GARDENING

Leader Guide

CANADA
4-H Alberta

The 4-H Motto

"Learn To Do By Doing"

The 4-H Pledge

I pledge:

My **head** to clearer thinking,
My **heart** to greater loyalty,
My **hands** to larger service,
My **health** to better living,
For my club, my community,
my country, and my world.

Published by 4-H Alberta for the 4-H community.

For more information or to find other helpful resources, please visit the 4-H Alberta website at www.4hab.com.

October 2001

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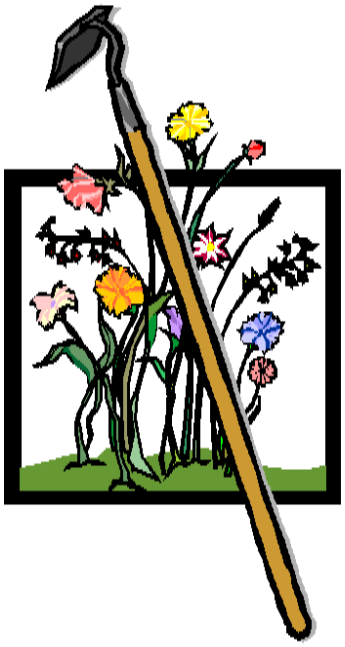
4-H Gardening Project

This manual is designed to offer suggestions and activities to leaders of the 4-H Gardening project. It is not designed to offer technical advice or information. It is assumed that leaders will access this information depending upon which aspects of gardening club members pursue.

4-H Gardening Project Objectives

Members will be able to:

1. Identify and provide for conditions for growth for a variety of plants.
2. Grow a variety of plants.
3. Use tools appropriately and safely.
4. Construct crafts related to gardening and plant propagation.
5. Develop skill in decision making, leadership, problem-solving, finances and communication.



Achievement Day Requirements for the Gardening Project

Level One

1. Completed record book.

2. A craft project - *"Gift from the garden"* – could be a potted plant, plants started from seed or cuttings, a decorated plant pot, row labels for the garden, a simple garden decoration, a collection of seeds harvested from the member's garden.

3. Something the member has grown – could be in a fresh or processed state. For example: dried flowers, pressed or natural; vegetables from storage or cooked in a food or preserved in a jar; a plant grown from a bulb.

Level Two

1. Completed record book.

2. A craft project which relates to gardening. For example: a tool caddy for gardening tools; scarecrow; a *"Welcome to the Garden"* sign; a pin which relates to gardening.

3. Participation in a local community project which uses gardening knowledge. For example: gift of potted Christmas cactuses to local library or senior residence; clean-up or maintenance of war memorial or cemetery; planting of a tree in the local community

4. Something the member has grown - could be in fresh or processed state. For example: herbs - fresh or dried (could be still growing in pots); plants from *"forced"* bulbs, decorated as a gift; weed collection with weeds identified.

Level Three

1. Completed record book.

2. A craft project which relates to gardening. For example: a tool caddy for gardening tools; dried and pressed and mounted flowers (as a greeting card; or between two layers of tissue, to be used as gift wrap for a special gift; or framed, to be hung on the wall); a market garden sign to advertise the sale of garden produce; photography collection with a gardening theme.

3. Participation in a local community project which uses gardening knowledge. For example: Sell garden produce or flowers with proceeds to a local charity; clean-up or maintain a war memorial or cemetery; plant a tree in the local community; contribute potted plants or cut flowers to a local charity fund-raiser; sell Christmas trees; plant a shelterbelt; contribute garden produce to local Food Bank (grow a row for the Food Bank).

4. Something the member has grown. For example: cactus from seed; cactus from cuttings; tree or bush fruit, fresh, frozen, dried, preserved or prepared in a food; a window sill herb collection; mushrooms, fresh or dried; Christmas trees, nursery trees, or shelterbelt (viewed on tour or through photographs); dried flower arrangement using flowers grown, dried and arranged by the member; an example of grafting example cactus; trees (photograph or tour only); a collection of a variety of seeds, labelled.

