Incubation and Brooding.

The success or failure of your whole year's work may depend upon your efforts in the incubation season. Whether you hatch by incubator or by hen, April is the month that gives best results.

For the hen, use a nest that can be kept closed except when the hen is off to feed. Test out the eggs on the seventh day. In the early season this sometimes makes it possible to put all the fertile eggs of two settings under one hen and reset the other, thus saving valuable time.

Prepare the setting nest with care, clean and spray and, when dry, place a moist sod, that has been shaped to fit and hollowed a little in the centre, in the bottom of the nest box. Cover with a layer of fine hay. Dust the hen with flowers of sulphur or other reliable lice killer, and set on eggs that are normal in size and shape for the breed. Keep whole corn, grit and clean water within easy reach, and see that she is off once a day and returns to her nest promptly in cool weather.

At the first sign of pipping, close up the nest after making sure that the hen has a full crop and a drink and leave her alone till the hatch is complete. Remove shells and unhatched eggs and allow her to remain on the nest with the chicks until showing signs of uneasiness. Remove to a clean, well disinfected coop with clean sanded floor.

If you are using an incubator, set only eggs that you would consider the best shape and size for the breed, carefully follow the instructions of the manufacturer, and use only a machine that has a good reputation; usually a cheap machine is dear at any price.

The best place to run an incubator is in the cellar, where there is fairly good ventilation. A little moisture in the atmosphere is an advantage, and the steady temperature makes the location far more desirable than a room in the house.

If the machine is of a reliable make, and good fertile eggs are used, with an accurate thermometer registering 102½ to 103 degrees at the level of the top of the eggs without too much variation throughout the incubating period of 21 days, you should secure a hatch, equal in number and condition of chicks, to any that you might get under natural conditions, with hens incubating a like number of eggs.

When oil lamps are burned without cessation for long periods, as they are with incubators, there is always an element of danger, unless proper precautions are taken. Only the best grade of oil should be used and the wick and burner kept scrupulously clean.

A little moisture is supplied to the egg chamber in the most convenient manner, by the use of moist sand in a tray under the eggs. It can be withdrawn if the moisture is excessive and returned to the machine if the air cell in the egg shows signs of too rapid evaporation. It is safe to say that more hatches are spoiled through lack of moisture than otherwise, but it is possible to err in either direction. Ability to recognize moisture conditions and requirements will be attained only with experience.

For artificial brooding, nothing can surpass the colony stove, as it is economical whether used to capacity or not, and will take care of 500 chicks at one time. It is, if used with intelligence and good fuel, absolutely reliable and safe. It is most conveniently run in a colony house, about 10'x12', or an empty pen of the laying house may be utilized. Providing it is kept supplied with hard nut coal, no great anxiety need be felt as to the temperature, except that it must not be allowed below 100 degrees for the first ten days. If it happens to run 10 or 20 degrees above this point, the chicks merely move to a more comfortable distance, and get the advantage of more air and more sanitary conditions than when crowded in a narrow space under a hover.

It can be removed from the quarters when the heat is no longer desired, and the house may be drawn away to the orchard or field and the chicks allowed free range.

In the ration for the little chicks, for the first three or four days, make sure to include a good supply of succulent green feed, sprouted oats, chopped dandelion or plantain leaf will do. Green feed is essential in some form for the welfare of the youngsters, as well as the old stock. Give only fine grains such as cornmeal, middlings, shorts and ground oats, and feed a little about five times a day. About the fifth day, substitute two small feeds of fine cracked chick feed, scattered in a litter of hay chaff, to encourage exercise by scratching.

When the chicks can do without the heat of the mother hen, or the brooder, which will be in from four to eight weeks, according to season and weather conditions, they may safely be left to help themselves to both grain and dry mash from a convenient hopper, that should be kept supplied at all times. If given sour skimmed milk it will greatly assist growth and development, and if available this should be kept always before the young stock.

