

UC
CE

Gardening

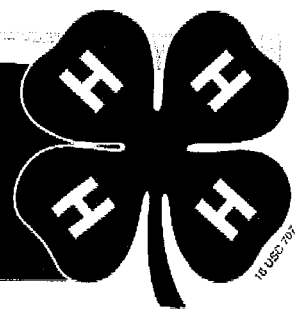


It is the policy of the University of California (UC) and the UC Division of Agriculture & Natural Resources not to engage in discrimination against or harassment of any person in any of its programs or activities (Complete nondiscrimination policy statement can be found at <http://ucanr.edu/sites/anrstaff/files/169224.pdf>). Inquiries regarding ANR's nondiscrimination policies may be directed to Linda Marie Manton, Affirmative Action Contact, University of California, Davis, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1318.



This We Believe:

- The boy and girl are more important than the projects.
- The member should be their own best product.
- No award is worth sacrificing the reputation of a member or leader.
- Competition is a natural human trait and should be recognized as such. It should be given no more emphasis than other fundamentals.
- Learning how to do the project is more important than the project itself.
- Many things are caught rather than taught.
- A blue ribbon member with a red ribbon project is more desirable than a red ribbon member with a blue ribbon project.
- To learn by doing is fundamental in any sound educational program.
- Generally speaking, there is more than one good way of doing most things.
- Every member needs to be noticed, to feel important, to win, and to be praised.
- Our job is to teach members *how* to think, not what to think.



4-H GARDENING PROJECT



In this project, youth will learn how to plan, plant, maintain and cultivate their own plant life for beauty, health and cuisine. This project will give youth an opportunity to learn that plants play a vital role for animals and humans providing food, shelter, fiber, medicine, oxygen, and beauty. Gardens will also provide the setting to teach and/or reinforce the concepts of:

- Appreciation of nature
- Plant growth and development
- Science and nutrition

4-H THRIVE

Help Youth:

Light Their Spark

A spark is something youth are passionate about; it really fires them up and gives them joy and energy. Help youth find what it is about gardening that excites them.

Flex Their Brain

The brain grows stronger when we try new things and master new skills. Encourage youth effort and persistence to help them reach higher levels of success.

Reach Their Goals

Help youth use the GPS system to achieve their goals.

Goal Selection: Choose one meaningful, realistic and demanding goal.

Pursue Strategies: Create a step-by-step plan to make daily choices that support your goal.

Shift Gears: Change strategies if you're having difficulties reaching your goal. Seek help from others. What are youth going to do when things get in their way?

Reflect

Ask project members how they can use their passion for this project to be more confident, competent and caring. Discuss ways they can use their skills to make a contribution in the community, improve their character or establish connections.

Starting Out *Beginner*

Learning More *Intermediate*

Exploring Depth *Advanced*

- Learn the basic components plants need to be healthy.
- Plant seeds and watch them develop.
- Learn about the functions of each plant part.
- Learn how we eat all the different parts of the plant.
- Taste and/or utilize vegetables from each part of the plant.

- Learn about different types of soils and what nutrients need to be included for the plants to thrive.
- Learn about the water cycle and how much water needs to be consumed.
- Discover what pollination is and how the different modes of pollination work.
- Learn to build a nutritious meal from the products of the garden.

- Compare and contrast garden beds and explain the differences to a prebined level garden.
- Learn about the different types of composting methods and how they can be beneficial for the health of the garden.
- Explore careers relating to agriculture and botany.
- Make a garden plan and create a garden.

The activities above are ideas to inspire further project development. This is not a complete list.

Light Your Spark

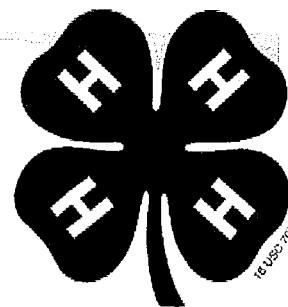
Flex Your Brain

Reach Your Goals

Light Your Spark

Flex Your Brain

Reach Your Goals



Expand Your Experiences!

Science, Engineering, and Technology

- Tour a local farm or ranch. Document the steps to get a product from seed to table.
- Research the use of beneficial pests for use in gardens and farms.
- Design and conduct an experiment comparing the same species of plant in different soils.

