Success in Turkey Raising.

At no time in the history of the world has it been so necessary to give thought and diligent care to the raising of turkeys as the spring of 1920. All realize that the dollar has decreased in value. In turkey raising we must manage to make more money by losing as few young as possible. The past wnter the top was reached in the price of turkeys on the market, and the demand for breeders has been greater than the supply.

Now is a splendid time to commence turkey raising. The reports of the turkey market show tremendous sales, and great numbers of egg orders. If anyone fails to make money with turkeys, or in raising a good flock, it is because they rely upon the birds to do all the work. Don't expect returns with little money and no labor invested.

Special care should be exercised in selecting the breeding stock. No matter what variety you choose, it is always advisable to secure pure-bred, vigorous and healthy stock. To do this we must not look at the price too long. The best is none too good when buying turkeys. Avoid buying in-bred stock and using males for more than one season. Young stock are not their best the first year. Hen turkeys are at their best from two to six and seven years. Toms do well until four or five years.

The turkey is an American bird, which will thrive in any land, will grow on any soil, or in any climate if proper methods are used. In these progressive times study of conditions must be given in all lines of business in order that the greatest profit may be realized. Raising turkeys is no exception.

Breeding time is now here; turkeys commence to lay in March. A tom can fertilize the eggs of twelve hens, so if possible keep that many. Pure stock is stronger and better in every way than scrub or mixed stock and and gives better satisfaction. Settle your mind on the breed most adapted to your locality and the range of land you wish them to travel over. Select good stock from breeders who can furnish references.

The tom is two-thirds of your flock. A few extra dollars spent for him will be a paying investment. If he is diseased, all the poults will be, and it is impossible to raise them.

Anticipate your turkey's needs before nature demands they shift for themselves. If nests are conveniently fixed before laying time, they will not roam to fields and woods to lay. So prepare them at once, as laying time is near. Fix them securely, so they will be solid, and not move when the hen enters them. Place clean straw in them, and china nest egg. In sheds and other out-buildings fix comfortable nests. This will solve the time often spent in hunting turkey nests. This also saves eggs lost by crows, rats, and other pests, as well as the chill which kills the embryo.

For health and comfort of the hens, dust them thoroughly with insect powder to rid them of lice. Leave the tom alone; don't run the risk of hurting him by handling, as he is awkward, and his big, heavy body is liable to hurt his hips, as the leg socket is very shallow and easily strained.

To purify the yards—ready for spring work—use some good disinfectant. Whitewash the fences and roosts, also sprinkle lime around. Have vessels full of water. Place two boxes on sides of building for oyster shells, grit and charcoal. Keep these filled always, as they play a large part in the turkey's diet.

Increase of egg production in turkey hens can be done the same as with chickens, by feeding ground oats, ground corn, kafir meal, barley meal, wheat middlings, linseed meal, and sunflower seed, in equal quantities. This can be fed dry in hoppers, or mixed with milk or water. In early spring some time put two tablespoons of ground blood to a gallon of the above mixture.

We are now ready for eggs, which must be handled with clean hands, and carefully put in baskets or boxes, and turned every few days. Once the nest is selected, the turkey will usually lay the entire litter of eggs in it if unmolested. Place the first eggs laid under the first hen that goes to setting, first freeing the hen from lice with insect powder. Place straw in a barrel-box, or A-shaped house; put eighteen or twenty eggs on straw, and place a broody hen on the nest. Set two or three chicken hens on nine turkey eggs each, when hatched give all the poults to the turkey hen.

It takes four weeks for turkey eggs to incubate, and the setting hen must be fed and watered. Here let me say to those who wish to be economical: buy some first-class eggs, and raise your next year's breeders.

When the turkey eggs are set, the date should be recorded, and when the time for hatching arrives, I have found the following method most satisfactory, and have increased my breeders from one hen and a tom to thirty-five hens and four toms.

Take a piece of poultry netting about thirty feet long; nail laths to it every few feet for support. Place this around the nest of the mother and young turkeys. Put before her a shallow vessel of water, oyster shell, and whole corn. Take the hen from the nest—she will drink and eat, and the babies will drink and eat some grit They do not need any food, as they are hatched with the yellow of egg in them; this is nourishment enough for them for three days. The grit is their teeth, and goes to gizzard and is ready to help digestion and grind their first food. Indigestion causes bowel trouble, which generally results in death. The morning of the third day, boil an egg for the brood, squeeze it up, shell and all. This can be given every few hours for several days. Then biscuits crumbled and some chick feed fed.

