4-H Ontario

www.4-hontario.ca

4-H ONTARIO PROJECT

Llama

LEADER RESOURCE

The 4-H Pledge

I pledge my Head to clearer thinking,
my Heart to greater loyalty,
my Hands to larger service and
my Health to better living
for my club, my community and my country.

The 4-H Motto

Learn To Do By Doing

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INTRODUCTION

Welcome to 4-H Ontario's Llama Project!

This project focuses on a knowledge and understanding of llamas, while developing animal care, leadership, and showmanship skills.

Objectives

1. Learn about the history of llamas
2. Learn about llama behavior
3. Develop an understanding of animal care and management
4. Develop knowledge, initiative, leadership and responsibility
5. Learn how to maintain good record keeping habits
6. Learn about different uses for llamas
7. Gain a knowledge of training skills
8. Learn about tack and its care
9. Gain greater speaking ability to express ideas to other 4-H members, judges and the public
10. Experience the joy of having, caring for and exhibiting your llama at home and at shows
11. Gain experience working co-operatively as a member of a group by participating in club activities
12. Further develop judging and public speaking skills
13. Have fun and "Learn To Do By Doing!"

How to Use This Manual

4-H Ontario's Llama project is made up of two parts:

1. The Reference Book:

The reference book is laid out into six meetings:

Meeting 1 – Get to Know Your Llama - History, Characteristics and Behaviour
Meeting 2 – Structure and Conformation
Meeting 3 – Housing, Transportation and Nutrition
Meeting 4 – Health and Reproduction
Meeting 5 – Llama Jobs
Meeting 6 – Training, Showmanship and Grooming

Each meeting has been broken down into an Introduction with Sample Meeting agendas, References and Resources, Topic Information and Activities.

Sample Meeting Agendas: are at the beginning of each meeting. The agendas give suggestions for topic information, activities and judging and/or communications activities along with suggested times for each section. These are only suggestions – you will know your group best and will know the skill and attention level of your members. There is more topic information and activities than what can be completed in a two hour meeting. Be creative!

Activities: should be used in combination with the discussion of topic information to teach members in a hands-on, interactive learning environment.

2. The Record Book

This booklet is designed to make it easier for members to record information throughout the club. Members should record their expectations and goals for the project in addition to recording club contact information, meeting dates and other club activities. Print or photocopy pages from the Reference Book that you think will benefit the members either as a resource or an activity to accompany their Record Books. Answers for the Activity Pages can be found at the back of the Record Book.

The Record Book should be given to each member at the beginning of the first meeting. Ask members to keep it in a binder or duotang so they can add to it easily.
Go through the Record Book with the members and explain the charts and forms. Encourage them to use their Record Books at every meeting and record as much information as possible. As an added incentive, a prize could be given at the end of the project for the best Record Book.

Planning a Meeting

Plan your meetings well. Review all the information well in advance so you are prepared and ready!

Before Each Meeting

• Read the topic information and activities and photocopy any relevant resources for the members' Record Books.
• Be familiar with the topic information for each meeting. Think of imaginative ways to present the information to the members. Do not rely on just reading the information out loud. Review available resources, plan the meetings and choose activities and themes that complement the ages and interests of your members. The Record Book contains extra activities that can be used if you need to fill in time or if one of the suggested meeting activities does not suit your group of members.

- Gather any equipment, ingredients and/or resources that will be needed to complete the meeting.
- Each 4-H project must be held over a period of at least 4 separate meetings (most projects are generally 6 meetings), totaling a minimum of 12 hours. Typically, 4-H meetings are approximately 120 minutes (2 hours) in length. Before each meeting, create a timeline to ensure that you are providing an adequate amount of instructional time for club completion.

Included on the following page is a Leader's Planning Chart to help with the planning of meetings. In addition to the chart, keep track of what went well and what should be changed next time. That way, each time this project is run, the content of the meetings can be different!

When planning each meeting, a typical 4-H meeting agenda should include the following:

- Welcome & Call to Order
- 4-H Pledge
- Roll Call
- Parliamentary Procedure:
    - Secretary's Report
    - Treasurer's Report (if any)
    - Press Report
    - New Business: local and provincial 4-H activities/opportunities, upcoming club activities
- Meeting content, activities and recipes
- Clean-up
- Social Recreation and/or refreshments
- Adjournment

Judging and Communications

Each meeting must include either a judging or public speaking activity.

- Judging gives the members an opportunity to use judging techniques as part of the learning process. Through judging, members learn to evaluate, make decisions and communicate with others. They also develop critical thinking skills, confidence and self-esteem. Many examples are used in this reference book but use your imagination! As long as members are setting criteria and critically thinking about where items fit within that set of criteria, they are learning the basic skills of judging!

- A communications activity has been provided for each meeting but can be included in the Roll Call or social recreation time. These activities do not need to involve the topic of Mountain Biking as the outcome is more about understanding the concepts of effective communication.

Leader's Planning Chart

Mtg.#	Date/Place	Topics Covered	Activities	Materials Needed

As a club volunteer your responsibilities are to:

- Complete the volunteer screening process and to attend a volunteer training session.
- Notify the local Association of the club, arrange a meeting schedule and participate in club meetings, activities and the Achievement program.
- Review the project material in the Reference and Record books to familiarize yourself with the information and adapt it to fit your group. Be well organized and teach the material based on your group's age, interest and experience level.
- Organize the club so members gain parliamentary procedure, judging and communication skills.
- Have membership lists completed and submitted along with fee collected (if applicable) by the end of the second meeting.
- Have members fill out a Participant Agreement Form and identify any health concerns. Ensure that all members, leaders and parent helpers know the appropriate actions during any emergency. Check with members for any food allergies or dietary restrictions and plan snacks accordingly.

As a club member your responsibilities are to:

- Participate in at least 2/3 of his/her own club meeting time. Clubs must have a minimum of 12 hours of meeting time.
- Complete the project requirement to the satisfaction of the club leaders.
- Take part in the project Achievement Program.
- Fill in and complete the Record Book.
- Complete any other projects as required by the club leaders.

I pledge my Head to clearer thinking,
my Heart to greater loyalty,
my Hands to larger service and
my Health to better living
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Glossary of Terms

browser	a herbivore that feeds on leaves, soft shoots, or fruits of high growing, generally woody, plants such as shrubs
cria (male and female)	baby llama
cush	lie down
dam	females
desensitize	slowly introducing new experiences to the point one is indifferent to what is being introduced
dystocia	difficult birthing
efficacy	The ability to produce a desired or intended result
gelding	castrated males
gestation	the period of development of an embryo from conception to birth, period of pregnancy
grazer	a herbivore that clip vegetation at or near ground level such as grass
hemoglobin	a component of the blood that carries oxygen from the lungs to the rest of the body to provide energy
herd	group of llamas
herd sire	male for whole herd
malocclusion	misalignment of the teeth – underbite
open	female that is not pregnant
orgaling	mating sound produced by a male llama when he encounters an “open” female
sire	males
stud	breeding male
weanling (male or female)	under 1 year
yearling (male or female)	1 to 2 years

Additional References and Resources

4-H Ontario Judging Toolkit

Alpaca Llama Show Association website: http://www.alsashow.net/youthjudging.pdf

Animal Corner http://www.animalcorner.co.uk/farm/llamas/llama_about.html

Canadian Llama and Alpaca Association: http://www.claacanada.com/

Care of Animals in Public Settings, Animal Quality Assurance: http://extension.unh.edu/resources/files/Resource002387_Rep3486.pdf

Exploring Nature Educational Resources http://www.exploringnature.org/db/detail.php?dbID=6&detID=87

International Camelid Institute
https://icinfo.org/sites/camelid-sta.osumc.edu/files/documents/Practices2005FINAL.pdf

Llama Canada http://www.llamacanada.com/

Llamapaedia http://www.llamapaedia.com/

National Center for Biotechnology Information http://www.ncbi.nlm.nih.gov/pubmed/2647232

OMAFRA Camelids (Llamas and Alpacas) http://www.omafra.gov.on.ca/english/livestock/alternat/camelids.htm

Ontario Camelids Association: http://www.ontariocamelids.org/

Rutgers New Jersey Agricultural Experiment Station
http://njaes.rutgers.edu/pubs/publication.asp?pid=FS917

The Ultimate Ungulate http://www.ultimateungulate.com/Cetartiodactyla/Camelidae.html

Therapy Animal Information http://www.therapydoginfo.net/

University of New Hampshire Extension Education http://extension.unh.edu/resources/files/Resource002387_Rep3486.pdf

MEETING 1 - Get to Know Your Llama – History, Characteristics, and Behaviour

Objectives:

- Learn the election procedure for establishing an executive.
- Learn about the history and origin of llamas.
- Learn about the physical and behavioural characteristics of llamas.

Roll Calls

- Have you ever worked with a llama before? If so, describe.
- What is your reason for wanting to learn more about llamas?
- Name one thing you know about llamas.

Sample Meeting Agenda – 2 hrs. 10 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Public Speaking/Judging Activity	Activity #1 – Classification (Step #1) (instructions found at the end of this meeting)	15 min
Parliamentary Procedure	Elect executive, hand out Record Books and discuss club requirement. Fill out club and member information in Record Books, and have each member fill out their "Member Expectations and Goals" page.	30 min
Topic Information Discussion	Discuss History, Physical Characteristics and Adaptations of Llamas.	30 min
Activity Related to Topic	Activity #2 – Classification (Step #2) (instructions found at the end of this meeting)	15 min
Topic Information Discussion	Discuss Behaviour, Social Environment and Llama Communication.	20 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Choose one of the At Home activities to complete.	

Electing Your Executive

Elections can be chaired by a youth leader, senior member or club leader. The person chairing the elections is not eligible for any positions.

