking. They will also stand up better in winter. There is a difference of opinion among fruit growers in regard to the time of cutting out the old canes. Some claim that they should be cut out as soon as they are done fruiting, while others leave them till next spring. So far as their influence on the next crop is concerned, we do not think it makes much difference when they are removed. If left with the new canes they lessen the danger of the latter being broken off or being blown down by wind, or broken down by a weight of snow.

NOTES.

A gardener recommends tying newspapers about celery to bleach it. He finds that in this manner he can bleach celery better, easier and cheaper than by earthing up.

In Germany and Austria, for upward of half a century, the number of trees planted has borne a good proportion to those annually cut down, and it is certain that this is the case now, year by year.

The Bartlett is a deservedly popular variety with buyers of fruit, and by them is considered a standard of excellence. Though it commands a ready sale, and is an abundant and ready bearer, yet it is peculiarly subject to blight.

Wood ashes are needed on almost all old apple orchards. Lack of potash is in very many cases the cause of unfruitfulness. Every year's growth of any tree locks up a certain amount of potash, and the apple wood is richer in potash than almost any other.

An Ohio farmer washes his apple trees every spring and fall with a strong lye that will float an egg, and finds it to be sure death to the borers. He claims that he has not lost a tree since beginning this practice, although he had lost several previously.

A great many flower bonnets will be worn at watering places this season.

MAKING A QUEEN.

Bees do not usually want more than one queen. In fact they will not have more than one unless the swarm has grown so large as to crowd the hive and they are going to form a colony, or "swarm," as it is called, in which case each family will need a sovereign. As soon as it is clear to the wise-acres that it will be necessary to send off a swarm, the bees go to work to make a queen. A worker maggot, or if there happens to be none in the hive, a worker egg is selected near the edge of the comb. Two cells next door to the one in which the maggot is are cleared out, and the dividing walls are cut down, so that three ordinary cells are turned into one. The food which the worker worm has been feeding on is removed, and the little creature is supplied with a new kind of food—a royal jelly. Change of food, a larger room and a different position—the queens cell hangs down instead of being horizontal—these three changes of treatment turn the bee that is developing from a worker to a queen. She is different in her outer shape, different in almost all her organs, and different in every single instinct. There is nothing else in all nature that seems to me more wonderful than this.

For fear that one queen may not come out all right the provident little creatures usually start two or three queen cells at once. It is curious to watch the first queen as she comes out. She moves up and down the comb, looking for other queen cells, and if she finds one, she falls upon it in the greatest excitement, and stings her rival to death. Sometimes, by accident, two new queens come out at the same time; then it is wonderful to watch the bees. They clear a space and bring the two rival queens together, and stand back to watch the fight. And it is a royal fight indeed; a fight to the death, for they never give up till one or the other is fatally stung. The victor is then accepted as sovereign.