This chick feed mash I mix in proportions as follows:

1 bag of bran, about	80 pounds
3 bags of ground wheat...	330 pounds
1 bag of yellow feed, corn meal or corn grits....	100 pounds
Fine ground bone meal ..	35 pounds
Sifted beef scraps	65 pounds
Chick size granulated charcoal	20 pounds
Sifted oil cake meal	17 pounds
Salt	3 pounds
	650 pounds

When the poults are two weeks old I give them a wet mash once a day by using this same mixture, but moistened with skim milk. They like this food this way. For the third week I mix one pound of cracked wheat with every two pounds of the regular commercial baby chick feed and for the fourth and the fifth and the sixth weeks I use one-half cracked wheat and the other half chick feed, feeding four times a day.

At five weeks old I increase the amount of beef scraps to about sixteen pounds in each one hundred pounds of the mixture. At this age they have free range; first they are let out of wire enclosure, at the end of a week they go into yard, and from yard to free range. By nature they are wild, and have been domesticated wonderfully, yet they cannot stand too much confinement.

You will find they return home nicely, and are gentle, expecting to go to roost early—that is, to sleep under the mother's wing, for I do not teach them to roost until they are about the size of a partridge. Then I make roosts out of 1x3 inch strips, placed flat so as to provide a three-inch flat roosting surface, about one foot from the ground.

If the wing feathers grow too rapidly and make the wings hang down, they should be cut off so that they will not sap the vitality.

If some appear not to be doing well, put whole grain black pepper down the throat, and dust the whole flock with insect powder. A tablespoonful of salts in a gallon of water once a month is a good bowel regulator. Any growing grain while soft, or in the milk, will cause ptomaine poisoning, and is the cause of many dying when half-grown.

If you expect to succeed, study your ground—don't depend upon luck; it is cheaper to learn by reading the experience of successful breeders than by personal, costly experience.

Turkey raising is a family business. The training and experience which the children get is helpful in developing a love for country life. In no other way can the wife better help with family expenses, and she should be as interested in helping with the family income as the man.

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Poison Barrage For Orchard Pests

Unhappily, there is an insect, fungus, blight or pestilence of some sort likely to attack almost every plant that grows. This is especially true of fruits. The experienced fruit grower is well acquainted with this fact, consequently he has come to regard protective measures against insects and disease as being of as much importance toward success as the work of planting and cultivating. Usually he doesn't wait for the appearance of these pests. He assumes that they are "on their way," and plans to greet them with the most inhospitable measures at his command—a poisonous barrage.

In general, there are three ways of preparing this poisonous reception: spraying, dusting and gassing. Spraying is the most widely used treatment, the most convenient, and probably the only method that should be considered by the home gardener, leastways in connection with trees and bushes. Dusting vegetable plants is another matter, which will be taken care of in a later article.

Sprays for Different Purposes.

At the outset one should remember there are two classes of sprays: those which are intended to control insects, commonly known as insecticides, and those which are intended to check or prevent disease, called fungicides. The solution intended solely to kill insect pests rarely has any value as a fungicide, and the out-and-out fungicide seldom has any virtue as an insecticide. There are compounds, however, which are designed as a combination spray—for both purposes. A lime-sulphur solution is the foremost.

Insect-destroying sprays must be considered from still another angle. They must be selected according to the manner in which the insects do their feeding. Certain species feed by biting and chewing; beetles, caterpillars and worms are in this class. To kill them we simply distribute a poison on the foliage or other parts of the plant on which they feed, and in this way reach the stomach of the pest, hence the term—stomach poisons. Paris green is the old stand-by of this class of poisons, though in recent years arsenate of lead has grown in favor, because it is less likely to injure the plants, also because it is not so easily washed off by rains.

Insects which have no jaws, but which do their feeding by means of piercing mouth parts that suck the plant juices from beneath the surface of the leaves, are seldom affected by stomach poisons. Plant lice are typical of this class. They must be destroyed by so-called contact sprays, usually caustic liquids, which are aimed to strike the bodies of the pests and to cause their death by absorption of the poison.

In short, when we apply stomach poisons our object is to coat the plants; in applying contact insecticides we aim to coat the pests themselves.