Procedure:

1. All positions are declared vacant by the chairperson, who indicates this by saying "I'd like to declare all positions vacant."
2. The group decides on the method of voting (i.e. show of hands, ballot or standing).
3. The chairperson accepts nomination from members for each position being filled. Nominations do not require a seconder. Nominations are closed by motion or declaration by the chairperson.
4. Each member nominated is asked if he/she will stand for the position. Names of members who decline are crossed off.
5. Voting takes place by selected method and majority rules (i.e. member with most votes).
6. Announce the name of the successful member. Offer congratulations and thank all others that ran for the position.
7. If ballots are used, a motion to destroy the ballots is required and voted on.

Steps in Making a Motion

The motion is a very important key to having good meetings. Motions are a way of introducing topics for discussion and allowing each member to speak and vote. Any member can make a motion.

Steps in Making a Motion:

1. Address the chairperson (i.e. raise your hand).
2. Wait for the chairperson to acknowledge you.
3. Make the motion: "I move that…"
4. Another person seconds the motion: "I second the motion."
5. Chairperson states the motion.
6. Chairperson calls for discussion of the motion.
7. Chairperson restates the motion.
8. Chairperson calls the vote: "All in favour? Opposed?"
9. Chairperson announces the result of the vote: "Motion carried" or "Motion defeated."

Topic Information

What is a Llama?

History & Origin

The llama (Lama glama) is a large camelid that originated from the central plains of North America about 40 million years ago. They migrated to South America about three million years ago. By the end of the last ice age (10,000–12,000 years ago), camelids were extinct in North America. Found in Bolivia, Peru, Argentina, Chili, Ecuador, and Colombia at elevations of 2,300 to 4,000 metres, the llama habitat includes semi-desert, open country of plateaus and high grassland and alpine tundra of western South America. The term llama is sometimes used more broadly, to indicate any of the four closely related animals that make up the South American branch of the family Camelidae: vicuna, llama, alpaca, and guanaco. The camelid family also includes their cousins the camels that inhabit the Middle East and the Horn of Africa and Central Asia. Llamas were domesticated from guanacos in the Andean highlands of Peru 4000-5000 years ago and are among the oldest domestic animals in the world.

Domestication

It is easy to see the importance of the llama to the indigenous people, as they utilized it almost completely, from the smallest hairs to the most insignificant droppings. Jerked llama meat nourished them; its woven fleece kept them warm; its hide was made into crude sandals; its tallow was used in making candles; braided, the long hairs served as rope and the dried excrement was used as fuel to help to ward off the penetrating chill of their tree-less, high-altitude homes.

Physical Characteristics

Llamas are part of the camelid family and their inclusion in this family is based upon their characteristic traits of being hornless, cud-chewing ruminants with an even number of toes and leathery pads on the bottom of their feet.

Llamas come in many sizes and shapes. Adults stand between 42” and 50” at the withers and weigh between 130 to 155kg (250 and 450 lbs.) Llamas come in a variety of colours from solid to multi-tone.

They have long necks and large ears and eyes. This has served them well for watching out for predators.

Colouration is brown to black or even white, usually irregularly blotched with these colours.

Llamas do not have hooves like horses, cattle, sheep or goats. Their feet have unique structure which enables them to be very sure-footed and cause minimal damage to the environment. Each foot is made up of two toes (the third and fourth digits) which have a toenail and pad. The toenails extend off the front of each toe and curve to point towards the ground. The two toes on each foot of a llama are more separated than those of a camel. The toenails will need to be trimmed occasionally if the llama does not wear them down naturally. Most of the bottom surface of the foot is composed of the pad. This pad enables llamas to have more sensation and better contact with the ground than any animal with hooves, therefore making them more sure-footed. Since the pad is softer than a hoof, llamas cause much less damage to the environment.

The llama has no eyelashes. Llamas have longer banana shaped ears. A llama's back is straight in contrast to their cousin the Alpaca who exhibit a slight upward curve. Llamas only have teeth on the bottom in the front; the top is just a rubbery pallet. This makes it very safe when feeding a llama treats as they tend to take them with their soft lips. They do have molars on top and bottom in the back to chew up their food.

Classified as a ruminant, a llama has three chambers in their stomach. Their food is very well-digested and this helps to eliminate the introduction of noxious weeds into the environment as the weed seeds are broken down during digestion. Llamas excrete pellets that make an excellent fertilizer for all types of plants.

Source: http://www.exploringnature.org/db/detail.php?dbID=6&detID=87 (includes links to further llama websites and diagram with stomach breakdown)

Adaptations

In contrast to other animals, the hemoglobin in the llama's blood can carry more oxygen. This ability partly accounts for its survival in high altitudes where there is reduced oxygen in the environment. The llama is a sure-footed pack animal capable of carrying 96 kg over 25 km per day over rugged terrain at elevations of 5,000 m where other animals cannot move efficiently under such conditions. In the mountains their safety depends upon their speed (up to 56 kilometers per hour) and alertness. They enjoy standing and even lying in mountain streams.

Camelids have prehensile lips, meaning they have the ability to grip things with their finger-like lips. Llamas, alpacas, camels, vicunas and guanacos have a cleft or split in the upper lip that enables them to maneuver grass and twigs, rotate them and even to draw food into the mouth. When a llama is trying to reach a leaf, the lips serve as fingers to grab the leaf and orientate it for the teeth to do the cutting. These amazing lips can add another 5 to 7.5cm (two to three inches) onto the reach of the animal. This can make the difference between eating and not eating when in the wild. The long and mobile lips also make up for the fact that llamas have very short tongues, which other animals can use to manipulate their food.

Differentiating characteristics between llamas and alpacas are that llamas are larger and have more elongated heads. The main difference between llamas and camels is that camels have a hump or humps and llamas do not.

Behaviour

Independent yet shy, llamas are gentle and curious. Their calm nature and common sense make them easy for anyone, even children, to handle. Llamas communicate with a series of ear, body and tail postures, as well as a shrill alarm call and a humming sound. Spitting is the llama's way of saying "Bug Off!" Normally used between llamas to divert annoying suitors, ward off a perceived threat or, most commonly, to establish pecking order at mealtime, an occasional llama that has been forced to tolerate excessive human handling will spit at a human but this is rare.

Llamas have discrete bathroom habits. Their pelleted droppings, similar to a deer, are virtually odorless and are generally deposited in the communal dung pile. This neatness minimizes parasite contamination, reduces fly problems and makes cleanup easier for the owner.

Social Environment

Llamas are very social animals and need to live in association with other herd animals, preferably with at least one other llama or alpaca (unless a mature llama is serving as a guard llama). They can live in groups composed of up to 20 animals. Without appropriate companionship, most will fail to thrive. Therefore, it is recommended that llamas and alpacas never live alone. A llama should not be raised as a single baby away from any other camelids.

Alpha or highly territorial males may need to be corralled separately, but should be within sight of other llamas. Gelded llama (males that do not exhibit breeding behavior) or adult llama females can be used as single guardian animals with sheep, goats, alpacas, cattle or miniature horses. Crias should remain with their dams until at least four months of age. Six months is recommended to promote normal behavior, to assure good nutrition and to allow for maturation of the forestomach.

Llama Communication

Llamas communicate primarily with body language through their posture and through ear and tail movement. Aggressive forms of communication are foot stamping, kicking and spitting.

Llama Sounds

Llamas, being herd animals, communicate with a variety of sounds:

Llama Humming

This sounds similar to a person humming and is the main method of communication. Llamas hum, unlike humans, when they are tired, distraught, curious or worried. Mothers may also hum to greet their new baby. The humming sound is used for many different reasons.

Llama Clucking

This sounds like a person clicking their tongue from the roof of their mouth to the bottom of their mouth. Llamas often hold back their ears when they do this and seem to do this when greeting new llamas or flirting with the female llamas.

Llama Ogling

This sounds like a person gargling. This sound is made by the male when approaching a female for breeding and will continue until the copulation is complete, which can be anywhere from 20 minutes to an hour.

Llama Alarm Call

This call is made when the llama is feeling threatened or startled by something. It is a loud, high pitched rhythmic sound. Being herd animals, this call is used to alert the others in the herd when one spies a predator.

In the wild, llamas travel in herds. When one of them spies a predator they make an alarm call to warn others. If your llamas are making an alarm call, go and investigate. What they are seeing may or may not be a threat; however, they are seeing something.

Source: *http://www.animalcorner.co.uk/farm/llamas/llama_about.html*

BEFORE THE NEXT MEETING

Try one, or both, of these activities at home.

1. Using the library or the Internet, find out how many llamas there are in North America and in South America. If possible, try to find out how many llamas are in Canada. Record your findings in your Record Book.

OR

2. Interview someone who has llamas. Find out why they chose to have llamas, what they like about them, what they don't like about them, if they use them for a specific job or it the animals are pet, etc. Record your findings in your Record Book.

MEETING 1 DIGGING DEEPER

For Senior Members

Family Tree

There are billions of different kinds of living things (or organisms) on earth. To help study them, biologists have devised ways of naming and classifying them according to their similarities and differences.

The system most scientists use puts each living thing into seven groups (or taxons), organized from most general to most specific. Therefore, each species belongs to a genus, each genus belongs to a family, each family belongs to an order, etc.

Using the Internet or reference material at school or the library, fill in the following chart. Be prepared to present the chart at the next meeting. The chart can also be found in the Record Book.

Classification of Animals	Classification of Llamas	Name something each group has in common?	Example of member of this group?
Kingdom:	Animalia		
Phylum:	Chordata		
Class:	Mammalia		
Order:	Artiodactyla		
Family:	Camelidae		
Genus:	Lama		
Species:	Lama glama (common name “llama”)		Llama

Reference: *https://scunderwood.wikispaces.com/Classification and http://www.factmonster.com/ipka/A0776195.html*

ACTIVITIES

Activity #1 – Classification

Step #1

Give members 5 minutes to come up with as many things as possible that the entire group has in common with each other. It can be things like they all have blue eyes, or they all like a certain musician or they all like pizza. Have one member of the group record the things that the group has in common and then have someone present the findings to everyone. If there are more than 10 members in the club, divide the group in two.

