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## RAINY DAY LESSONS FOR GARDEN CLASSES.

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The means whereby a class of boys may be profitably employed at such times as weather or soil conditions will not permit work in the garden are not always at hand when the teacher needs them. Capable teachers of gardening will be prepared, but there are many who must teach the subject who are not adapted to the work either by aptitude or by training. While some of the large number of plans in operation indicate a desire to accomplish practical results, others seem to avoid entirely the questions of proper education and of efficiency.

Among the commendable plans are those which provide for definitely worked out class lessons on garden facts and the use of vegetables as suggested in the garden bulletin. Others plan work just as commendable in the form of boys making the articles needed in their garden work. Such articles as rakes, market baskets, work hats for themselves, and watering pots are made. Both of these groups are found to be actively engaged in a study of common plants in an endeavor to secure those which can be profitably grown in the off season. It is regretted that there are still to be found teachers who abandon the garden at certain seasons and even go so far as to assign the boys to other work under the plea of keeping them busy. As a result the boys are trained in no real work. This practice is condemned because it avoids the questions at issue. It is wrong to assign an industrial subject with no other object than to keep a boy busy. The time element in education is of too much importance.

For the purpose of aiding teachers, the following study outline is taken from Volume I, No. 9, *Agricultural Monthly*, published by the U. S. Bureau of Agriculture. Certain minor changes have been made, and Section X, pertaining to the use of products which is an important factor in Philippine garden work has been added. It is believed that the study on rainy days, and the application during the year, of these topics will aid greatly in the solution of the problems of supervision of home projects.

### STUDY OUTLINE FOR HOME GARDEN PROJECT.

- I. Shall I take care of a vegetable garden at home as my project?
  1. Can I make arrangements to take hold of the garden on my own account?
  2. Is there a plot of land at home suitable for garden purposes?
  3. Have I sufficient interest in gardening to make a success of such a project?

## II. What shall be my aim in growing vegetables?

1. Will I be able to supply our home kitchen with all the vegetables needed?
2. Have I sufficient land and time to grow a surplus to sell?
3. Is there a market for the sale of my surplus at a profit?

## III. Can I plan my garden so as to secure the best results?

1. How large shall the garden be for my purpose?
2. Shall I cultivate mostly with a bullock or by hand?
3. What should be the shape of the plot for the most economical tillage when bullocks are used?
4. What location will be the most convenient and satisfactory from other points of view?
5. Can the soil be made suitable for a garden?
6. Is there good drainage and protection from wind?
7. Will I need a fence to protect my garden?
8. What factors will determine the space devoted to each crop?
9. What factors will determine the position of each crop in the garden?
10. Have I a map drawn accurately to scale to aid me in my planting?
11. Have I provided for a proper rotation of crops?

## IV. Can I secure the seed that will give the best results?

1. Am I familiar with all common garden seeds?
2. Do I know which varieties are best suited to my needs?
3. What use may I make of a good seed catalogue?
4. Shall I buy seeds in packages or in bulk?
5. Why shall I buy the best seeds obtainable?
6. How long do various garden seeds retain their fertility?
7. Which seeds will I need to test?
8. Can I make a reliable germination test?
9. How early must I secure my seeds?
10. Shall I plan to save any of my own seeds for planting next year?
11. Do I understand any of the methods used in producing good garden seed?
12. What crops will I start by other methods than the planting of seed?
13. Will it pay me to buy plants I may need, or raise them myself?
14. Have I determined accurately how much seed of each kind I shall need?

## V. Can I secure such strong, healthy plants as may be required for my garden?

1. Which crops require a long season to mature?
2. Do I wish to secure early vegetables?
3. If I decide to propagate my plants, may I not sell the surplus at a profit?
4. Can I make and manage hotbeds for the production of plants?
5. What use shall I make of seed beds in producing plants?
6. Have I planned a compost heap and arranged for sand to make soil necessary for beds and seed boxes?
7. Can I use petroleum boxes, flower pots, and other devices to advantage in producing plants?
8. What plants are benefited by transplanting?