Lime-sulphur is one of the best contact sprays. It is widely used by orchardists at this season of the year, while trees are dormant, at which time it is absolutely safe, killing all forms of scale insects, the eggs of plant lice and so forth. At the same time it is an excellent fungicide. In the summer it is used in a more diluted form, as a fungicide, but not as a contact spray, because to make a lime-sulphur solution of sufficient strength to act as a destroyer of insects it is likely to destroy the foliage. Therefore in warm weather a milder spray is employed, such as Bordeaux mixture, a compound of lime and sulphate of copper, given the name Bordeaux mixture because it was first used in the vineyards of that district in France.

It is impossible to give any fixed set of rules for a spraying schedule. Some orchards will yield—a crop of prime fruit on two or three sprayings a year; others may require a half dozen. Generally speaking, if a dormant or winter spray is thoroughly applied every other year it will control scale insects. Then the first summer spray is applied just before the blossoms open, and while the leaf buds are unfolding. This spray controls the caterpillar, scab and leaf-eating insects.

Trees should never be sprayed while they are in full bloom. Not only will this interfere with pollination and probably destroy many bees, valuable agents of the orchardist, but it is likely to destroy the blossoms themselves.

When the last of the blossoms have fallen it is a good time for the second summer spray, to control the coddling moth or apple worm. The sprayer aims to fill the calyx cavity of the young fruit before its lobes close and render this safeguard impossible. As a rule, the next spraying is given when the fruit is about half ripe.

The lime-sulphur sprays, Bordeaux mixtures and other compounds may be prepared at home, but unless the fruit-grower has a large number of trees, it will be better to buy the commercial brands sold by seed firms and farmers' supply houses, all ready to be diluted.

Select Suitable Apparatus.

Spraying apparatus, implements for applying the solution, are required, of course, a selection of which depends mostly upon the amount of work to be done. The hand atomizer is the simplest device, but this is out of the question for anything but a few small plants. Pumps which are carried about by hand come in three types—the bucket pump, automatic sprayer and the knapsack pump. There are useful in the garden, and are practicable for a few trees, when a greater investment seems unwarranted. Then there is the barrel pump outfit, which is mounted on wheels, or intended to be loaded on a cart. These are used in small orchards.

Large orchards demand a power outfit; there can be no question on this score. Such equipment comes in various sizes. They consist of a tank and motor-driven pump mounted on a special truck, from which one or more hose connections are run, fitted with spraying nozzles. These nozzles are mounted on spray rods or poles of ten or more feet.

Address all communications for this department to Mrs. Helen Law, 235 Woodbine Ave., Toronto.

Anxious Parent: You are not the first parent who has faced this problem. The quaint, old-fashioned phrase "keeping company" is no longer used to tell that a young man is paying attention to a girl, but no matter what phrase is used young men still call upon young women, and every right-minded parent worries more or less at this period.

Intelligent and far-seeing parents desire to have their sons and daughters mingle with refined, well-bred, sensible associates, and in time marry worthy mates and set up happy homes of their own. Sometimes this desire takes the form of over-anxiety; the parents wish to choose the "in-laws," and thus they place difficulties in the way of their children. The wise attitude for the parents to assume in this delicate and critical period is that of sympathetic, quiet, non-interfering interest, with a real desire to be helpful and considerate at all times.

Much of the trouble lies in the fact that parents too often, before becoming interested, wait until their children form friendships that bid fair to ripen into love, then ruthlessly lay down laws that, in the light of their own youthful experiences, they know will not be obeyed. Prevention is better and surer than cure in dealing with unfortunate love affairs, particularly between young people who are still under twenty.

Even before the first boy and girl attachments are formed—attachments that are usually nothing more than the passing fancies between school children—fathers and mothers should be on the alert to form little congenial groups that include only boys and girls of clean, wholesome character. Once the group is formed the young people themselves become very critical as to admitting newcomers into it, but the whole matter can be so quietly and carefully manipulated that the children think they are doing it all themselves, when in reality the parents are back of it all, although out of sight completely.

A good way to begin is by having little Friday evening gatherings, such as taffy pullings or similar entertainments, having the young folks come in groups, gathering together as they come along the road, and always keeping the group idea prominent. The games should be healthy, noisy, active and gay, and there should be little or no pairing off. These "small and early" affairs, over by nine or nine-thirty, will not interfere with school work and will pave the way for the exclusion of undesirable companions later. Once the unit is well established the young folks will be rather jealous of their good times and will not open the circle to unworthy companions.