The Sunday School Lesson

MARCH 11, 1923

Jesus in Gethsemane, Luke 22. Golden Text—Christ also hath once suffered for sins, the just for the unjust, that he might bring us to God.—1 Peter 3: 13.

Lesson Setting—The opening part of the twenty-second chapter, finds Jesus and his disciples in the upper room. Here Jesus institutes the Lord's Supper after the observance of the Passover. And now the dread event symbolized in the Supper is drawing nigh. Judas has departed on his mission of betrayal. The great crisis of Jesus' soul has come, and he seeks communion with his heavenly Father. The approaching ordeal is far more than one of physical and mental suffering. "It is impossible for us to understand the experience of the eternal Son of God at that supreme crisis when he was carrying up our sins in his body to the tree; and where understanding fails, it becomes us to refrain our lips and be silent."

I. The Agonizing Master, 39-44.

Vs. 39, 40. **He came out . . to the Mount of Olives.** Matthew says, "Unto a place called Gethsemane." The word Gethsemane means "oil-press." It was an enclosed plot of ground, belonging to some friend, to which Jesus had often resorted. Matthew also tells us that his soul was exceeding sorrowful even unto death. **His disciples also followed him.** The less intimate disciples stood in the background while he took with him as his immediate companions, Peter, James and John, who were with his also on the Mount of Transfiguration. **Pray that ye enter not into temptation.** They also have an ordeal to pass through and it is Jesus' desire that they find strength through prayer to God, for their trial.

V. 41. **He was withdrawn from them.** He must even withdraw himself from the companionship of the three. They cannot enter into the meaning of his agony. **Kneeled down.** Matthew adds that he fell down on his face, the attitude of utter stress of soul. Hebrews 5: 7 makes mention of his strong crying and tears.

Vs. 42, 43. **Father, if thou be willing.** In all his prayer he recognizes the will of God as the supreme thing. It is not a prayer to bend the will of God to his will. It is a prayer that the will of God, if possible, may be carried out in some other way. But the work of redemption must still be carried out, even if a Messiahship without a cross, and redemption without sacrifice, are impossible. **Remove this cup.** Jesus speaks of his suffering as a cup of bitterness. The temptation in the wilderness was a test of how Jesus would begin and carry on his Messiahship. The experience in the Garden is a test as to how he will complete his Messiahship. Is a life of service to be completed by a sacrificial death? **Not my will, but thine;** again the note of loving and trustful submission to the will of God. "The longing, natural to humanity, to escape pain and sorrow, yields at once to the superior claim of the Divine will." Jesus believes utterly in the lovingness and wisdom of the divine will. It is more than the will of God. It is the will of his Father.

V. 44. **Being in an agony he prayed more earnestly.** His clinging to God increased with the increasing agony. **His sweat was as it were great drops of blood.** This does not mean the sweat was of blood, but rather that it was so profuse that it dropped from him as drops of blood drop from a wound. But it is not the less striking physical manifestation of his mental and spiritual agony, and the reality of his temptation. Holiness is not a defence from temptation. It is a defence amid temptation.

II. The Sleeping Disciples, 45-48, 54.

Vs. 45, 46. **When he rose up from prayer.** It was a victorious rising. From this point onward we see Jesus possessed by a great calmness of spirit. It was not an unanswered prayer because he received strength to drink it. **Was come to his disciples.** In Matthew and Mark we learn that Jesus came back to the three disciples three times in the course of his agony, as if he were seeking the reinforcement of human sympathy in his struggle. **Found them sleeping.** Each time he came he found them asleep, though Jesus had asked them to watch. The first time Jesus singles out Peter for reproach, "Couldest not thou watch one hour?" At the same time he says, "the spirit truly is ready but the flesh is weak." Jesus knows that their sleeping does not indicate callousness or indifference to Jesus, but rather frailty of will and purpose. In his own present experience Jesus knew how there was a real conflict between body and spirit. In his case the spirit has triumphed over the flesh, but the struggle enabled him to sympathize with those in whom the flesh had triumphed.