Resources

Seeds

- Personal harvest.
- Seed swapping - Large seed swaps are often hosted by horticultural clubs. A great source of *"heritage"* seeds. Check the web sites of the various horticultural clubs for dates and locations. Or, ask your friendly organic nursery.

  Maybe your club can organize a seed swap for the community someday.
- Seed catalogues - The best list of Canadian seed houses is in the Harrowsmith Country Life magazine, usually printed in the February edition. The 2001 edition had 70 entries.

Gardening Related Projects

- Harrowsmith Country Life Example: February 2001 includes plans for a seed stand (for growing seedlings under lights)
- Country Woman magazine
- Crafts' Things
- Craft Ideas - www.craftideas.com
- Gardening Craft Articles www.findarticles.com/PI/index.jhtml - search for gardening crafts
- Crafts for Kids - http://craftsforkids.about.com/
- Gardening in Containers. Ken Burke (ed.).San Francisco, California: Chevron Chemical Company, 1984.

Books, Pamphlets, Magazines, Booklets

- The Prairie Gardener. H. F. Harp. Edmonton, Alberta:Hurtig, 1970.
- The Harrowsmith Illustrated Book of Herbs. P. Lima. Owen Sound, Ontario: Camden House, 1986.
- Greenhouse Gardener. A. Toogood. New York, New York: Arco, 1985.
- Anything by Lois Hole, check out Hole's Media www.enjoygardening.com/main.htm
- The Prairie Gardener by H. F. Harp
- Native Trees of Canada by R. C. Hosie
- Gardening Life - Canada's Magazine for the Gardener
- Birds and Blooms magazine

Web Sites

- Canadian Living - www.canadianliving.com
- Seeds of Diversity - www.seeds.ca/
- Garden Launch Pad - www.gardeninglaunchpad.com/canada.html
- Canadian Gardening - www.canadiangardening.com
- Garden Web - www.gardenweb.com
- Holes Greenhouses - www.holesonline.com/
- Family Gardening - www.familygardening.com
- U of A Gardening - www.gardening.ualberta.ca
- I Can Garden - www.icangarden.com
- Companion Planting - www.ghorganics.com/page2.html
- Gardening Center - www.suite101.com/gardencenter/
- Get Set To Garden - www.gardeningbc.com
- Canadian Botanical Conservation Network for Kids - www.rbg.ca/cbcn/en/kids/kidsindex.htm
- HGTV online - www.hgtv.com/
- The Garden Gate - http://garden-gate.prairienet.org/
- Gardeners Web - http://gardenersweb.com/IndexSetup.lasso
- Alberta Shelterbelt Program - www.marketland.net

Suggested Gardening Project Topics - Level One

Possible Topics	Related Learning Objectives
Requirements for growth	Be able to list soil, sun, moisture, and length of season, quality seed or stock.
Site selection	Be able to list at least three factors to consider when choosing a garden or flowerbed site.
Soil bed preparation	Be able to list at least two steps in preparing the soil bed or container for planting.
Choosing seeds	Be able to list at least two factors to consider when selecting seeds. Example: length of season, sunlight conditions required, soil conditions required.
Sources of seeds	Be able to name at least one reliable source (could include harvesting and sharing, "heritage" seeds from a horticultural club, seed catalogues).
Garden layout	Be able to plan and draw or demonstrate a simple garden layout, showing plant placement, rows, and direction of rows.
Actual planting	Plant seeds or cuttings at appropriate depth, density, spacing between rows, shading, protection from wind.
Thinning	Be able to explain why thinning is important. Be able to demonstrate how to thin.
Weeds	Be able to identify at least three common Alberta weeds. Be able to demonstrate how to weed without damaging the plants, or compacting the soil, or contributing to excess moisture loss.
Dealing with bugs	Be able to recall one method of treatment for at least three common pests.
Pest identification	Be able to identify at least three common pests of Alberta gardens.