Healthy Living

- Learn about the USDA's nutrition icon, MyPlate. Plan a meal that resembles MyPlate and includes foods from each of the food groups. Source your meal from your garden.
- Create a healthy stir-fry using vegetables from the garden. Serve with brown rice.
- Visit a local farmer's market and ask farmers questions about how their products are grown.

Citizenship

- Check with your local food bank to see how you can help with hunger in your community by growing and donating food from your garden.
- Help build a garden at a school or community site.

Leadership

- Conduct a demonstration at your club or in a community setting on how to construct a raised bed for growing vegetables.
- Save and store seeds from your garden grown vegetables and share with neighbors, friends and/or neighborhood school garden while you teach them how to garden.

- 4-H Growing Connections
www.uvm.edu/extension/youth/?Page=growingcurriculum.html
- Botany on Your Plate
botanicalgarden.berkeley.edu/education/k12.shtml
- The USDA guidelines for a balanced meal
www.choosemyplate.gov
- General gardening information
www.garden.org
- American Hort. Society
www.ahs.org
- Texas A&M 4-H Junior Master Gardener Curriculum -
www.jmgkids.us/
- UC Eating Healthy From Farm to Fork - [//ucanr.org/sites/letseathealthy/Curriculum/?close=yes](http://ucanr.org/sites/letseathealthy/Curriculum/?close=yes)

The UC 4-H Youth Development Program does not endorse, warrant, or otherwise take responsibility for the contents of unofficial sites.

Connections & Events

Curriculum

4-H Record Book

Presented by the UC 4-H Youth Development Program, this website offers a variety of current and future projects.

Find a list of current and future projects that are available in your area.

Connect your county 4-H office to determine additional opportunities available in your area.

Find a list of current and future projects that are available in your area.

Find a list of current and future projects that are available in your area.

Find a list of current and future projects that are available in your area.

4-H Record Book gives members a chance to record their experiences and reflect on their experiences. It is a place for members to record their personal experiences, learning, and development.

4-H Record Book also provides a chance for members to record their experiences and reflect on their experiences. It is a place for members to record their personal experiences, learning, and development.

To access the 4-H Record Book online, visit www.ca4h.org/4hbook.



University of California Agriculture and Natural Resources

Light Your Spark

Flex Your Brain

Reach Your Goals

Light Your Spark

Flex Your Brain

Reach Your Goals

GARDENING

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award

Beginner:

1. Start a small Garden.
2. Start at least three of your plants from seed.
3. Name the three layers of soil.
4. Name the particles that make up the three layers of soil.
5. Name three root vegetables and tell what makes them a root.
6. Know the life cycle of a plant starting with seed and ending with mature plant.
7. Explain the basics of photosynthesis.
8. Name the male and female part of a flower.
9. Discuss why air, water, and light are important to your plants.
10. Name two pros of a chemical pesticide.
11. Name two cons of a chemical pesticide.
12. Find and use an organic way of fighting insect pest.
13. Make a poster with something to do with gardening.
14. Give a demonstration/display at Presentation Day.
15. Learn about plant nutrition.

Date
Completed

Leader's
Initials

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Project Leader's Signature of Completion: _____

Date: _____

Club Leader's Signature of Completion: _____

Date: _____

GARDENING

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award

Intermediate:

	<u>Date</u> <u>Completed</u>	<u>Leader's</u> <u>Initials</u>
1. Name a part of a plant.	_____	_____
2. Name four plant growth factors.	_____	_____
3. What effect do these four growth factors have on the plant.	_____	_____
4. Add four more types of plants to your garden.	_____	_____
5. Explain the purpose of the cotyledon(s).	_____	_____
6. Why are diseases a problem in growing plants?	_____	_____
7. Explain what is meant by perfect and imperfect flowers.	_____	_____
8. Collect seeds of vegetables, field crops, flowers, shrubs and trees.	_____	_____
9. Mount and label the seed you have collected.	_____	_____
10. Experiment with at least two types of fertilizer, then tell which you prefer and why.	_____	_____
11. Explain in what way animals and plants tend to balance each other in nature.	_____	_____
12. Collect and enter at least five of your home grown vegetables in the fair.	_____	_____
13. Visit a grocery store and record the different varieties of the same fruit or vegetable offered. (Example: red, yellow, eating, cooking)	_____	_____
14. Make a poster having something to do with gardening. Then enter it in the fair or talk about your poster in front of a group.	_____	_____
15. Give a demonstration at Presentation Day.	_____	_____
16. Cook with your vegetables.	_____	_____