Step #2

Bring a tray of items and ask members to put into three groups based on something they have in common. Discuss similarities. Regroup based upon other recognizable similarities. Discuss classification in animals based upon similar traits at the various levels of classification chart. What characteristics do camelids have in common?

Source: *Daily Lesson Plans, Section V, and "D" of the following link: http://www.coreknowledge.org/mimik/mimik_uploads/lesson_plans/58/A%20Class%20Act%20%20The%20Classification%20System.pdf (revised to incl. camelids to llama activity)*

MEETING 2 - Structure and Conformation

Objectives:

- Learn about different types of llamas.
- Explore what a buyer should look for when selecting and purchasing llamas.
- Learn about the structure and conformation of llamas.
- Learn how to evaluate the body condition of llamas.

Roll Calls

- If you were buying a llama, what is one thing you would look for in your llama?
- What do you think is a good name for a llama?
- Name one way you know your llama is too fat/too thin.

Sample Meeting Agenda – 2 hrs. 10 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Parliamentary Procedure	Minutes & Business	10 min
Topic Information Discussion	Discuss Types of Llamas, Selecting and Purchasing a Llama, Parts of the Llama and Structure and Conformation of the Llama	30 min
Activity Related to Topic	Activity #3 - Structure and Conformation (instructions found at the end of this meeting)	20 min
Topic Information Discussion	Discuss Evaluating Body Condition	20 min
Public Speaking/Judging Activity	Activity #4 - Create a Catalogue Profile (instructions found at the end of this meeting)	30 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Choose one of the At Home activities to complete.	

Topic Information

Types of Llamas

There are no real breeds of llamas as there are dogs and horses. Llamas are a type of camelid. They can be defined by their length of fibre and the location on the body as indicated by the Alpaca and Llama Show Association and outlined below:

1. Heavy wool - Abundant body and neck wool and minimal to abundant leg, ear or head wool.
2. Medium wool - Moderate body wool and smooth to minimal leg, ear or head wool.
3. Light wool - Minimal body wool, short neck wool, smooth head, ears and leg wool.

All three types of llamas come in a wide variety of colours.

Selecting and Purchasing Your Llama

Tips for new Buyers – Llamas

Courtesy of and re-printed with permission of the Canadian Llama and Alpaca Association

Llamas have a unique way of enriching our lives and once you have discovered these magical creatures, you can't imagine life without them! A unique aspect of llama owners is their willingness to share information and experiences. We're an approachable group of people and eager to share our passion for llamas. Your first llama purchase should be an enjoyable and exciting experience with no surprises. By following a few basic guidelines, you can avoid costly mistakes in the pursuit of your perfect llama.

The Internet is a fabulous tool and a great place to start your research. While you are researching the idea of adding llamas to your life, one of the best learning opportunities is to visit a variety of farms. Contact your local llama club or association for a list of llama breeders in your area, or if you're planning a trip, check out a few llama farms near your destination. The Llama Canada's website has a listing of llama breeders.

While you're "cruzin" the web shopping for your ideal llama, make note of what type of llama you are looking for and what is your intended end use. Llamas have a wide range of uses including: fibre production, showing, carting, packing, companion animals, therapy assistants, breeding stock, golf caddies and livestock guard animals. You need to establish your price range and intended use before you go shopping to purchase a llama. The price you'll pay is directly related to the individual breeding potential and the potential quality of the offspring. For example, a gelding (castrated male) has no breeding potential and therefore may be less expensive to purchase. On the other hand, a high- quality breeding female has a very high breeding potential and can be worth several thousands of dollars.

Farm visits are great for gathering ideas for setting up pastures, barns and feeding areas so don't forget your camera and a list of questions for the llama breeder. Look at the products of their breeding program to determine if they have the type of llama you're searching for. If a llama on a farm catches your eye, ask to halter it and walk the llama around. This will give you a sense of how easy or difficult that animal is to lead, manage and interact with. The personality of your llama is just as important as the visual appearance.

Attend country fairs, agricultural events and llama shows to see a variety of llamas and to talk with several owners about their breeding programs and the types of llamas they have available.

A livestock auction is not the place to buy your first llama. You will not likely be given the opportunity to interact with the llama and take the chance of purchasing a llama with behavioral problems. You want to have an enjoyable experience with a well behaved manageable llama.

Llama breeding is a huge responsibility and requires a large commitment of time and resources. It is really important to learn conformation, bloodlines, breeding objectives and proper health maintenance of your llamas. Also keep in mind that not every llama is breeding material and careful thought should be given to what you select for your breeding program. We should not be breeding llamas merely for the sake of having cute babies! Breeding stock must be registered or eligible for registration, therefore ask to see the llama's pedigree. The Canadian Llama and Alpaca Association (CLAA) is incorporated under the Animal Pedigree Act of Canada and as such is the official Llama Registry in Canada. You may also check a llama's pedigree with the on-line herd book that can be found in the Herdbook/ Pedigree section of the CLAA web site.

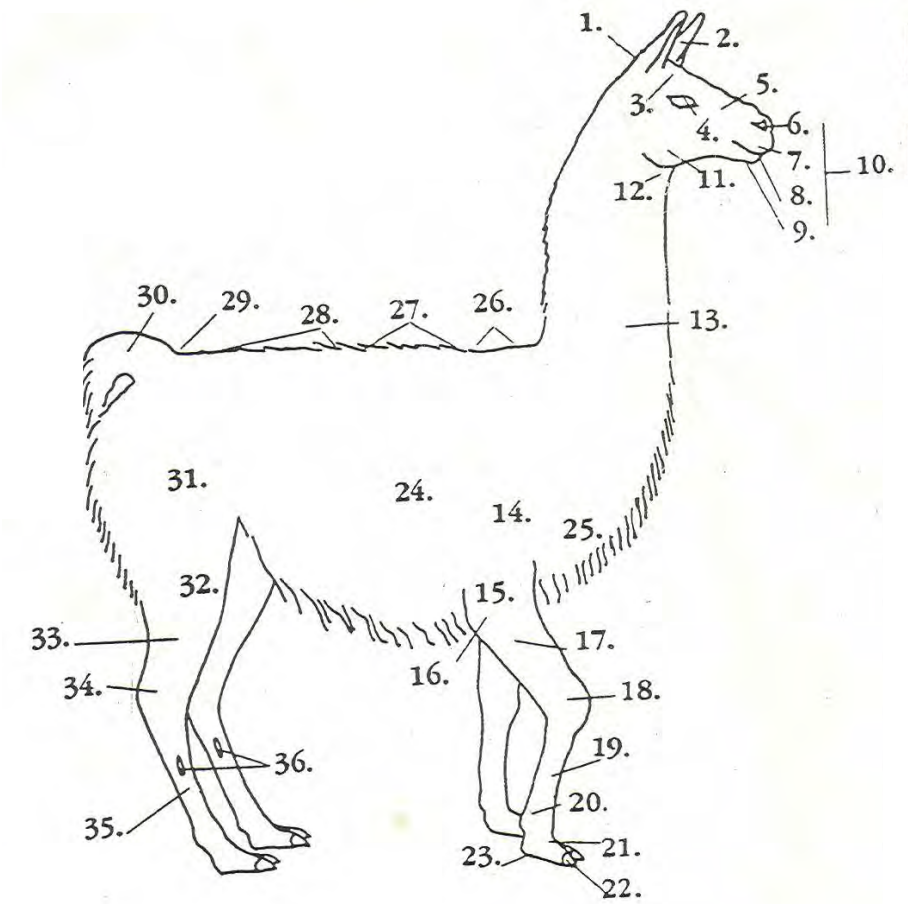
Negotiate a deal that works for you and get all the details in writing. Discuss fertility guarantees, rebreeding of females, cria health and live birth guarantees, health records, financing, payments, transport, boarding fee and registration. It is also common practice when purchasing breeding stock to request a pre-purchase veterinary health check and have that written into your purchase agreement.

Deal with a breeder you feel comfortable with and who is able to provide the llama you're looking for. It's important to establish your intended use and price range before you start shopping. The only downfall of llama shopping is it's difficult to stop at one!

Parts of the Llama

Terms Used To Designate Superficial Areas Of The Body Of A Llama

1. Poll
2. Ear
3. Forehead
4. Eye
5. Face
6. Nostril
7. Upper Lip
8. Muzzle
9. Lower Lip
10. Muzzle
11. Jaw
12. Throatlatch
13. Neck
14. Shoulder
15. Arm
16. Elbow
17. Forearm
18. Knee
19. Cannon or Shank
20. Fetlock
21. Pastern
22. Nail
23. Pad or Slipper
24. Ribs
25. Chest or Breast
26. Withers
27. Back
28. Loin
29. Tail Head
30. Tail
31. Thigh
32. Stifle
33. Gaskin
34. Hock
35. Hind Cannon
36. Scent Gland



Courtesy of and re-printed with permission of the Alpaca Llama Show Association

Structure and Conformation

Successful breeding of any animal begins a focus on excellent conformation, good health and reproductive fitness. While banana ears, ear and face wool, leg wool, long fleeces, suri locks, and very fine diameter wool are important they are really just the “wrapping”.

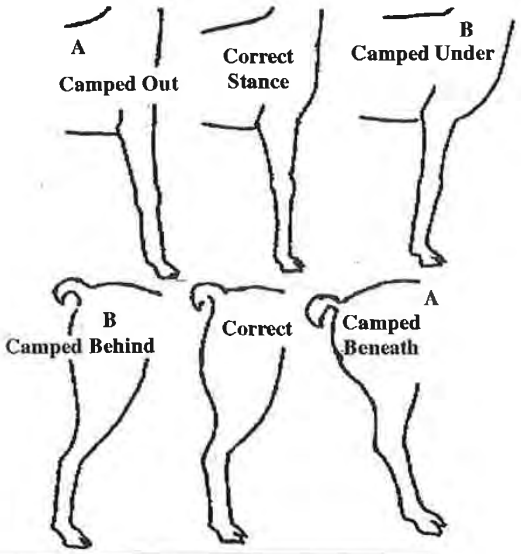
One should consider well balanced proportions, legs and fluid movement, and reproductive soundness. In addition, consider fleece quality and importantly, disposition.