continued

Suggested Gardening Project Topics - Level One

Possible Topics	Related Learning Objectives
Chemical safety	Be able to recall safety instructions for chemicals. Be able to identify the safety symbols for poisonous or dangerous products.
Use of tools	Be able to select tools appropriate to the task at hand. Be able to demonstrate safe handling of tools. Store tools safely.
Propagation	Be able to name at least two ways to propagate plants.
Cutting flowers	Be able to recall best time of day to cut flowers; how to cut flowers; how to store flowers to make them last.
Harvest of vegetables	Be able to identify best time to harvest, based on conditions of produce, weather conditions and labour availability.
Display techniques and protocol	Be able to make a simple display of garden produce.
Storage of vegetables	Be able to recommend or demonstrate appropriate storage of garden produce.
Clean-up of garden	Be able to explain and demonstrate the clean up of garden space and how to "put a garden to bed" for the winter.
Composting	Be able to explain, in simple terms, what composting is and how to compost.
Improving soil conditions	Be able to recognize that soil conditions need to be improved.
Staking, protection	Be able to explain why we stake or protect certain plant species. Be able to demonstrate how to stake.

Suggested Gardening Project Topics - Level Two

Possible Topics	Related Learning Objectives
Requirements for growth	Be able to list specific conditions of soil, sun, moisture, length of season for the crops they intend to grow this year.
Site selection	Be able to list at least four factors to consider when choosing a garden or flowerbed site and show how they included these factors in their decision.
Soil bed preparation	Be able to list at least four steps in preparing the soil bed or container for planting.
Choosing seeds	Be able to list at least three factors to consider when selecting seeds. Example: length of season, sunlight conditions required, soil conditions required.
Sources of seeds	Be able to name at least two reliable sources (could include harvesting and sharing, "heritage" seeds from a horticultural club, seed catalogues).
Garden layout	Be able to plan and draw or demonstrate a garden or flowerbed layout, showing plant placement, rows, direction of rows, prevailing winds, location of closest buildings.
Actual planting	Plant seeds or cuttings at appropriate depth, density, spacing between rows, shading, protection from wind.
Thinning	Be able to explain why thinning is important. Be able to demonstrate how to thin.
Weeds	Be able to identify at least five common Alberta weeds in seedling and in adult state. Be able to demonstrate how to weed without damaging the plants, or compacting the soil, or contributing to excess moisture loss.
Dealing with bugs	Be able to recall one method of treatment for at least five common pests.
Pest identification	Be able to identify at least five common pests of Alberta gardens.

continued

Suggested Gardening Project Topics - Level Two

Possible Topics	Related Learning Objectives
Chemical safety	Be able to recall safety instructions for chemicals. Be able to identify the safety symbols for poisonous or dangerous products. Be able to explain use of chemicals or alternative methods. Be able to recall what to do in case of chemical poisoning.
Use of tools	Be able to select tools appropriate to the task at hand. Be able to demonstrate safe handling of tools. Demonstrate cleaning of gardening tools. Store tools safely.
Propagation	Be able to name at least two ways to propagate plants.
Cutting flowers	Be able to recall best time of day to cut flowers; how to cut flowers; how to store flowers to make them last. Be able to demonstrate proper cutting techniques of flowers.
Harvest of vegetables	Be able to identify best time to harvest, based on conditions of produce, weather conditions and labour availability.
Display techniques and protocol	Be able to make a display of garden produce including at least five Alberta garden products.
Storage of vegetables	Be able to recommend or demonstrate appropriate storage of garden produce.
Clean-up of garden	Be able to explain and demonstrate the clean up of garden space and how to "put a garden to bed" for the winter.
Composting	Be able to define composting, explain how to compost. Be able to list things that should not be put into the compost.
Improving soil conditions	Be able to recognize that soil conditions need to be improved. Be able to suggest how to correct soil conditions.
Staking, protection	Be able to explain why we stake or protect certain plant species. Be able to demonstrate how to stake. Be able to recommend practical materials to use for staking.