As the years fly past the pairing off will come, although it should be postponed as long as possible, and then the old-fashioned phrase "keeping company" is in order in the minds of the grandparents. The young folks must be trusted, of course, for the chaperon idea has never gained much headway in the country; but prolonged visits, lengthy drives and staying out late at night should never be permitted. By means of careful and early training the idea that "nice" young people do not give occasion for talk should be well established, as well as the fact that well-bred young men and women are careful of their conduct in public and in private.

Long engagements should be frowned upon. The greatest tragedies of the country have come about by permitting a young man to monopolize the time of a young lady for years and years only to cast her off to marry some younger person. Just why these cases are more common in the country than in town no one can explain; nor why, if marriage does follow a long courtship, it is rarely a happy marriage.

But even if the interest in courtship is belated it is not worth while to give up in despair if John begins paying attention to a girl who is unworthy, or Mary persists in meeting a young man who has little to commend him. Do not use harsh measures and so defeat your cause forever. A visit away from home, or the introduction of some outside interest that brings in other young folks, may cause the headstrong son or daughter to begin to contrast the loved one with more attractive companions, and when once a good, healthy criticism is established there is hope. One young girl who was bound to throw herself away by marrying a drunkard, was forever cured of her fancied love by visiting at the home of a relative who came home in an intoxicated condition and abused the family. The almost distracted parents paid the girl's board in this wretched home while she thought she was visiting, the unhappy wife having consented to the plan in order to save the girl from a fate worse than death. She came back to her home thoroughly cured and in time made a happy marriage, but opposition would have driven her into an elopement.

Encourage the worthy young men and women by inviting them to your home, but do not show your hand in the game of match-making. If you invite the girl you wish your son to pay attention to, invite other girls with her and show that you are interested in all alike. If a worthy young man shows an interest in your daughter, do not consider it too much trouble to make up a little feast occasionally and invite him in company with other young people of the neighborhood. The slightest suspicion that father or mother is trying to 'match-make" will be sure to work the wrong way, but a kindly, active interest in all worthy young folks will give son and daughter a chance to choose wisely. After a short courtship following a long acquaintance, there is every chance that a happy home will be established and father and mother can enter into that state of Indian summer enjoyment that parents know only when their children are well married and settled for life. And that enjoyment may be the portion of all parents who use discretion, and tact, in managing their young folks (without seeming to do so) in their love affairs.

INTERNATIONAL LESSON. MARCH 14.

John on the Isle of Patmos, Revelation 1. Golden Text—Hebrews 13: 8.

1-3. These verses contain the superscription and the original title of the book. It is the Revelation of Jesus Christ, that is, "the revelation which proceeds from Him." So also in the Gospel, John represents Jesus as receiving His teaching from God and imparting it to men (see John 3: 32; 5: 20; 8: 28; 12: 49; 14: 10).

Must Shortly Come to Pass. The word "shortly" contains the meaning both of "soon" and of "swiftly." It can not be too strongly emphasized by those who would get a right understanding of the book that the apostle was expecting the great changes which it foreshadows to take place very soon. That expectation was shared by the whole Christian Church of the first cenury. That the coming of Christ's Kingdom and His triumph over all opposing forces was to be by the slow processes of the Spirit, and not by spectacular and catastrophic change, they did not fully realize. That lesson it has taken many centuries to learn, and it is not yet learned by some among us.

4-7. These verses contain the address, or salutation, introductory to the Letters to the Seven Churches, and perhaps intended as an introduction to the entire book. The apostle invokes grace, that is the loving favor of God, and peace, from God, who is represented as the Eternal One, which is and which was and which is to come. With Him are identified the seven Spirits, which no doubt stand for the one Holy Spirit of God, in His sevenfold perfection and glory. The figure may, however, have its origin in the Jewish idea that there were seven chief angels, or archangels. See Tobit 12: 15. So also, in the invocation, is the name of Jesus Christ associated with that of God, as though equally from Him also were grace and peace to flow. He is the faithful witness to the truth which He proclaimed, and He is the first born of the dead, because, first of all who have gone down to the grave, He has risen triumphant over death. So also He is ruler of the kings of the earth, because He is Master of truth, and Victor over death. There is in Isa. 55: 4 also a combination of these two ideas of the Messiah, who is to be both witness and ruler.