The Basics of Conformation

The following information should only be used as a general guideline. When buying an alpaca or llama it is recommended to have a veterinary check performed.

Correct Stance

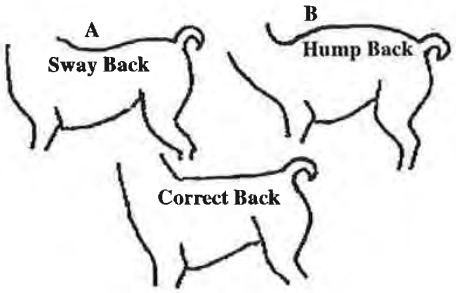
When viewed from the side, a lama's weight should be correctly distributed over the feet. An incorrect stance affects every joint in the skeleton. If the front legs are placed too far forward (camped out, diagram A) the gait is shortened and additional weight placed on the hindquarters. If the front feet fall behind the shoulder line (camped under, B) undue stress is placed on all the ligaments of the leg, particularly the fetlock.



The stance of the rear legs follows the same principle as that of the front, except that as they carry less weight they are less critical. However, it can be observed that if the legs are under the body (camped under, A) the leg becomes too straight in the resting position and the back becomes convex. This lama may appear either post-legged or hump-backed. Too far to the rear (camped out, diagram B) also may look post-legged and can look sway backed.

Correct Back

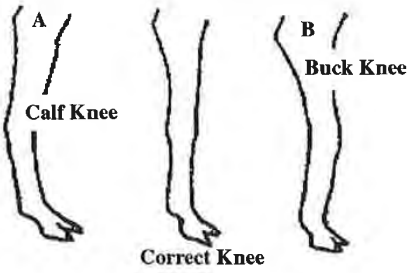
The back supports the internal organs and the working load of the lama. A straight spine is important to counter the downward pressure caused by the weight of a pregnancy or a pack. A compact spine is more able to resist pressure than an elongated one.



The back should be level or slightly elevated at the rear. If the spine is concave (sway back, diagram A) its ability to combat gravity is reduced. The spine is weakened with each succeeding pregnancy or load. A convex spine (hump back, diagram B) reduces gait flexibility and gives a low neck and tail set.

Correct Knee

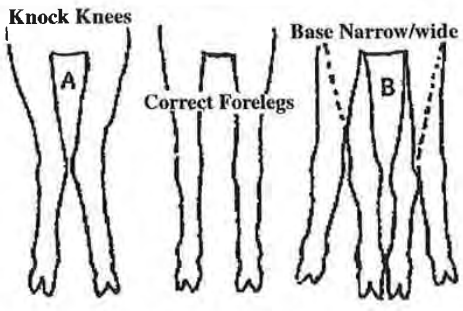
The front knee of the lama is analogous to our wrist joint. It carries the load of the head, neck, and forward half of the torso. The knee must also withstand the body's braking force, making it the most vulnerable joint.



When viewed from the side, the front leg should be straight from the elbow to the fetlock. A deviation to the rear (calf knee, diagram A) creates tremendous pressure on the tendons at the back of the joint. Deviation to the front (buck knee, diagram B) interferes with the lama's ability to lock the joint.

Correct Foreleg

The forelegs must be properly placed in relation to each other to best support the chest, head and neck. If the foot is not directly under the knee, stress intended for the skeleton will instead rest on the joints of the leg, especially the knee. If the leg angles inward to the knee and then turns and angles outward (knock-knee, diagram A) the inside of the knee is weakened. This area is also stressed if the leg is straight but outside of vertical (base wide, diagram B). If the leg is straight but inside of vertical (base narrow, diagram B) the outside of the knee becomes fatigued.



Canadian Llama and Alpaca Association

MINIMUM BREED STANDARDS FOR LLAMAS

Diagrams showing negative traits are attached. Faults are considered unfavourable traits that may detract from the overall soundness of an animal depending on the degree of the fault.

An asterick (*) denotes a congenital defect - an inherent serious fault at birth
Animals displaying these traits (visual observation) should not be bred, and can not be registered.

General Appearance: The objective of this standard is to develop a strong, healthy, sound and correctly conformed true llama in our registry.

The ideal llama is proportionate in shape, balanced and symmetrical and stands on four strong legs. The length of the neck equals the length of the legs and is 2/3 the length of the back. The limbs of a llama are closer to the midline than most other domestic animals and giving them the ability to move freely. The llama has three natural gaits: the walk, pace, gallop.

Height and Weight

The height at the withers of the llama: Juvenile less than 85 cm
Yearling greater than 100 cm
Adult greater than 102 cm

(Please note that this is an average for juvenile and yearling with the adult being the desired height)

The average weight of an adult llama is 113 kg (250 lbs) and ranges up to 250 kg (555 lbs).

Faults: Small size with less than 102 cm measurement at 2-3 years of age at the withers

Head and Neck

The head of an alert llama rises vertically from the withers area with the neck measuring 2/3 the length of the back and equates to the length of the legs. The neck flows smoothly into the back.

The head is tapered with a well fitting jaw. The head bears two upright banana-shaped ears. The eyes protrude slightly from their sockets and are round and large. There can be several shades of black with another acceptable color being brown (flecks are also acceptable). The mouth fits well together with the lower incisors meeting the upper dental pad. The upper lip is centrally divided and mobile to give them more dexterity in gathering food from certain plants. The nose has two well defined open nostrils with the ability for a clear air exchange.

Faults: Over or under shot jaw - fig. A
Ears showing a spear shape (indicative of alpaca traits) - fig. B
Forward set ears - fig C
Disproportionate length of the neck (too long/too short) - fig D
U-neck - fig. E

***Congenital Defects:**

***Gopher Ears -** short, rounded and deformed ears
***Fused ears -** closed opening of the ear
***Wry face -** lateral deviation of frontal nose place; can be slight to extreme
***Entropion -** eyelid rolls in and hair rubs on eye
***Ectropion -** eyelid rolls out or is very loose
***Choanal Atresia -** deviation of the nose; can be slight to extreme
***Juvenile Blindness**
***Deafness**
***Juvenile Cataracts**

Body

The back of the llama is very straight with a squared off appearance to the rump. The chest should have depth to allow for adequate capacity for air exchange.

Faults: Herniated umbilicus
Sagging Back - fig F
Roach back (e.g.camel/hump back) - fig G

***Congenital Defects:**
***Lateral deviation of the spine** - curvation of the spine
***Crooked tail** - permanent deviation

Legs

The legs should be strong and straight. **Front view:** A plumb line dropped from the mid point of the shoulders should fall through the mid point of the knee, fetlock and between the toes. **Rear view:** A plumb line dropped from the mid point of the hip should fall through the middle of the hock, fetlock and between the toes. The body is supported by four strong legs with feet having two toes with hard nails on each toe, and a healthy leathery pad that protects the feet.

Front leg faults: Knocked kneed - fig. H
Calf Kneed - fig. I
Cocked pasterns - fig. J
Bucked Knees - fig. K
Dropped pasterns - fig. L
Medial or lateral deviated pasterns
Splay foot - fig. M
Post legged - fig. N
Pigeon toed - fig. O

Rear Leg faults: Cow hocks - fig. P
Sickle Hocks - fig. Q
Bowlegs - fig. R
Cocked pastern - fig. J
Dropped pasterns - fig. L
Post Legged - fig. N
Medial/lateral deviated pasterns
Splay foot - fig. M

***Congenital Defects:**
***Syndatyl -** fused toes
*** Polydatyl -** more than two digits on the foot
***Luxating patellas -** loose knee cap movement

Gait

A free flowing stride is characteristic of the llama. Its normal speed gait is a stable three gait. A walk where each foot is moved and planted separately. At a faster speed the llama has a pacing gait which is two point, where the two feet on either side are moved together, with the third gait being the gallop.

Faults:
Excessive angular limb deformity causing excessive movement of the body
Joints tracking medially or laterally to the vertical plumb line
Gaits associated with angular limb deformity such as – winging, (splayed foot movement; knock knees), arcing (bow legs), and rope walking (base narrow)
walking

***Congenital Defect:**
***Luxating patellas causing abnormal rear movement**

Genitalia –Female Reproductive Organs

The female reproductive organs are protected internally and therefore are not visible from the outside. However, the vaginal opening should be well covered by the tail, should not be too small and should be situated in a vertical rather than a horizontal plane. **A vaginal opening that is not near a vertical plane is more suspectible to infection.**

Faults:

Tipped up clitoris

Too small vaginal opening

***Congenital Defects:**

***Vaginal opening not near a vertical plane**

***Hemaphroditism -** male and female genitals

***No more or less than functional 4 teats**

***Lack of or incorrect anatomical position of any visible part of the reproductive system.**

Male Genitalia

The most visible part of the male genitalia are the testicles which are situated and protected underneath the tail. The scrotum is well attached and carries the testicles, which are even in size and correct in anatomical placement.**This is not applicable in geldings.** The penis is also an external organ, which is situated under the belly between and in front of the rear legs. The normal size of fully developed testicles is: 4.2 cm in length, 2.5 cm in width in the adult male llama.