Project Leader's Signature of Completion: _____

Date: _____

Club Leader's Signature of Completion: _____

Date: _____

GARDENING

Sonoma County 4-H

Name: _____ Date: _____

Guidelines for Project Proficiency Award

Advanced:

	<u>Date</u>	<u>Leader's</u>
	<u>Completed</u>	<u>Initials</u>
1. List four types of plant Diseases and tell how to control them.	_____	_____
2. Name parts of the flower and tell their function.	_____	_____
3. Do alterations on ready made clothes for yourself	_____	_____
4. Cross breed a plant (example: crossing a pumpkin with a spaghetti squash.)	_____	_____
5. Try propagation by rhizomes or stolons and then discuss it.	_____	_____
6. Explain in your own words how fertilizer helps to grow plants.	_____	_____
7. Write 300 words about plant growth factors or destruction of plants by animals.	_____	_____
8. Have your soil tested and see what needs to be improved.	_____	_____
9. Keep a list of cash expenses, time and labor charges. At the end of the growing season	_____	_____
10. compare your crop yield to your expenses.	_____	_____
11. Serve your produce to company.	_____	_____
12. Write or give a talk to your club or school.	_____	_____
13. Give a demonstration at Presentation Day.	_____	_____
14. Give some of your produce to another family or friend.	_____	_____
15. Become a junior/teen leader for gardening.	_____	_____
16. Enter your produce in the fair.	_____	_____
	_____	_____
	_____	_____
	_____	_____

Project Leader's Signature of Completion: _____

Date: _____

Club Leader's Signature of Completion: _____

Date: _____



CLOVER SAFE

AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY



#31

GARDENING SAFETY: HAND TOOLS

Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older.



*Photograph Courtesy of the
University of California 4-H Archives*

Information available from the U.S. Consumer Product Safety Commission indicates more than 26,000 people were treated in hospitals during 2006 for injuries sustained while using garden hand tools. Typical injuries were strains/sprains to the lower back, shoulder, neck, and wrist. Many of these injuries could have been prevented by properly using garden hand tools and by knowing your physical capabilities and keeping garden activities to within your limitations.

Gardening Hand-Tool Safety

- Prior to use, always inspect garden hand tools for defects or damage (e.g., splintered, loose, bent, or cracked tool handles, mushroomed tool heads, sprung tool joints, worn tool teeth).
- If a hand-garden tool fails your inspection, inform your group leader, parent, or guardian and remove it from use.
- It is recommended that first time gardeners receive hand-tool training from an appropriately experienced instructor.
- Wear personal protective equipment (PPE) appropriate for the gardening task and weather conditions, including items such as a hat with brim, long-sleeved shirt, long pants, gloves, sunglasses, closed-toed shoes, and sunscreen.
- Use eye protection when the garden hand tool produces flying, crumbling, chipping, sparking, or splintering debris.
- Consume an adequate amount of water for gardening weather conditions.
- When gardening in warm weather, take frequent breaks in the shade.
- Keep the cutting edges of garden hand tools sharp. When cutting, always cut away from the body.
- Always use the proper garden hand tool for the job.
- Follow all product label instructions, including those for PPE use, when using a hand applicator to apply pesticides or fertilizers.
- Rotate gardening tasks frequently to reduce the potential for repetitive motion injuries.
- Stand with your back straight when using long-handled garden tools such as hoes, rakes, and shovels.
- Protect your back when picking up heavy items by maintaining a straight back, bending your knees, firmly grasping the object, and slowly lifting with your legs.
- Avoid using garden hand tools above your shoulder height.
- Use an insect repellent when biting or stinging insects are present in the garden.
- Do not horseplay with garden hand tools.
- Digging with your bare hands can result injuries such as cuts, punctures, or insect bites. Accordingly, dig with a hand trowel or other tool and gloves instead of using your bare hands.
- When finished, clean garden hand tools and store in their proper locations.
- If you are injured while gardening, notify your project leader, parent, or guardian. Seek medical attention if the injury is serious.