Unto Him That Loveth Us. There follows an ascription of praise and glory to Jesus Christ, who loved us and washed us from our sins in his own blood, etc., etc. Instead of hath made us kings, we should render, as in Rev. Ver., he made us to be a kingdom, to be priests, etc., etc. Compare Exod. 19: 6 and 1 Peter 2: 9.

The apostle thinks of all those who believe in Jesus Christ as forming His Kingdom. They are seeking to do the will of God as revealed in Him, and like priests they have access through Him, who is their great High Priest, to the inner sanctuary of the presence of God.

Behold He Cometh. Compare Dan. 7: 13 and Mark 14: 62. There is a reference in this verse also to Zech. 12: 10, which was supposed by early Christians to be a prediction of the suffering of Christ. The common expectation of the early Church was that Jesus would soon appear in heavenly glory and power to establish His kingdom, and hence there would be mourning over all the earth, the mourning of penitence or of fear. Only those who believed in Him and expected His coming would rejoice.

8. I Am the Alpha and the Omega. It is God who is here represented as speaking. Compare Isa. 44: 6. Alpha and Omega are the first and last letters of the Greek alphabet. The verse is an assertion of the eternal being of God.

9-18. Patmos is a small rocky island, about fifteen miles from Ephesus, used in those days as a place of banishment, and where offenders were made to work in mines or marble quarries. (See Century Bible on Revelation).

In the Spirit means probably nothing more than in a spirit of mediation in which he was conscious of the immediate presence and illuminating influence of the Spirit of God.

The Seven Churches here named were all in the same part of Asia Minor and formed a group of which Ephesus was the chief. The apostle in his vision sees their counterpart in heaven in the seven golden candlesticks in the midst of which Christ is standing. For the figure see the description of the seven-branched lamps in Exod. 25: 31. He sees Christ clothed in garments which represent both royal and priestly dignity, the long, flowing robe, reaching down to the foot, and the golden girdle, such as a king would wear. The detail of the picture is drawn in part from Dan. 7: 9-14 and 10: 5-6. The sharp two-edged sword, which proceeds out of his mouth, no doubt represents the penetrating and compelling power of His sword. Compare Heb. 4: 12.

It is important to observe that in v. 17 the apostle hears Jesus saying of Himself the very same thing which God says of Himself in v. 8. It is quite evident that He believes Jesus Christ to be one with God, and eternal as God is eternal.

Jesus is the living one. He is not dead. He lives and shall live forever more. For those who believe in Him and follow Him He has the keys which will unlock the prison house of death.

Hell. (v. 18) should be rendered Hades. It is the Greek word for the grave, or the underworld, the world of the dead. Christ is the deliverer from death, exalting through resurrection to eternal life all those who are His.

19-20. The Seven Stars. In his vision-parable the apostle sees each church represented in heaven by its own angel. It is as though these angelic guardians stood sponsor for their respective churches, and answered for them before the throne of God. The entire vision presents in a most impressive way the interest of Christ in His churches. His living presence and power, and the beginning of His kingdom which is to be established both in earth and heaven.

The teats of a newly-calved heifer are likely to be sore during the first day or so; therefore they should be rubbed over with vaseline or lanoline after each milking, as this helps the skin to become less sensitive to the touch.

Horse Sense

A soft horse cannot stand hard work. Horses which have been loafing along on conservation rations all winter need to be changed to a full ration and put at hard work gradually, else much trouble will result. Sore shoulders are caused by pushing the horses suddenly into spring work.

By the middle of March the work horse should be on light work or regular exercise. The grain ration should be increased gradually until by that time it amounts to eight or ten pounds daily, divided into three feeds. The cheaper roughages, such as barley or oat straw, will need to be replaced by good clover, alfalfa or mixed hay. When heavy work has started, allow one to one and a quarter pounds of grain for every 100 pounds of the horse's weight. If horses are idle for a day after they are on full feed, cut the grain in half. If the increase of grain for spring work is sudden, colic and other derangements will occur.

Mares in foal may be kept at slow, steady work to within a few days of the time of foaling, if the driver is a careful one. Alfalfa or clover hay, a little bran or oil-meal, will furnish the extra protein which is necessary in their ration. Otherwise, they may be fed about the same as other work horses.

Early Rhubarb.

Plan to have early rhubarb by protecting a few of the plants from cold nights and bad weather. Place a barrel, with both sides knocked out, over the plants about the time they come up out of the ground. Spreading manure about the plants will be an additional aid.

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