Faults: Too hard or too soft testicular consistency

Cystic testicles

***Disqualifiers:**

***Hermaphroditism -** male and female genitals

***Eptopic testicles** (not in scrotum; located in abnormal location)

***No more or less than two equal sized testicles in the scrotum** (not applicable in geldings)

***No more or less than 4 teats** (exception of geldings)

SUMMARY OF CONGENITAL DEFECTS that disqualify an animal for registration

*Gopher Ears
*Fused ears
*Wry Face
*Juvenile Blindness
*Juvenile Cataracts
*Deafness
*Eyes: entropion, ectropion
*Choanal Atresia
*Lateral deviation of the spine
*Crooked tail (permanent deviation)
*Syndatyl
*Polydatyl
*Luxating patellas
*Vaginal opening not near vertical plane
*Hermaphroditism
*No more or less than 4 functional teats on a female
*Eptopic testicles
*No more or less than 2 equal sized testicles in the scrotum (exception of geldings)
*No more or less than 4 teats on a male (exception of geldings)
*Lack of any part of the reproductive system

Llama Breed Standard Diagrams

Ai. Overshot Jaw

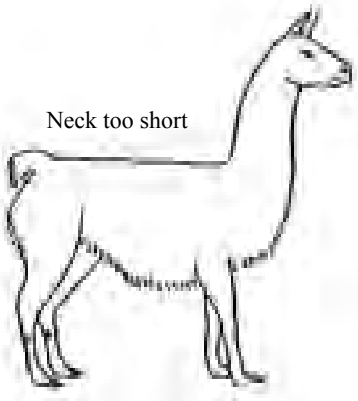
Aii. Undershot Jaw

B. Spear-shaped ears

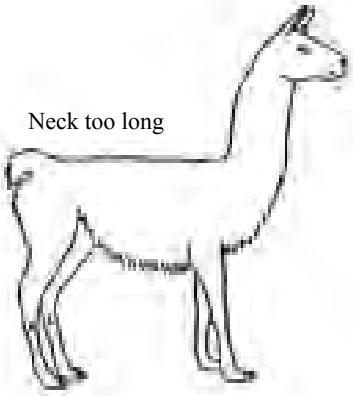
C. Forward-set ears

D. Disproportionate length of neck

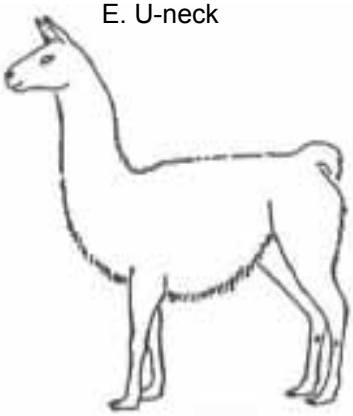
Neck too short



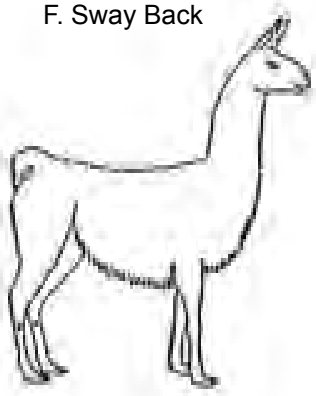
Neck too long



E. U-neck



F. Sway Back

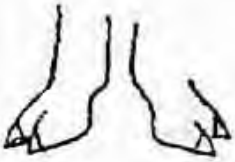


G. Roach Back (camel back)

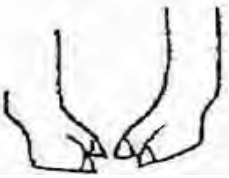
J. Cocked pastern

L. Dropped pastern

M. Splay footed



O. Pigeon Toed



Front legs
H. Knock-kneed

Rear legs
P. Cow Hocked

Q. Sickle hocked rear legs

Front side view
I. Calf-kneed

Front view
N. Straight/ Post legged

Front side view
K. Buck-kneed

Front view
R. Bow legs

Evaluating Body Condition

A llama's fibre can often make it difficult to assess its weight. Using a scale will give you a consistent indication of weight loss or gain. Without a scale you can assess your llama's current body condition using the following:

- if you cannot feel the ribs your llama is too fat
- if your llama's inner thigh jiggles when it walks they are too fat
- the breast bone is easily felt and seen between the front legs, your llama is underweight
- if the breast bone cannot be felt and this region feels like Jell-O, your llama is too fat
- along the back, just behind the withers, is not bony and is well-padded, your llama is too fat
- if back is very boney, your animal is underweight
- pelvic bones are not indicative of body condition as even fat llamas can have protruding pelvic bones

Overweight llamas may exhibit difficulty birthing (dystocia) caused by fat accumulation along the pelvic canal. Fat llamas can have poor milk production possibly from excessive fat stored in the mammary glands. In addition, fat llamas are more susceptible to heat stress.

Source: *http://extension.psu.edu/animals/camelids/nutrition*

BEFORE THE NEXT MEETING

Try one, or both, of the following activities:

1. Using the Internet or industry magazines, find pictures of the ideal looking llama based on the information in this meeting. Create a poster of these llamas on an 8 ½" x 11" piece of paper. Put the poster in your record book.

OR

2. Where in your area, besides buying directly from a farmer, are alpacas sold? Research and create a list of auction barns/events where a person might be able to buy an alpaca and when the sales/events happen. Record your findings in your Record Book.

MEETING 2 DIGGING DEEPER

For Senior Members

The Ideal Llama

Research to find out what characteristics the ideal llama should have. Prepare a judging score card, with a break-down of points, to be used in a judging competition. Use the 4-H Ontario Judging Project and Toolkit as a guide to help you with this process.

Then, using a picture, describe an ideal llama using judging terms. Be prepared to describe the ideal llama at the next meeting (or at meeting #6 when showing is discussed), using an actual live llama if possible. Afterwards, share your judging score card with the group.

ACTIVITIES

Activity #3 – Structure and Conformation

Give each member a Structure and Conformation worksheet (found in the Record Book) and have them work individually or in pairs to fill in the blanks. Make sure no one uses any reference materials while filling out the sheet.

Once each person/pair has finished, go through the answers to insure everyone has them correct.

A prize could be given to the individual/pair that has the most correct answers.

Activity #4 – Create a Catalogue Profile

Have each member bring a picture of their llama, have a llama available for them to look at or have members use a picture of a llama from a magazine or the Internet to create a catalogue profile. Remind members that the more detail they can provide, the better! Be sure to use industry terminology and discuss llama attributes. Profiles should include (but are not limited to) the following:

- Age
- Gender
- Colour/marking
- Structure & Conformation
- History of the animal
- Pedigree
- Health

MEETING 3 - Housing, Transportation and Nutrition

Objectives:

- Learn how to properly house a llama in different environments.
- Learn the proper way to transport llamas.
- Learn about the best choices for llama nutrition.

Roll Calls

- Name one mode of transportation that could be used to transport a llama?
- Have you ever fed a llama before? If so, what did you feed it?
- How do you think you should approach a llama when meeting it for this first time?

Sample Meeting Agenda – 2 hrs. 5 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Parliamentary Procedure	Minutes & Business	10 min
Activity Related to Topic	Activity #5 – Visit a llama farm.	30 min
Topic Information Discussion	Discuss Llama Housing and Llama Transportation.	30 min
Topic Information Discussion	Discuss Llama Nutrition.	20 min
Public Speaking/Judging Activity	Activity #6 – Feed Samples (instructions found at the end of this meeting)	15 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Choose one of the At Home activities to complete.	

NOTE: If it is not possible to visit a llama farm, there are a number of videos online that feature life on a llama farm to give members an idea of llama housing and transportation.

Topic Information

Llama Housing

Fencing

Two llamas can live comfortably on as little as ¼ acre. The living set up is simple. They need 4 to 5 foot high fence (depending on the mix of females and intact males), a fresh water source and shelter from wind, rain and snow and shade from the summer heat. An intact male should have a minimum 5.5 ft. fence, as he may rear up, lean, on, reach over and/or lunge against the fence or gate when defending his territory. This intact male may also jump over or crawl under a fence to get to open females. There are many kinds of fencing available. Barbed wire is not recommended as it catches in the animals fibre and is not necessary for llamas. Page wire fencing with 6” or larger squares is problematic as it allows llamas to stick their legs and heads through the openings. Wooden poles or planks are generally safe for adult llamas, however, crias may be able to escape and dogs or predators may be able to enter easier. A simple 3-sided shelter or roofed pole structure may be adequate. Some llama owners find the use of electric fencing works for both keeping llamas in and keeping predators out. The location of the hot wire is dependent on the desired use for the fence.

Shelter

Some protection is required against both the hot summer sun and winter weather conditions. In mild weather locations llamas are fine with a three sided shelter. When locating the opening for the shelter keep in mind they should have protection from the prevailing wind. Many llama owners prefer to build a barn which can also be used for hay storage, working with animals during inclement weather, and providing a safe location for new crias. Llamas prefer lighted spaces and appreciate windows for light and ventilation. When possible, llamas like to sit in a high location and view the area around them. An overhang or lean-to attached to the barn provides a perfect location for llamas to relax, get out of the elements and feel safe. Llamas also like to roll in the dirt or sand and a lean-to with sand over the dirt provides a clean dust bath both summer and winter.

Llama Transportation

There many ways of transporting llamas. Llamas are easy to transport and require no specialized equipment. Llamas are intelligent animals and can be taught to load and travel in many forms of transportation. Most commonly, trailers are used such as horse trailers, stock trailers, modified utility trailers, in addition to stock trucks, pick-ups with stock racks, pick-ups with camper shells and panel trucks. Then there are the cargo vans, mini vans, station wagons, and even SUVs that carry llamas.

A covered windproof pickup, van, horse or utility trailer with sufficient room for animal(s) to stand comfortably works well. Good ventilation is important in both summer and winter. Straw makes excellent bedding in a windproof enclosure. Provide hay for food and offer water free choice every six hours depending on heat (it will spill if left with the animals). Llamas normally lie down once the vehicle starts moving. If transporting babies and mothers on long hauls, stop periodically to allow nursing.

The ease of transporting llamas is used as a selling point by breeders. The logic is that llamas are smaller and weigh less than a horse. Therefore, the vehicles and trailers used to carry llamas do not need to be as heavy duty as those to carry horses. For example, a single axle trailer is adequate for llamas rather than a double axle. The walls and floor of the trailer do not need to be as thick and strong as needed for horses. Also, llamas tend to lie down when in a moving vehicle. Therefore, the transport does not need to be as tall as that needed for horses.

While there are many ways llamas have and can be moved around, there are many factors that should be considered for transporting llamas safely:

Safety First

When it comes to hauling llamas, safety needs to come first. Consideration needs to be given to the worst case scenario. What if the llama gets anxious and tries to get out? Have you taken all reasonable precautions to cope with such an occurrence?