Vs. 47, 48. **While he yet spake . . a multitude;** composed of the chief priests, elders, soldiers and the gathering mob. **And he that was called Judas.** He was the leader and had undertaken to deliver Jesus into their hands for thirty pieces of silver. **One of the twelve;** a tragic phrase. It was one of those who had been with Jesus that betrayed him. **Drew near unto Jesus to kiss him.** This was the customary greeting of the disciple for his master. In this case, it was a prearranged identification of Jesus. The whole conduct of Judas is deliberate and calculated. In the case of Peter's denial of the Master, the temptation finds Peter off his guard, but the betrayal of Jesus by Judas was not sudden, but premeditated. **Betrayest thou the Son of man with a kiss.** Matthew tells that Jesus used the word "friend" in addressing Judas. Might not the remorse of Judas begin here?

V. 54. **They took him, and led him.** Jesus offers no resistance. He rebuked the violence done to the servant of the high priest. **Peter followed afar off.** Peter had begun to fail already. He had said he was ready to go with Jesus to prison and death.

Application.

One is conscious of a certain reverent hesitancy in applying our Lord's unique sorrow and experience in Gethsemane to ourselves or to others. It stands so apart from us, and is so associated in our thought with his great redeeming pity and sacrifice consummated on Calvary that we can scarcely bring ourselves to think of it as having the value of example and inspiration in our experiences of life; and yet, we are definitely encouraged by the scriptures to think of him in this way. "Looking unto Jesus, the author and finisher of our faith; who for the joy that was set before him endured the cross, despising the shame, and is set down at the right hand of the throne of God. For consider him that endured such contradiction of sinners against himself, lest ye be wearied and faint in your minds." Heb. 12: 2, 3. "Though he were a Son, yet learned he obedience by the things which he suffered," and we may learn of him

There are so many people to-day who have bitter cups to drink, so many men and women who must go forward on some via dolorosa to some great suffering and sorrow, sometimes sacrificial and vicarious. There are cups that may not be taken from the lips until they are drained. It is a glorious truth that countless thousands have been inspired to say, "Thy will be done," because Christ trusted himself to the Father. Though dark the path and sad the lot, though in lonely grief, though pining sickness waste away the life in premature decay, Jesus has taught us to say, "Thy will be done," whatever the experiences of our life may be.

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Start Your Garden Seeds Early

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BY A. B. CUTTING.

For earliest and best results with vegetables and flowers in the garden, seeds of some of the varieties and species must be started weeks in advance in a greenhouse, a hotbed or a room in the home itself. As a greenhouse is seldom part of the equipment of the general farm, only hotbeds and the home for starting seeds will be considered in this article. The old-fashioned hotbed is the best mode of seed raising the steady and moist temperature of several weeks' duration that may be maintained therein acting as the best incentive to the germination of the highest percentage of seed.

Preparing the Hotbed.

The standard hotbed sash is 3x6 ft., and one, two or more of these are used, according to the size of bed. For very small gardens, one or two sashes should be sufficient. If a pit was not dug last fall, select a well-prepared and thoroughly drained spot and dig a pit 18 to 24 inches deep and a little larger than the bed is to be made.

When digging the pit, throw the good soil to one side and the bottom soil to the other side, so that the good soil may be available for special use, if desired. If a pit has not been dug or can not be dug conveniently, the manure may be placed on the surface of the ground.

Hotbed material consists of good, clean stable manure. A mixture of straw and horse droppings a month or two old is most satisfactory. It does not matter how new the material is, but well or heavy manure is not good enough for this purpose. The proper width of a hotbed is the length of time that it will give off warmth and this should be low to eight weeks if the proper kind of manure is used.

A suitable hotbed may be made of fresh horse manure, which will be required for a two-sash bed. The manure should be thrown in a heap to allow it to cover, if possible, and the pile turned every four days for a week or ten days. After this time the outer portion of the pile should be thrown to the middle and the inner portion to the outside to allow the maximum heating.