Suggested Gardening Project Topics - Level Three

Possible Topics	Related Learning Objectives
Requirements for growth	Be able to list specific conditions of soil, sun, moisture, length of season for the crops they intend to grow this year. Be able to explain these requirements to younger members.
Site selection	Be able to list at least four factors to consider when choosing a garden or flowerbed site or location for a tree and show how they included these factors in their decision.
Soil bed preparation	Be able to list four steps in preparing the soil bed or container for planting. Be able to demonstrate these steps to younger members.
Choosing seeds	Be able to list at least three factors to consider when selecting seeds. Example: length of season, sunlight conditions required, soil conditions required, marketability/desirability of produce.
Sources of seeds	Be able to name at least three reliable sources (could include harvesting and sharing, "heritage" seeds from a horticultural club, seed catalogues). Be able to harvest seeds from own produce.
Garden layout	Be able to plan and draw or demonstrate a garden or flowerbed or tree layout, showing plant placement, rows, direction of rows, prevailing winds, location of closest buildings.
Actual planting	Plant seeds or cuttings at appropriate depth, density, spacing between rows, shading, protection from wind, aesthetics. Be able to demonstrate planting techniques to younger members.
Thinning	Be able to explain why thinning is important. Be able to demonstrate how to thin. Practice safe technique. Be able to demonstrate thinning to younger members.
Weeds	Be able to identify at least five common Alberta weeds in seedling and in adult state. Be able to demonstrate how to weed without damaging the plants, or compacting the soil, or contributing to excess moisture loss.
Dealing with bugs	Be able to recall one method of treatment for at least five common pests.

continued

Suggested Gardening Project Topics - Level Three

Possible Topics	Related Learning Objectives
Pest identification	Be able to identify at least five common pests of Alberta gardens in at least two stages of development.
Chemical safety	Be able to recall safety instructions for chemicals. Be able to identify the safety symbols for poisonous or dangerous products. Be able to explain use of chemicals or alternative methods. Be able to recall what to do in case of chemical poisoning. Demonstrate safe technique in handling of any chemical. Be able to explain how to store chemicals safely.
Use of tools	Be able to select tools appropriate to the task at hand. Be able to recognize safe, multiple uses for the same tool. Be able to demonstrate safe handling of tools. Demonstrate cleaning of gardening tools. Store tools safely.
Propagation	Be able to name and demonstrate at least two ways to propagate plants.
Cutting flowers	Be able to recall best time of day to cut flowers; how to cut flowers; how to store flowers to make them last. Be able to demonstrate proper cutting techniques of flowers.
Harvest of vegetables	Be able to identify best time to harvest, based on conditions of produce, weather conditions and labour availability.
Display techniques and protocol	Be able to make a display of garden produce including at least five Alberta garden products, according to Alberta judging standards.
Storage of vegetables	Be able to recommend or demonstrate appropriate storage of garden produce. Be able to recommend periodic checking for spoilage.
Clean-up of garden	Be able to explain and demonstrate the clean up of garden space and how to "put a garden to bed" for the winter.

continued

Suggested Gardening Project Topics - Level Three

Possible Topics	Related Learning Objectives
Composting	Be able to define composting, explain how to compost. Be able to list things that should not be put into the compost. Be able to recommend how to build a simple composter. Be able to instruct compost management (turning of compost, feeding the compost, when to empty the composter, and so on).
Improving soil conditions	Be able to recognize that soil conditions need to be improved. Be able to suggest how to correct soil conditions.
Staking, protection	Be able to explain why we stake or protect certain plant species. Be able to demonstrate how to state. Be able to recommend practical materials to use for staking.
Selling flowers and vegetables	Be able to display, advertise, price and take care of produce. Be able to deal with customers.