It is reasonable to assume that a llama might see a window and think they could escape through it. Consider additional barriers between the llama and glass.

In a cargo van, the windshield at the front of the van might attract the attention of a llama looking for a way out. A llama moving to the front of the van would certainly distract the driver and could cause an accident. For safety sake, a barrier between the cargo compartment and the passenger and driver seats would be advised.

Hauling llamas in an open stock rack or trailer is a safety concern. It makes sense to anticipate trouble and devise some sort of top cover to prevent llamas from jumping out.

While a llama should never be tied into a trailer like horses, it is wise to leave the halter on so that the llama can be easily caught and unloaded in an emergency. People new to llamas need to be told that tying a llama up while transporting can injure or kill the animal. This is because a llama tends to lie down while the vehicle is moving. If tied, they are likely to hang by their rope and possibly break their neck.

Responsibility

Sellers have a responsibility to the llamas they have bred and trained. They need to ensure the safety and well-being of llamas they are selling by advising new owners on safe transportation practices for llamas. New owners need to understand that part of their responsibility as llama owners includes safe and humane transport. When new owners arrive to pick up their llamas, sellers should insist on the llamas leaving by way of safe and humane transport.

Plan Ahead for Safety

There are many ways to transport llamas. No matter what type of trailer or vehicle you use, think and plan ahead. Determine the potential risks to your llamas while hauling and work to mitigate those risks for a safe and humane ride to your destination.

They are often transported, therefore, train your llamas to halter, lead, and load into a transport vehicle. This will result in less stress and simplify transport activities.

Nutrition

Llamas are extremely easy to feed. Llamas are modified ruminants meaning they have three-compartment stomachs versus true ruminants such as cattle, sheep and goats with four-compartment stomachs. This means that llamas can eat dry grasses and digest it with the help of their 3-part stomach. Microorganisms (bacteria and protozoa) in the stomach help break down the dry parts of the grass (cellulose). Then the llama spits up or “regurgitates” the food back into the mouth and chews it again. This is called chewing their “cud” and further helps to break down the tough grass. Llamas graze on grass or browse on shrubs and trees. Eating about one third of what a horse would eat, llamas are relatively inexpensive to feed. Generally camelids have similar nutritional requirements to sheep and therefore often sheep data is used in the absence of established llama requirement data.

Llama nutrition, like many other species, should be divided into life stages:

1) maintenance
2) growth
3) pregnancy and lactation stage

The objective of the maintenance stage is to maintain body condition and weight and is often for animals over three years of age that are not working or females in the first two trimesters of pregnancy. The growth stage is from birth to three years of age and supports the growth of the llama based on a minimal percentage of body weight in dry matter and water intake. It is recommended 1.8-2.0% of animal body weight in dry matter intake and 4 litres per hundred pounds of weight in water intake daily. Llamas also do not have the same water retaining properties of their camel cousins, meaning that the llama must drink more often and llamas therefore prefer to be close to water.

Llamas can get by on relatively low protein feed. Protein requirements will vary by life stage. Recommended maintenance protein levels are 8-10% of diet dry matter. Pregnancy and lactation periods require 12-14% protein levels and the growth stage is the highest at 13-14% protein.

Fiber is recommended at 20-30% of the diet dry matter, regardless of the life stage.

Pasture and hay should comprise the bulk of the diet and fresh water is necessary. It is recommended to feed a good quality, dust free grass hay, 10-12% protein. Alfalfa is thought to be too rich for llamas and too high in protein and can cause interference with calcium. Avoid feeding dusty or moldy hay. The llama is a herbivore and gets most of its nutrition from grass, leaves and young shoots. Due to their browsing nature and long necks, ensure trees and leaves within their reach, including plants reachable through the fence are not harmful. There are a number of sources of information to establish poisonous plants in your regions and the symptoms your llama will display should they ingest or be exposed to these plants. The microorganisms present in the rumen are able to safely metabolize a number of potential toxins so they are not a threat to the llama. However, the rumen may have a negative effect on some plants and actually metabolize toxins introduced to the llamas system into a state causing distress in the animal. Become familiar with dangerous plants in your region and keep them out of reach of your herd. To prevent your llama from nibbling the bark away from trees in their paddock wrap the tree in chicken wire or throw some of their droppings against the tree to deter them from stripping the tree bark.

Free-choice loose salt and minerals is easier for llamas to manipulate versus being provided in a block form. Llamas also require minerals suitable to their needs. Incorrect minerals can be dangerous so only purchase those formulated for llamas in your area, or those recommended by knowledgeable llama owners or your veterinarian. Mineral requirements will be dependent on the quality of feed and the region in which the llama resides.

Cut up apples, small horse cubes, carrot tops, corn husks or banana (avoid the peel) are all treats that your llama may appreciate.

BEFORE THE NEXT MEETING

Try one of the following activities.

1. Interview a llama owner in your area. Find out what he/she feeds their llamas. Do they grow any of the feed themselves? Do they buy most or all of the feed? If they buy the feed, do they buy it from another farmer or from a feed mill? Record your findings in your Record Book.

OR

2. How much does it cost to feed a llama for a year? Using the library, the Internet or be talking to a llama owner, research the costs to feed one llama per day and the multiply that by 365 days to find out the cost for an entire year. Record your findings in your Record Book.

MEETING 3 DIGGING DEEPER

DIGGING DEEPER #1

For Senior Members

Poisonous Plants

There are a number of plants that can be poisonous to llamas. Research which plants grow in your area that are toxic to llamas. Some plants can cause stomach upset whereas other plants can be fatal, even with just eating one or two leaves or berries.

Provide pictures and samples if possible and present them to the group at the next meeting, stating which plants cause stomach upset and which ones are fatal. Include other information such as where the plants were found, signs and symptoms of poisoning, treatment and prevention.

If you, or someone in your area has llamas, find out where the nearest veterinarian is that specializes in or has knowledge of llama care.

DIGGING DEEPER #2

For Senior Members

Farm Infrastructure

Create your own farm design and layout using the following scenario:

- 5 acre farm
- 6 llamas
- Unfenced
- House on the property
- No outbuildings

Be sure to consider safety, convenience and costs when designing your farm. Consult with industry experts including llama farmers, veterinarians, etc. to find out what you need to include to make your farm successful.

ACTIVITIES

Activity #6 – Feed Samples

Have members work in small groups. Offer samples of feed options, including inappropriate options, and have members select appropriate choices, including a comparison of hay types (grass vs. alfalfa).

Once each group has selected their choices, have each group present their choices and why they chose those particular feed options.

If possible, have feed tags from various feed mills for minerals required for llamas in your area

MEETING 4 - Health and Reproduction

Objectives:

- Learn how to properly care for a llama's health and maintenance.
- Decide what breeding goals you would want for your llama farm.
- Learn about general reproduction of llamas.

Roll Calls

- Name one way to help keep a llama cool in the summer time.
- Name one thing a llama might do if it is suffering from heat stress.
- How long do you think a llama is pregnant for before having a baby llama?

Sample Meeting Agenda – 2 hrs. 20 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Parliamentary Procedure	Minutes & Business	10 min
Activity Relating to Topic	Activity #7 – Visit a Veterinary Clinic or have a Veterinarian as a Guest Speaker.	30 min
Topic Information Discussion	Discuss Health Care and Maintenance of Llamas.	30 min
Public Speaking/Judging Activity	Activity #8 – Make a First Aid Kit for your llama operation. (instructions found at the end of this meeting)	20 min
Topic Information Discussion	Discuss Breeding and Reproduction of Llamas.	30 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Choose one of the At Home activities to complete.	

NOTE: If it is not possible to visit a vet clinic or have a veterinarian as a guest speaker, consider having a llama farmer as a guest speaker or view videos from online that detail llama health and reproduction.

Topic Information

Health Care and Maintenance

4-H Ontario is committed to the education of its members regarding health of project animals. Animals exhibiting signs of illness may be asked to be removed from any 4-H show to ensure animal health by the show organizer/veterinarian. It is your responsibility as a 4-H member to ensure that if your animal is showing any sign of illness that you leave it at home and discuss with your leader other ways of achieving your club. It is your responsibility to follow the direction of the organizing committee and/or the show veterinarian as it pertains to your animal's participation in the show.

Being familiar with how your llama looks and behaves is the basis for recognizing any inconsistencies and possible health challenges. Abnormalities are only apparent if you can distinguish them from normal behavior and appearance.

With a life span of 15-30 years, it is important to take care of your llama's health. Llamas are considered a hardy animal and easy to raise with proper consideration given to their needs. They can be susceptible to similar diseases that affect sheep and cattle along with both external and internal parasites. Maintenance includes worming, vaccinations, toe nail trimming, body shearing for heat control and attention to nutrition. Males can develop sharp teeth called fighting teeth in their third year. These teeth may need to be dulled or removed at the gum line. This is a simple procedure generally performed by a vet. Llamas can also have problems with extremes of heat and cold.

Annual Vaccines

The specific vaccines you administer to your llama herd should be based on the diseases present in your region. Consider those diseases that affect other small ruminants such as sheep and goats. Work with your veterinarian to determine the best vaccine protocol for your herd.

Clostridium C and D and tetanus are bacterial which may cause illness or death in your llama. If your region has incidence of rabies you may be advised to administer a rabies vaccine.

External Parasites

If your llama is scratching a lot, losing fibre in patches, possibly with some skin and exhibits dry scaly skin they should be checked for external parasites. The aforementioned symptoms should not to be confused with normal shedding, where fibre will come away or can be brushed off of the neck and thighs.

Lice

Lice are a common skin parasite in llamas. They can cause itching and secondary skin problems. They are often first discovered when an animal is sheared. The typical indication is the presence of “nits,” the tiny white eggs that look like tiny white pieces of rice glued to hairs. These are more easily seen on dark animals, but if one animal in your herd has lice, you should assume that all do, because they spread easily. To completely interrupt the lice life cycle, the animals should be treated two to three times.