[illegible] manure into pit. [illegible] to break it apart [illegible] It should be well tramped. Put it in in layers about three inches deep and tread each in turn until the pit has been filled slightly higher than the level of the ground. If the manure is very dry, sprinkle it lightly with water as it is spread in the bed.

The hotbed frame is then set on top of the manure and the earth from the bottom of the pit banked up outside of the frame to keep out the cold. The north side of the frame should be six inches higher than the south side.

Where a pit is not used, select a sunny aspect sheltered from the north and open to the south and build up the manure to two and a half feet or more in depth. Build the manure up in thin layers and tramp it well with the feet, finishing the job neatly, firmly and level. Always bake the bed about twelve inches larger all around the frame, whatever size it may be. Lift the frame on and bank up the sides with more manure. Place on the sash and tilt up one end for a couple of days to allow the superfluous moisture to escape.

The bed will heat for several days. At first it will be very hot and, after about three days, will gradually cool. No seeds should be sown until the temperature of the soil has fallen below 85 degrees. Use a thermometer, the bulb of which is buried about three inches in the soil. Feeling the bed with the hand, which often is done, is not a reliable method of taking temperature.

Sowing the Seed.

Among the vegetables that may be started inside are: Brussels sprouts, cabbage, cauliflower, celery, eggplant, muskmelon, peppers, and tomatoes. Among the annuals are: ageratum, asters, balsams, calendulas, candy-tuft, castor bean, cockscomb, Clarkia, four-o'clock, gillardia, larkspur, lobelia, marigold, m'gnonette, nasturtium, nicotiana, pansy, petunia, phlox, pinks, salpiglossis, scabiosa, scarlet sage (salvia), snapdragon, ten-weeks' stocks, sweet alyssum, sweet sultan, verbena, wallflower and zinnia.

Among the perennials that may be started from seed in this manner are: achillea, aster, bellis, (English daisy), bleeding heart, canterbury bell, columbine, forget-me-not, foxglove, larkspur, lupine, marguerite, carnation, phlox, pyrethrum, sweet william, veronica, violet and wallflower.

If the top soil used in the pit hotbed, or the kind of soil available for the surface hotbed, is not as fine as might be desired, it should be sifted if possible and perhaps have some sand added for making the best kind of seed bed. The seeds may be sown in patches or in drills directly on this soil, but a better scheme is to sow the seeds in pots or flat boxes and place these on top of the soil. Thus the seedlings will be more convenient to transplant or move as their growth demands. Sow very fine seeds merely on the surface of the soil and press them in. Cover other seeds according to their size but never too deeply.

A cold frame should be used in conjuction with the hotbed in any garden where there is room and where the gardener has the inclination to make the best of his material. A cold frame is similar to a hotbed frame without bottom heat. It comes in useful for hardening off seedlings from the hotbed. See that both the hotbed and cold frame are watered and ventilated regularly and protected on top against freezing at night.

Where a hotbed is not available or where only a few plants are to be grown, the seeds may be started in the house. For only a few plants, two or three cigar boxes filled with soil and placed in a sunny window will furnish a seed bed. For a larger supply, flat boxes about three inches deep and of a convenient size to fit in a well-lighted window should be used. Results with seeds started in the house are not usually as satisfactory as those from seeds started in a hotbed, because the temperature and light conditions cannot be so well controlled but a little special care will help to overcome the difficulties.

Small cans may be used for starting the seeds. A can is easily warmed through, is readily transferred from place to place and, should you chance to upset one, everything is not lost.