9. How does transplanting benefit the plant?
  10. When shall I plant various seeds in the propagating beds?
  11. What is the meaning and value of "hardening off?"
- VI. Can I prepare my land properly for planting?
1. What implements and tools will I need?
  2. Have I made a study of garden equipment?
  3. Does the soil need fertilizing?
  4. How shall I increase its fertility?
  5. In what condition should barnyard manure be for garden use?
  6. When and how shall I apply it?
  7. What use may I make of green manures?
  8. Does my garden need a cover crop during the vacation?
  9. Does my soil need lime?
  10. How can I determine the need of lime?
  11. To what extent shall I use commercial fertilizer?
  12. Can I determine what fertilizers to use and mix and apply them properly?
  13. What relation is there between time of plowing and kind of soil?
  14. At what time will it be best to plow my land?
  15. When and how shall I smooth and pulverize the soil for planting?
- VII. Do I understand how to plant my garden?
1. At what time should the various seeds and plants be planted?
  2. With what vegetables shall I plan for a succession of crops?
  3. Will it pay to grow any two crops together?
  4. Which seeds shall I plant in beds? In hills? In drills?
  5. What shall be the rate of seeding for each crop?
  6. Which seeds will be benefited by soaking?
  7. Can I use a hand drill upon my land?
  8. Will it pay me to buy a drill?
  9. How shall I secure best results in transplanting from the seed beds?
  10. What protection may transplanted plants need at first?
  11. Will any of the plants or seeds need special preparation of the seed bed?
  12. Will the same preparation of the bed serve for onion or lettuce seed as for large seeds?
  13. Am I to plant vegetables which will need special preparation?
- VIII. Can I give my garden proper care?
1. For what reasons, other than the control of weeds, must I cultivate?
  2. What methods of tillage will be most efficient and economical?
  3. Can I handle a bullock and cultivator skillfully in my garden?
  4. Can I use a wheel hoe and hand tools in an expert manner?
  5. Is irrigation essential? Can I apply it with profit?
  6. Do I understand the culture needed by each of the crops I am growing?
  7. Can I practice the thinning, staking, training, and other special operations essential with some crops?
- IX. Do I understand the control of pests?
1. Have I made proper provision for keeping chickens, pigs, and other farm animals out of the garden?

2. Do I know the pernicious weeds of the district which I must guard against in a particular way?
  3. What kind of treatment should I use for insects like plant lice which have sucking mouth parts?
  4. What kind of treatment should I use for insects like the beetle, which have biting mouth parts?
  5. Are there any plant diseases which I must guard against?
  6. Do I understand how to mix and apply materials for insect pests and plant diseases?
  7. What methods will be necessary for the control of pests of some vegetable crops?
  8. Do I know the methods of control of the most common garden pests of my district?
  9. Will it pay me to buy a spray outfit?
  10. What kind of spray outfit will be best suited to my needs?
- X. Do I know how to use my garden products?
1. Do I know how to use each vegetable raised?
  2. Do I understand more than one cooking recipe for each vegetable?
  3. Do I know what part of each plant is useful as a food?
  4. Do I know when each vegetable is ready to be used as food?
  5. Have I arranged to save seeds from the best plants?
  6. Do I know which vegetables are the most profitable?
  7. Do I know which vegetables are the best for use in my home?
- XI. Can I harvest and market my surplus crop in a satisfactory manner?
1. To whom will I sell my vegetables?
  2. Do I understand the particular demands of the market which will buy my produce?
  3. May I not learn something from market gardeners as to packages and packing, methods of keeping vegetables fresh, and methods of selling?
  4. Will it not be possible for me to begin to build up a retail trade with near-by consumers?
  5. Is it possible to cooperate with other students growing vegetables in establishing a school market?

In using the above outline the teacher should see that each boy answers the questions correctly as applied to his own work. This will aid in making the boy's project a profitable one when judged upon a cash basis. School credit is not sufficient encouragement.