Lice found on llamas and alpacas are limited to those species. They do not affect people, goats, sheep, cattle, equines, or house pets. They can ruin the fleece for use and fiber mills will reject fleeces contaminated with lice eggs.

There are several products which may be used treat lice on llamas. Consult your veterinarian for recommendations in treating lice.

Mange

Mange is a contagious skin disease caused by one of a variety of mites that live on the animal. It is transmitted by direct contact with diseased animals or indirectly by contaminated quarters or even dust baths. The mite’s entire life cycle is on the animal and two to three weeks may be required to complete the life cycle. Sarcoptic Mange is caused specifically by Sarcoptes scabeii. The mite burrows into the outer layer of skin in areas without much hair such as the legs, ears, and belly. The area develops bald spots, flaking, crusts and the skin may become thickened and leather-like as the disease continues. The mites may cause intense itching. Your veterinarian can confirm the mites with a skin scraping and recommend that right protocol to treat this condition.

Ticks

Ticks are uncommon but cases of tick paralysis and Lyme disease have been reported in llamas.

Internal Parasites

Signs of internal parasites may be weight loss, digestive problems causing discomfort or more prone to illness. Have your veterinarian check a fecal sample to confirm the presence of internal parasites and their identity. A confirmed prognosis will likely result in a dewormer being provided at the advice of your veterinarian. Size of the llamas’ field, moisture levels of the environment and geographical location will all play a part in deworming protocols such as frequency, type and dosage. Oral pastes and injectable dewormers are available and efficacy will depend on type of parasite being treated. Approach your veterinarian for guidance in establishing a deworming protocol.

Proactive measures to reduce the incidence of internal parasites include not feeding on the ground or near manure piles, keeping areas as clean as possible, adequate drainage, avoiding crowded pastures, frequent bedding changes and treating the herd as a whole instead of individual animals.

Teeth

Reflecting their natural behavior to be territorial and fight for the right to breed females, male llamas exhibit fighting teeth which are long and sharp. For safety reasons the sharp tips, which can cause severe lacerations to other llamas, will need to be cut or filed. Continue to monitor these teeth for any growth or a new point being established throughout the llama's life.

Some individuals do this procedure themselves. Be sure to have a vet demonstrate the first time.

Females have very short fighting teeth and seldom use them. The length of fighting teeth on geldings varies and is influenced by the age at which they were gelded.

Llamas can have an underbite (also called a malocclusion) and this is most often hereditary. This is considered a flaw as it has a detrimental effect on the animal's ability to eat.

Feet

Llamas have two toe nails similar to goats and sheep. If their environment does not support normal wear of these toe nails, often in springtime when llamas have been living on soft, muddy ground or snow, they will require a trim. Some llamas have long twisted toe nails that need to cut frequently. You can use the same tools for foot care of the llama as are used for the feet of sheep and goats to trim the toenails of these animals.

Feet

Lamas don't have hard hooves, which makes them different from horses and cattle. However they do have toenails at the tips of their padded feet, and these toenails can get too long. (See figure 6.)

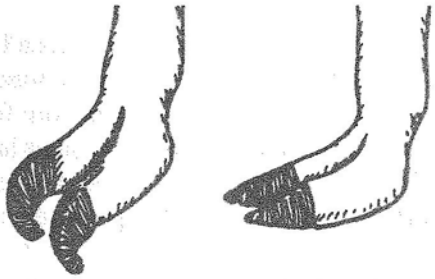


Figure 6 *Long Toenails*

This problem is usually at its worst in springtime when lamas have been living on soft, muddy ground or snow, and not doing much work. Some lamas may have long twisted toenails that need to be cut frequently, while others seldom grow long nails even if the ground is very soft. Look at your lama's feet and nails regularly, and if the nails are too long, trim them. (See figures 7a through 7d.)

Trimming Lama Toenails

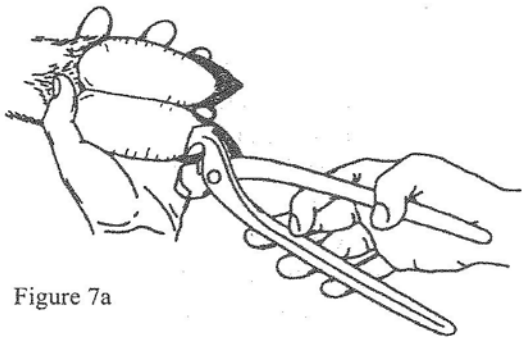


Figure 7a

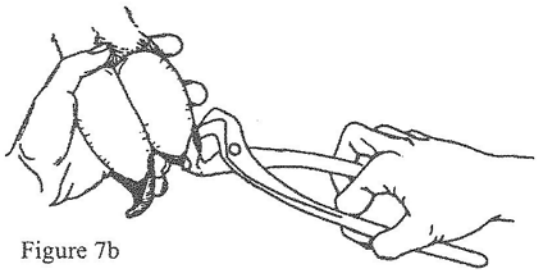


Figure 7b

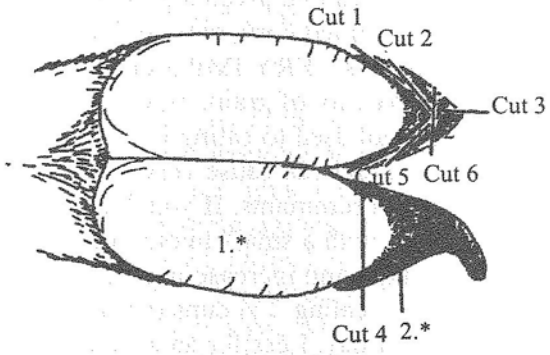


Figure 7c *Recommended Cutting Order*

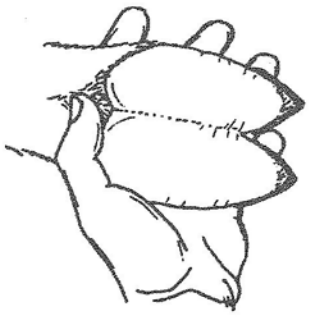


Figure 7d *Finished Toenail*

1. * Be cautious here. If the nail is folded over, pressing on the pad, you may need to trim around the folded area. Then, trim the nail later, when it is wet and more flexible.
2. * This area is the "quick." Don't cut too close, as it will hurt and bleed if damaged.

Temperature Stress

Llamas are generally adaptable to various environments. However, it is advisable to consider some extra measures to ensure a healthy herd. The average body temperature of an adult llama is 37.5-38.9°C (99-101.5°F).

Cold

Crias born in the winter should be dried off and brought indoors to avoid freezing. Llamas feed rations should be increased in the winter. Any changes in diet should be introduced slowly to avoid any problems in ruminant animals. Grain supplementation should be no more than a pound a day and your llama will require more hay/roughage to supplement the lack of vegetation during the winter months.

Heat

Heat and humidity pose more of a challenge to llamas than cold.

Heat stress prevention:

- Ensure an ample supply of fresh drinking water is always available.
- Provide shade and good air circulation.
- Place fans in barns to give better air circulation.
- Ensure vaccinations are up to date.
- Ensure your llama is not overweight.
- Avoid exertion or activities during the heat of the day.
- Shear woolly animals for prevention of heat stress
- Clip fiber before summer
    - o avoid clipping too close to avoid sunburn
    - o clip early enough in the year to allow regrowth before the winter

Signs of heat stress:

1. Extreme laziness
2. Open mouth panting
3. Loss of coordination

Body temperatures at or exceeding 40°C (104°F) degrees could result in death.

To treat heat stress cool your llamas belly and legs with water spray and move to or provide shade. Llamas can be offered a small wading pool with water and will stand or lay in it to cool off. Call your vet immediately in extreme cases of heat stress.

First Aid

It is wise to have on hand or, if travelling, to carry with you a first aid kit. This statement is applicable to us as well as llamas. Have some basic supplies handy should you need to address a condition with your llama. Take into account the nature of your llamas' jobs and customize your kit accordingly. Consider some basic items such as wraps, gauze, disinfectant, thermometer, and scissors. Discuss with your vet items that would be a wise investment for this purpose.

Breeding

Deciding to Breed

Before deciding to breed there are important considerations to make. Does the breeding stock possess poor traits that would not be beneficial to pass on, i.e. confirmation, temperament? Do you have the resources to expand your herd, i.e. labour, housing, and feed? If you intend to sell the offspring do you have the marketing savvy and opportunities to successfully move these livestock into the market? Are your llamas old enough/mature enough to reproduce?

Consider your breeding goals. For example, what characteristics is your female lacking that you will want to attempt to introduce with a male that demonstrates that trait. It is not always a guarantee that those desirable traits will be passed on but it is wise to introduce them to the next generation.

Reproduction

Female Development

The female is normally ready to be placed in the breeding herd between 15 and 20 months of age, or when she has reached approximately 60% of her adult weight. Some owners prefer to wait until the female is 2 years of age. Females that are bred too young will be growing rapidly and may not be able to nourish herself and her baby causing stunted growth in mom and/or baby. This may occur unintentionally if a stud male lives in the same pasture with young females.

Male Development

Males demonstrate an interest in breeding at a young age, often acting out the behavior associated with breeding, even with their mothers. Males become fertile between 10 and 36 months of age, with the average being 24 months. There are exceptions and some males may be able to breed younger and this is why males should be weaned and separated from females around 6 months of age.

Male llamas that are not suitable for breeding may be gelded after age two.

General Reproduction Information

Llamas do not exhibit common outward signs of estrus or heat as cattle or horses do. Llamas are induced ovulators (ovulation occurs 24-36 hours after breeding). Thus they can be bred at any time of the year.

Most people breed their llamas in the spring or the fall so offspring are born at the most suitable time of year for their survival. The gestation period is approximately 345-350 days, or 11 ½ months with just one offspring. Llamas can be rebred two to four weeks after giving birth but it is not necessary to breed a female every year.

Proof of pregnancy is suggested by rejection of the male and can be confirmed by a vet.