CLOVER SAFE

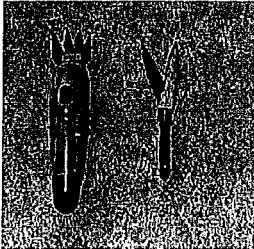
AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY



#84

GRASS-SHEARING SAFETY

Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older.



*Picture Courtesy of
Sierra Foothill REC*

Data available from the U.S. Consumer Product Safety Commission indicate most manual lawn trimmer or edger injuries that received hospital treatment, during 2008, were lacerations to fingers. In addition to physical injuries, there are the potential for ergonomic injuries associated with repetitive hand-squeezing and stooping and bending motions frequently utilized when using grass shears. Many of these injuries are avoidable and are due to inexperience or lack of training or improper or inattentive use of grass shears.

Grass-Shearing Safety Precautions

- Before using, always inspect grass-shearing tools to determine if they are functioning properly, including assuring all moveable joints are lubricated and blades are sharpened adequately. For electric grass-shearing equipment, inspect the batteries, power cord, and/or casing for damage. In addition, assure the on/off switch is functioning properly.
- If the grass shear fails the pre-use inspection, remove the grass shear from service.
- Wear appropriate personal protective equipment, including gloves, long-sleeved shirt, long pants, and closed-toed shoes. Use eye protection, when appropriate.
- Maintain a safe working distance from other people when using grass-shearing tools.
- Carefully inspect the work area to locate any physical hazards, such as material, debris, or animal hazards, such as bees and wasps.
- Keep focused on the grass-shearing task and always know the location of your hands and fingers. Always turn off a power grass shear before looking up.
- Always carry grass-shearing tools with the sharp end pointed down.
- Be aware of the weather conditions and drink adequate fluids to prevent heat exhaustion and dehydration.
- Before changing or adjusting the blade(s) of a power grass shear, disconnect the battery or power source.
- Do not use dull bladed tools and never touch the blade of a grass shear.
- When available and appropriate, use tool extenders.
- Do not clean power grass shears with water and do not use power grass shears in wet conditions.
- Take frequent breaks when performing repetitive tasks. Do not overtire yourself.
- Avoid shearing grass in a stooped or bent over position for lengthy periods of time. If prolonged stooping or bending is unavoidable, then regularly interrupt the stooped or bent over posture by standing upright and successively bending backwards several times.
- If you suffer an injury while using a grass-shearing tool, tell your group leader, parent, or guardian. Seek medical attention if the injury is serious.



CLOVER SAFE

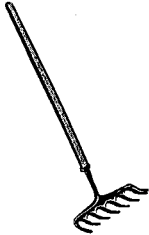
AGRICULTURE AND NATURAL RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY



#96

SAFE USE OF RAKES AND SHOVELS

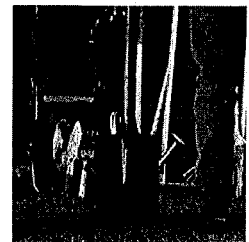
Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older.



Information available from the U.S. Consumer Product Safety Commission indicates more than 28,000 people nationwide received hospital treatment during 2009 for unpowered garden tool injuries, including the use of rakes and shovels. Typical injuries were strains to the back, shoulder, and wrist and lacerations caused by stepping on a rake. Many of these injuries were avoidable and due to inattention or improper handling of the rake or shovel and could have been prevented by using the precautions given below.

