

# 4-H Horticulture Proficiency Program A Member's Guide

## OVERVIEW

The 4-H Horticulture Proficiency program helps you learn what you need to know about your 4-H project. Your project leader will assist you in setting and achieving your goals.

There are many resources to help you learn more about your project:

- The University of California Davis has free resources available online by visiting: <http://anrcatalog.ucdavis.edu/4HYouthDevelopment/>. This site lists a variety of project materials and resources recommended for use in your project.
- The Solano County 4-H Resources and Lending Library at our county 4-H Office includes other books, videos, and reference materials that can be checked out by members and leaders.
- Check to see if there are any horticultural groups or organizations in your community that conduct educational activities and shows. Local groups are excellent sources of help and information.

There are five levels in the Project Proficiency Program. You may choose how many levels you wish to complete:

- ◆ Level I – “Explorer”, you begin to learn about many different aspects of horticulture.
- ◆ Level II – “Producer”, you practice and refine the many skills involved in the horticulture area.
- ◆ Level III – “Consumer”, you become an experienced horticulturist.
- ◆ Level IV – “Leader”, allows you to show your own leadership potential.
- ◆ Level V – “Researcher”, you carry out a demonstration or experiment on some aspect of horticulture, and prepare a paper or portfolio.

As you work through the proficiency program, your leader will date each skill item as you complete it. When all items in a proficiency level are completed, your leader will sign the Certificate of Achievement.

# HORTICULTURE

## Level I - Explorer

Date  
Completed

- \_\_\_\_\_ 1. Identify the stem, leaf, and node using a diagram or plant.
- \_\_\_\_\_ 2. Identify two important requirements a plant needs to live.
- \_\_\_\_\_ 3. Demonstrate basic watering tools, like fan sprinkler, watering wand, or watering can. Explain the specific benefits of using these tools and how you might use them.
- \_\_\_\_\_ 4. Explain when to water your plants so that the water doesn't evaporate or cause disease on the leaves.
- \_\_\_\_\_ 5. Name two common weeds and how you would remove them.
- \_\_\_\_\_ 6. Name and describe two garden pests. Explain how you would keep their populations under control. Explain what impact your pest control choice will have, if any, on the environment.
- \_\_\_\_\_ 7. Demonstrate how you would pick a place to put a vegetable garden.
- \_\_\_\_\_ 8. Demonstrate how to prepare a hole and plant a tree at the right depth.
- \_\_\_\_\_ 9. Pick out six vegetables. Describe whether we eat the stem, leaf, root, and/or fruit on each vegetable.
- \_\_\_\_\_ 10. Explain why cactus and houseplants fit into the environments in which they grow. What about their shape, thickness of leaves, and size of flowers makes it easy for them to live?
- \_\_\_\_\_ 11. Demonstrate safety with tools. Explain how you use a hoe in a group and demonstrate how to walk with pruning shears and loppers. Explain the consequences of grabbing a sharp tool from another person.
- \_\_\_\_\_ 12. Do one of the following:
  - a. Plan a demonstration or talk related to horticulture
  - b. Lead a tour of your horticulture project
  - c. Represent 4-H for horticulture
  - d. Do a newspaper article about plants
  - e. Promote your horticulture project in your county newsletter or local paper
- \_\_\_\_\_ 13. Explain what went well in your project, what didn't go well, and what you might do differently next year. Show the information in your record book.

\_\_\_\_\_ 14. Participate in a community service/citizenship activity related to horticulture: grow a row, donate to a food kitchen, plant for aesthetics at a community park, school, nursing home, etc.

\_\_\_\_\_ 15. Attend any 4-H event outside of your club (doesn't have to be related to this project.)

Member Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# HORTICULTURE

## Level II - Producer

Date  
Completed

- \_\_\_\_\_ 1. What is annual, biennial, and perennial?
- \_\_\_\_\_ 2. Explain basics of photosynthesis.
- \_\_\_\_\_ 3. Read a seed packet and explain what the information means, i.e., days to germination, season to plant, distance apart to plant, and how long until plant is flowering or fruiting.
- \_\_\_\_\_ 4. Explain how to transplant a plant.
- \_\_\_\_\_ 5. Explain how to sanitize tools. Explain the uses of pruning shears, loppers, and hedge clippers.
- \_\_\_\_\_ 6. Describe and give control measures for three diseases or problem conditions.
- \_\_\_\_\_ 7. Make a seed journal from what you planted or from plants you collected. Mount and label seeds in a book.
- \_\_\_\_\_ 8. From the list below, choose one and give examples of its importance:
  - Wildflowers/natives
  - Vegetables/fruits
  - Trees
  - Ground cover
- \_\_\_\_\_ 9. Name three pollinators. Explain two ways plants are pollinated.
- \_\_\_\_\_ 10. Explain how herbs are used with foods – include texture, color, smell, and meals in which they could be used.
- \_\_\_\_\_ 11. Visit an established operation and learn how the plants are grown and marketed.
- \_\_\_\_\_ 12. In your record book, record expenses and/or income made from your plants or chart produce production.
- \_\_\_\_\_ 13. Set up a horticulture project display about your plants and enter in the fair or 4-H event.
- \_\_\_\_\_ 14. Find a creative art project that can be done with plant material, do it, and then teach the craft to others in your group.
- \_\_\_\_\_ 15. Compile a list of garden resources, e.g., addresses of nearby garden centers, seed sources, websites, etc.