To prepare cans, make a few holes in the bottom, paper them, either with fancy paper or lead foil, to cover the rust. Put in about one inch of charcoal or broken flower pots and fill the remainder with a mixture of one-half fine earth and one-half leaf mold or well-rotted material from the bottom of a stack or other place where the soil is likely to be of similar material. Press firmly into the can but do not pack tightly. Then sow the seed, using one variety to a can. Water and place something over the top of the can to keep in the moisture. A piece of heavy woolen cloth cut to fit the top is best. At first, place the cans in a warm place near the stove, never in a cold window. Water as often as required to prevent the surface from becoming dry but take care not to flood the seeds. As soon as the plants begin to appear, place the cans in a sunny window of a room that is fairly warm.

Whether the seeds are started in boxes or in cans, special attention must be given to watering. If too much water is applied, the plants may decay at the surface of the soil. If too little water is applied the plants will be stunted in growth. The surface of the water should not be allowed to dry out and the plants should be given just enough water to keep them growing properly.

As plants are dependent upon light for growth, they will immediately begin to turn their heads towards the light when placed in the window. To overcome this the box or can should be turned around each day.

When the young seedlings are big enough to handle—that is, when they have formed about two leaves in addition to their seed leaves—other boxes of soil should be provided and the seedlings transplanted from the original boxes or cans about two inches apart each way. After transplanting, place these second boxes in the window or in other windows where there is room. Continue the same precautions as to watering and turning. When the plants have grown to fair size, the boxes may be placed out of doors on warm days to accustom the plants to outdoor conditions, so that they will not feel the change when the time comes for planting in the open garden.

Buying Nursery Stock.

There are several considerations to be taken into account before purchasing nursery stock. There are many varieties of apples that as a rule sell for less than other sorts which are no more difficult to grow. The Canadian Horticultural Council advises also that it is generally advantageous to secure stock from as near home as is practicable, and to give some attention to the adaptation of the kind of trees to be purchased to the soil and general conditions of the farm. The reliability of dealers is also worthy of consideration because many years are lost if when fruiting time arrives it is discovered that the wrong variety has been planted. The best trees for planting are those of average size for their age and typical of the variety desired. A short, stocky tree is generally preferable to one that is tall and spindly.

Varieties which are advertised as new and superior to all other varieties should be looked upon with suspicion, and planted only from an experimental, and not commercial, viewpoint. Widely advertised novelties should usually be avoided until they have been tested and recommended by the Horticultural Council. The average fruit grower cannot afford to take a chance on untried varieties, but where he desires to do so, he is advised to purchase from the originator or the recognized propagator of the original stock. By so doing he is assured of securing trees true to name.

The most worthy of the new fruits surpass the standard sorts in but one or a few respects only, and it is therefore advisable to secure an opinion from the Canadian Horticultural Council, Ottawa, regarding those advertised before purchasing in quantity. Of the thousands of new seedlings tested at the Experimental Farm, only a very few have been found to have sufficient merit to warrant a place in the orchard.

Lead Children to Nature.

Now comes spring with her helpers, the March winds, the April showers, and the warm sunshine. The children can be outdoors more at this time, and love to romp with the strong March wind, which is sweeping and blowing the dead leaves about. Watch for the first wee green shoots as they peep through the ground, followed soon by crocuses, daffodils, bloodroot and the tiny woods flowers. It is a great joy to be able to take children for walks in the woods at this season. Try this interesting experiment.

Give each child a sponge, and have him moisten it and place it in a saucer in a sunny window. Then sprinkle it full of ordinary mixed garden seed or, if you keep a canary, and have bird seed, use that. Do not tell the child what will happen, but let him watch for the changes that will come. Bring pussy willow stalks and branches from other bushes into a warm, sunny room, and observe the budding of the flowers and leaves.

Lead your little children to think of the April rains as kind helpers, and repeat to them "come listen to the pitter patter of the April showers." In these verses we have the thought of the April showers bringing out the sweet May flowers.

Cost of a Kick.

A writer in Wallace's Farmer calls attention to some very expensive kicks by the farmers. An examination of the meat from hogs showed a very large per cent. of bruises due to kicks and rough handling, while being taken to market. The figures show that it costs about 75 cents a kick on a 20-pound ham.

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