Precautions for the Safe Use of Rakes and Shovels

- Select the correct shovel or rake for the job. A square-bladed shovel is used for lifting and moving loose material. A round-bladed shovel is used for digging and a garden spade for turning soil, transplanting, and edging. Fan-shaped leaf rakes are for raking leaves and other garden debris. Level-headed rakes are used for grading and smoothing soil surfaces.
- Prior to use, always inspect the rake or shovel for defects or damage (e.g., splintered, loose, bent, or cracked tool handles, loose connections, and damaged tines or blade).
- If a rake or shovel fails your inspection, inform your group leader, parent, or guardian and remove it from use.
- Wear personal protective equipment (PPE) appropriate for the task and weather conditions, including items such as a hat with brim, long-sleeved shirt, long pants, gloves, sunglasses, closed-toed shoes or boots, and sunscreen.
- Pace yourself as you rake or shovel. Take frequent breaks and consume adequate water for the gardening weather conditions.
- Use a rake or shovel that is comfortable for your height and strength. Do not use a rake or shovel that is too long or heavy for you. A garden shovel should have a length that is approximately the same as from the ground to between your elbow and chest height.
- When raking, stand upright and use the rake to pull leaves or dirt towards you.
- Bend your knees when picking up leaves for disposal.
- Before shoveling, inspect the area for obstructions such as cables and pipes.
- When shoveling, stand upright and bend your knees so your legs carry most of the load. Push the shovel blade into the soil or material to obtain a shovel load. Keep your arms and elbows close to your body when handling a shovel load.
- Lift the shovel load by straightening your legs.
- Never twist your trunk when raking or moving a shovel load. Always turn your feet and body in the direction where you wish to pile leaves or spread or drop the shovel load.
- Never overextend your arms or shoulders to load a shovel.
- When digging, use the ball of your foot to push the shovel blade into the ground.
- Shovel loads should not be thrown above about four feet or further than about three feet. Never toss or flip shovel loads over your shoulder. Keep shovel loads under 15 pounds.
- Never lay a garden rake down with the teeth pointing up – the teeth should always be pointing down.
- When raking or shoveling for long periods, vary your arm and leg positions and movements.
- If you are injured while using a rake or shovel, notify your project leader, parent, or guardian. Seek medical attention if the injury is serious.



I'm a 4-H Project Leader: Now What Do I Do?

How do I know who is in my project?

- Your club organizational leader will provide you with the names, addresses and phone numbers of the members enrolled in the project for which you are the leader.
- If you are working on the county level, contact the UCCE for the list of project members.
- The organizational leader may indicate to you if any of the youth have special needs. At your first project meeting, note any other youth that may have special needs.
- You may wish to consult with the parent or your 4-H Youth Development Agent as to how to work with a special needs child.

How often should I hold project meetings?

It is recommended you hold 4-6 meetings that each last 1½ to 2 hours in length. Some projects require more meetings or a longer meeting time to accomplish your goals. Some projects, such as leathercraft, may lend themselves to individual project work as members progress on their projects. In this case, you should hold several introductory meetings for all members and then set up a schedule of time for them to sign up for individual help.

When do I start?

Get started as soon as possible! Members' interest in a project is most keen when they are signing up for a project and when they get their project books.

How do I cover the cost of project meetings?

- There is a wide variety of means for covering the cost of project meetings. Some methods used include:
- Each member pays for their share of the expenses or provides a portion of the supplies.
- The club agrees to cover expenses using funds from their treasury. Approval in advance is needed for this.
- Members and leaders can solicit donations/supplies from area businesses.
- Sometimes funds from sources outside your club may be available to cover your project meeting costs.

How do I establish a project meeting schedule?

First, determine when you are available to work with project members. Then determine an initial project meeting date by consulting with your project members.

Publicize the date using one of the following means:

- County and/or club newsletter
- Club meeting or leader association meetings
- Postcards or phone calls to project members

You may not be able to schedule an initial meeting that everyone can attend. Establish a time to meet with those unable to attend before you hold your second project meeting.

Where do I hold project meetings?

Typically project meetings are held at project leader homes, schools, or community buildings. For more information on facility adaptability and liability concerns contact your 4-H Youth Development Agent.

What safety precautions do we need to consider?

Consider the type of safety issues your particular project involves. Request and secure necessary safety items such as ear protection, eye protection and head protection.

How do I let others in my club or other clubs know I am a project leader?

Prior to enrollment ask for time on your club's meeting agenda to let families in your club know you're a project leader and to share some things the kids could do in the project if they enrolled in it. When the project materials are handed out, take the opportunity to inform or remind members that you are their project leader and set an initial meeting date with the group. If no one in your club is in your project, you may wish to offer your services to a neighboring club. Talk to your club organizational leader or county 4-H Youth Development agent about this opportunity.

How do I prepare for the first meeting?

You may want to establish a 4-H resource box where you keep your project materials and any additional resources you will be using. Take time to become familiar with your project literature and talk to others who were project leaders for this project to find out what activities the members enjoyed.

What should I do at the initial project meeting?

- At the initial project meeting, here are some ideas of what you might want to cover:
- Find out what the members want to learn and accomplish in the project. The project literature is an excellent source of ideas.
- Review the safety practices that members will need to follow.