\_\_\_\_\_ 16. Help someone else by sharing your knowledge or by giving away a product from your horticulture project to demonstrate positive citizenship.

Member Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# HORTICULTURE

## Level III - Consumer

Date \_\_\_\_\_  
Completed \_\_\_\_\_

- \_\_\_\_\_ 1. Test your soil, and then describe how you would replenish the soil with needed nutrients.
- \_\_\_\_\_ 2. Contact a local, state, or national association related to horticulture and determine what this association has to offer you.
- \_\_\_\_\_ 3. Describe the destruction of plants by various animals.
- \_\_\_\_\_ 4. Make a record of plant breeding that explains how good selection can improve your stock. Describe self and cross pollination, the advantages and disadvantages of each. Explain differences between hybrid and open-pollinated.
- \_\_\_\_\_ 5. Name the pros and cons of chemical pesticides and explain two organic methods of pest control.
- \_\_\_\_\_ 6. Describe three soil types and what you can do to improve them. Explain what the numbers on the fertilizer bag mean and what N-P-K means.
- \_\_\_\_\_ 7. Demonstrate a method of IPM weed control and explain how you do it.
- \_\_\_\_\_ 8. Keep a personal garden reference library or make a library resource list that will be helpful to your project.
- \_\_\_\_\_ 9. Describe five things you should consider if you would landscape a yard and why.
- \_\_\_\_\_ 10. Explain how to irrigate the following: container-grown plants, lawns, and field crops.
- \_\_\_\_\_ 11. Organize or participate in a personal demonstration or judging contest specific to your horticulture project area.
- \_\_\_\_\_ 12. Report the history of one aspect of your horticulture project (equipment, technique, origin, etc.)
- \_\_\_\_\_ 13. Keep an account of cash expenses and time spent. At the end of the growing season, compare crop yield to expenses.
- \_\_\_\_\_ 14. Alone or with project group, plan a field trip or activity related to your project.

Member Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# HORTICULTURE

## Level IV - Leader

Date  
Completed

- \_\_\_\_\_ 1. Serve as Junior or Teen leader in this project for one year.
- \_\_\_\_\_ 2. Assist younger members in designing and constructing needed equipment.
- \_\_\_\_\_ 3. Prepare teaching materials for use at project meetings.
- \_\_\_\_\_ 4. Be able to make a compost pile that heats up and results in compost.
- \_\_\_\_\_ 5. Be able to identify:
  - The leaf margin – toothed, serrated, smooth, and lobed
  - The leaf shape – cordate, deltoid, digitate, lanceolate, linear, lobed, obovate, oblong, ovate, palmate, and round
  - Venation – pinnate, palmate, and parallel
  - Arrangement on stem – alternate, opposite, whorled, and compound
- \_\_\_\_\_ 6. Demonstrate:
  - Deadheading
  - Broadcast seeding
  - Types of propagation – air layering, dividing, leaf cuttings, plantlets (runners), cane (stem) cuttings, softwood/hardwood cutting, tip (ground) layering
  - Grafting techniques (point out the cambium layer)
  - Pruning of shrubs or trees
- \_\_\_\_\_ 7. Speak on a horticulture-based subject before an organization other than your 4-H club.
- \_\_\_\_\_ 8. Invite and introduce a guest speaker. Describe five things to consider when inviting, introducing, and thanking a guest speaker.
- \_\_\_\_\_ 9. Be active in horticulture at the county level.
- \_\_\_\_\_ 10. Participate in planning or volunteering at the state horticulture contest or an event in your county.
- \_\_\_\_\_ 11. Design or improve some aspect of your horticulture project (gardens, irrigation system, equipment, structures, marketing the project, etc.)
- \_\_\_\_\_ 12. Organize a community service/citizenship activity related to horticulture.

Member Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# HORTICULTURE

## Level V - Researcher

Date \_\_\_\_\_  
Completed \_\_\_\_\_

- \_\_\_\_\_ 1. Report on the results of a demonstration comparing measurable differences in management procedure. (Experiment)
- \_\_\_\_\_ 2. Prepare a paper of 300 words or more on one of the following topics:
- Management of plants
  - Fertilization
  - Diseases, prevention, control, and general sanitation
  - Markets and methods of marketing
  - Reproduction, breeding, and genetics
  - By-product preparation for market, how marketed and used
  - Keeping and using records as a basis for improving your plant project
  - Other
- \_\_\_\_\_ 3. Prepare a speech or illustrated talk to orally summarize your findings and present at a club, project meeting or other educational event.

Member Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# Certificate of Achievement

*This certifies that*

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*has completed the Horticulture Proficiency*

*in Solano County.*

*Explorer*

*Producer*

*Consumer*

*Leader*

*Researcher*

\_\_\_\_\_  
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