Suggestions for Member Activities

- Determine the value of fertilizer to plants - set up an experiment using control plants (no fertilizer) and compare its growth to that of plants receiving various types of fertilizers. (An older member could do this as a special project.)
- Decorate plant containers - with paint, rocks, shells, other *"found objects"*.
- Draw a garden plan.
- Select seeds and, or crops - explain your reasoning.
- Record weeding and, or gardening care.
- Garden under artificial lights - this could be set up as an experiment, using control plants (receiving no additional light) and plants receiving various amounts of artificial light.
- Research tools and equipment for gardening.
- Photograph garden or flower beds at various stages of development.
- Research and record problems encountered and how they were handled.
- Make some gifts from the garden.
- Dry flowers.
- Make a scarecrow.
- Take cuttings. Example - from a geranium.
- Start new plants. Example - Christmas cactus - could be done as a fund raiser or as a gift for sponsors or guest speakers.
- Force bulbs – could be done in preparation for Easter or spring season.
- Field trips - greenhouses, Muttart Conservatory, Devonian Gardens, private homes or farmsteads, mushroom plant, florists, the plant section of the local grocery store.
- Decorating flower pots as gift containers – various techniques.
- Start bedding plants.
- Press flowers - make your own simple flower press.

Related Community Projects

- Set up or maintain flower beds in the community.
- Highway Cleanup.
- Work with the elderly in gardening projects in residences.
- Create flower arrangements for local senior's residences.
- Plant trees.
- Care for a local cemetery or war memorial.
- Contribute to the local Food Bank.
- Sell produce to benefit a specific charity.
- Participate in a local fair or exhibition.

Additional Activities

- *"Blind taste test"* - at every meeting (get the members to taste some of those vegetables or fruits that they might not otherwise taste!).
- Soil compaction test - plant two short rows of lettuce or radishes - walk firmly on one and then mark it. Which row germinates first?
- Provide each member with a seed catalogue and a set of questions. Example: which cucumber variety has good disease resistance and needs little space?
- Weed identification - various stages of development.
- Grow your name on a pumpkin - write or print your name with a ball pen just enough to break the skin. Take a picture today, then at harvest time. Measure the size of your name at various times.
- Make a rain guage.
- Research different herbs - fresh, dry and in various foods.
- Take a field trip to a market garden with your family or a club.
- This project also lends itself to self-study by members who live too far from an existing 4-H club. A member's work could be monitored by a *"Green Thumb Buddy"* , a responsible adult who would support, guide and encourage the member's efforts. That adult **could** be the member's parent. Members who are on the internet could have a *"Green Thumb Chat Room"* to share ideas and solver problems.

Career Possibilities

- agriculture
- floriculture
- forestry
- market gardening
- design

If members are interested in starting up a gardening related business, contact your regional 4-H Specialist for a copy of Mind Your Own Business.

Links to Other 4-H Projects

- photography
- crops
- crafts (flower gardening)
- entrepreneurship

Gardening Project Evaluation

Your input is a valuable asset to the 4-H program?

As you go through the project year, write your comments and suggestions about the project on this form. When you complete your project, mail this form to us. We want to hear from you!

Gardening Project Evaluation
4-H and Agriculture Education Branch
Alberta Agriculture and Rural Development
7000 113 ST NW RM 200
EDMONTON AB T6H 5T6

Evaluation Date _____

Please tell us

Which techniques and skills did you learn and use for this project? _____

_____

What did you like best about completing this project? _____

_____

Are you pleased with your project? Is there anything you would change if you were to do the project again?

_____

_____

What are you going to do with your project? _____

_____

How long did it take you to finish your project? _____

Additional comments

_____

_____

_____

_____

_____

Thank you for taking the time to provide us with this information.