- Do an introductory activity related to the project so the members get to know one another
- Have a small project the members can complete and take home
- Talk about how the project meeting supplies will be paid for. Experienced leaders have found it easiest to charge a small fee to cover the cost of the expenses.
- Assess when members are available for additional meetings. You may wish to ask the parents or members to bring along their calendars of family activities.
- Encourage parents to participate in project meetings, especially the initial meeting.

What does a typical project meeting look like after the initial orientation?

Use the experiential learning model (found in the introductory pages of your Helper's Guide) to plan your project meeting. The project helper's guide will provide suggestions for designing a project meeting. Here are some suggestions for each section of the model:

Do

- Plan an activity to focus the project members on what they'll be doing today. Work on the project for that meeting.

Reflect

- Review the process completed
- Discuss what worked and didn't work.
- Talk about how any problems that arose were solved.
- Assist members in documenting their project work for inclusion in their record books/portfolios.

Apply

- Ask the project member the following questions:
- What else have you seen that is similar to this?
- How can you apply what you learned today to other situations?

What resources are available to help me?

- 4-H Project Literature – You will receive project literature through your 4-H club or the UW-Extension office. Typically there is a helper's guide and member literature for three to four levels.
- Other People in my Club & County – There are a number of people in your county who would be willing to share project ideas and tips with you.

These include:

- Project leaders in other clubs
 - County Staff
 - Older youth who have been involved in the project
-
- **Media Collection & Public Libraries** – Additional resources can be obtained from the Cooperative Extension Media Collection. They have videos, skillathons, displays and resource packages available to support a variety of projects. There is a user fee per item you or your club will be responsible for. You can view their catalog at their website <http://www.uwex.edu/ces/media/>. Check with your local public library to find out what resources they may have or that you can obtain through inter-library loan.
 - **4-H Website** – Wisconsin 4-H is continually adding more information and activities to their website. Visit this site at www.uwex.edu/ces/4h/onlinepro/. You may wish to check out websites from other state 4-H programs also.
 - **Volunteer Leaders Conferences** – Review each issue of your county's newsletter to learn about training sessions for project leaders offered by your county, district or at statewide events. Sessions focusing on new project literature are typically offered at the State 4-H Volunteer Leader Conference held every other year. Periodically statewide conferences focusing on specific project areas are offered in addition to sessions at the volunteer conferences. You can also exchange ideas with other leaders at statewide Field Day.
 - **Field Trips** – Youth always enjoy the opportunity to see firsthand how things are done and how they work. Consider taking your project group on a field trip or tour of a local business or company to enhance their project experience. An example would be taking your dairy members to a cheese factory or your foods group to a local bakery.
 - **Local Experts** – Bring in a local "expert" to share their ideas and experiences with your group. One example would be asking a Master Gardener to share information on choosing perennial or trimming shrubs at one of your project meetings.
 - **Magazines** – Many leaders have found creative ideas to supplement those in the project literature in magazines they have or those at the public library.

How can I incorporate activities not included in the project guide?

We encourage you to use the ideas in the project literature as they have been successfully used with youth. If you have some additional activities you would like to incorporate, consider the following criteria:

- Of interest to kids
- Developmentally appropriate
- Incorporate the experiential learning model
- Youth and adults are involved in determining what will be done
- Enhances the development of member life and project skills
- Research based source of content utilized

What is the relationship between project work and the county fair?

The County Fair is an opportunity for an independent evaluation of life and project skills a member learned through completing a project. County fair entries typically match the activities included in the project literature and may include other activities that are being emphasized in your county. One of your roles is to help maintain the focus of members and parents on the goal of 4-H, which is to develop blue ribbon kids. Talk with members about what they learned about each of their fair entries from the judging process. Help members celebrate their accomplishments regardless of the color of ribbon each project member received at the fair. This may be done through individual encouragement or at a meeting following the fair. While entering and displaying a project at the County Fair is the traditional method of public affirmation, there may be other means of exhibition such as a club tour, open house, community celebrations or others.

Who can I go to if I need someone to help me during the project meetings?

If you are leading beginning level project meetings, ask older members in the project to help you. This is a great leadership experience for them! Parents are another excellent source of help. Don't hesitate to ask them to stay for the meeting and be actively involved in their child's project work.