Acquired infertility problems include: heat factors, anatomical abnormalities, trauma, infection, neoplasia and hormonal imbalances. In addition to these problems, management short falls also contribute to the bulk of infertility cases investigated. Techniques used to diagnose infertility in llamas are quite comparable to the equine species. However, female llama body size and semen analysis in the male present significant challenges.

Source: *http://www.ncbi.nlm.nih.gov/pubmed/2647232*

Birth

Baby llamas and alpacas are called crias (CREE-ahs) and the average birth weight is 8 to 16kg (18-35 lbs.). A single cria is normally born without assistance from a standing mother during daylight hours. Twinning is rare.

Up to two to three weeks prior to the due date, you may notice signs of the coming delivery with the development of the female's udder and the pregnant female choosing to lay off by herself away from her herd mates. As the female llama starts into labour, you will notice her visiting the dung pile often with no results, possibly rolling onto her side, and getting up and down frequently. It may be as long as a couple of hours from this time before you see the first presentation of the baby.

The female does not clean the cria but does talk to it in a soft “hum”. An experienced dam will nuzzle her cria and push it toward her udder or stand over it to help it find the milk.

A cria will often take its first wobbly steps within 15 minutes or up to an hour or more. During this time, the dam is still having contractions from trying to pass the afterbirth and still feels quite uncomfortable. She usually will pass the afterbirth about 45 minutes after giving birth, but the time does vary. If she does not pass it within 24 hours, a veterinarian will need to be contacted.

Once the cria is up and taking steps, it will nuzzle around the dam (mother) trying to nurse. It is most important that the cria nurse within 6 hours of birth and get the colostrum from its mother’s first milk. The cria has no immune system of its own when born but its mother passes immune antibodies through her first milk. This is called the passive transfer. These antibodies can only be absorbed through the cria’s stomach during the first 24 hours after birth. If sufficient absorption has not taken place, the cria’s immunity is compromised. The first milk, or colostrum, is very thick, kind of yellowish, and sticky. The ability of the cria to absorb this colostrum lessens with each hour after birth so the sooner the cria nurses, the better.

Birthing Problems

During the birthing process, if no progress is seen over a 30 minute period, there may possibly be a problem called dystocia and you should call your vet or offer assistance.

If the cria does not nurse within the first six hours, cow or goat colostrum can be given to the cria with a bottle.

Now before you rush and decide the new cria is not going to nurse and try to offer it a bottle, step back and re-evaluate the situation. How long has it been since the birth? Has the mother passed the placenta (the afterbirth) yet? Has the rest of the herd been gathering around the new cria? Do not intervene too quickly. Sometimes the mother will even walk away from the cria or kick at them if they do try to nurse. Give the mother time to seek out her cria and most likely baby will nurse. Limit your concern for the crias inability or lack of desire to nurse until time is approaching 5-6 hours after birth. Most mothers will accept and nurse their own crias.

Occasionally you will find a new mom who will not bond with or accept her cria at all and appears to not want to have anything to do with the new arrival.

Aberrant Behavior Syndrome (ABS)

When deprived of a herd environment during their growth and development, llamas can develop severely abnormal ways of relating to humans at sexual maturity or earlier. Aberrant Behavior Syndrome, also referred to as “Berserk Male Syndrome”, is the result of a young male llama spending most of its time with humans as the result of bottle feeding and/or being raised as a single llama. Llamas require and desire company of their own kind. When this companionship shifts to humans the llama will transfer their normal llama behavior to humans including playing or fighting, attacking humans, biting them, spitting at them or attempting to breed them. He will attempt to dominant or establish himself in the hierarchy of his “human” herd. This is a very serious condition that is dangerous to the llama’s handlers as well as any other humans sharing space with this male. Sadly, this condition does not have a cure and typically the animal will need to be humanely euthanized.

Female llamas raised in the same circumstances may display some annoying dominance habits or behave in a spoiled manner but do not typically exhibit dangerous behavior.

Crias should never be sold as pets to be intentionally bottle-fed. Bottle-feeding should take place in a herd environment and only when medically necessary to ensure the health of the dam and/or the cria.

Crias are weaned at about 5-6 months.

BEFORE THE NEXT MEETING

Try one of the following activities.

1. Is there a veterinarian in your area that specializes in llamas or who has taken extra courses to gain knowledge about these animals? How far away from where you live do you have to go to find a veterinarian with this knowledge? Record your findings in your Record Book.

OR

2. Lice can be a problem for llamas. Interview a veterinarian to find out what products are available to help treat this problem, what the cost is for one treatment and how many treatments a llama should have to rid them of lice. Record your findings in your Record Book.

MEETING 4 DIGGING DEEPER

For Senior Members

The Camelid Chronicles

Test out your journalism skills by reporting for the Camelid Chronicles!
Interview an industry representative. This could be a veterinarian, hoof trimmer, llama farmer, feed nutritionist, someone who shears llamas or anyone else connected with the industry. Some suggested questions could include:

- What is your role in the llama industry?
- Why do you do what you do?
- What education/experience do you have that got you here?
- What is the best part of your role? Worst part?
- Why do you think llamas are great?

Be sure to ask questions that are specific to the person's role such as asking a veterinarian about difficult births and how to handle them or by asking a feed nutritionist what is the best feed for llamas.

If possible, submit your story to a local newspaper or write a blog about your findings.

ACTIVITIES

Activity #8 – Make a First Kit for your Llama Operation

Consider the activities you engage in with your llama and first aid situations that may present themselves and consider the unexpected. Present many options for a llama first aid kit and have members select the best six options to include in their kit.

Ask members where a first aid kit be kept.

MEETING 5 - Llama Jobs

Objectives:

- Learn about the numerous jobs that llamas have.
- Learn about the llama fibre industry.
- Learn how to dye wool on your own.
- Learn about the challenges that llamas have to overcome for many of their jobs.

Roll Calls

- If you could dye wool yourself, what colour would you choose?
- Name one job you think a llama can do.
- Have you ever saw a therapy llama working? If so, where was it?

Sample Meeting Agenda – 2 hrs. 55 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Parliamentary Procedure	Minutes & Business	10 min
Topic Information Discussion	Discuss Llama Jobs #1 - Fibre	15 min
Activity Related to Topic	Activity #9 – Dyeing with Kool Aid (instructions found at the end of this meeting)	40 min
Topic Information Discussion	Discuss Llama Job #2 – Packing	10 min
Activity Related to Topic	Activity #10 – Llama Obstacle Course	30 min
Topic Information Discussion	Discuss Llama Jobs – Cart Driving, Guard Animals and Therapy	20 min
Public Speaking Activity	Activity #11 – Public Relations Obstacle Course	30 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Choose one of the At Home activities to complete.	

Topic Information

Llama Jobs

In addition to breeding stock to expand your own llama facility or to sell llamas to individuals who are involved in or want to start their own enterprise, llamas can provide a number of services. Uses include fibre production; pack animals; guardians; therapy; driving animals and pets. Llamas are great working partners and family pets. They have predictable, calm responses to new situations. Llamas are trustworthy. Their intelligent, gentle nature allows even small children to interact with them. In addition, a llama may be included in local parades and various community events/corporate events.

Consider the physical structure, disposition and any other factors such as stage of llama pregnancy to ensure you have the right llama to do an effective job without compromising your llamas or people.

1. Fibre

FIBRE TERMINOLOGY

APRON: Coarse fiber which forms an over coat around the chest of the alpaca.
ARCHITECTURE: Pertaining to the fleece: the general structure and lay of fibers within the locks which go together to make up the fleece as a whole.
BELLY FIBRE: Fiber harvested from the belly, usually of a coarser quality.
BLANKET: The back and side of a fleece from. The base of the neck to the base of the tail and the sides from the back bone to the belly including the haunches.
BREAK: A weakening of fibers in the staple which will break under strain.
BRIGHTNESS: The property by which fiber reflects light.
BRITCH FIBRE: Fiber off the lower thigh of the rear leg of the alpaca.
BRITTLE FIBRE: Long tapering dry tips usually caused by weathering.
BURRY FIBRE: Fiber contaminated with burrs (seeds, etc.)
CARPET FIBRE: Coarse hairy fiber.
CLASSING: Grouping of fleeces according to type and quality.
CHARACTER: The characteristics of fiber lock or fleece determined by qualitative evaluation of crimp, staple length and configuration, handle or softness, and luster. It indicates good breeding and growth.
CONSISTENCY: Uniformity throughout a fleece of fineness, staple length, character (crimp, ‘staple configuration, hand) and density.
COARSE: Fiber of large diameter and low count.
COTTED: Fiber naturally felted on the animal.
COUNT: Refers to Bradford Count, a method of indirectly assessing fiber diameter.

COVERAGE: The distribution of continuously growing fiber over the alpaca's body, neck, legs and head.
CRIMP: The waviness found along the length of the individual fibers throughout the blanket. The waviness in crimp occurs uniformly in the fibers of the lock in the same plane.
CRUTCHINGS: Fiber from the britch and inner thighs.
CURL: Waviness found along the length of individual fibers throughout the blanket that lies randomly in different planes and gives the fleece a curled looking appearance, e.g. Suri alpacas.
DAGS: Lumps of dung.
DEBRIS: Material that can be found contaminating a fleece.
DENSITY: Number of fibers per square unit measurement of the alpaca's body.
ELASTICITY: The ability of a fiber to recover it's original size and shape after extension.
FELTING: The irreversible tangling of fibers together.
FLEECE WEIGHT: The yield or weight of the spinnable fiber from shearing. To be relevant, the age of the alpaca, the particular shearing (I.e., first or subsequent) should be identified and the length of time the fleece was on the animal.
FIBER FINENESS: Refers to the fineness of the individual fiber and is measured in microns 33
GENERAL TENDERNESS: Fibers break in random locations along the fibers. Indicates generally weakened fleece.
GUARD HAIR: The somewhat thicker, straighter and longer fibers found in the fleece.
HANDLE OR HAND: The tactile quality of the fleece to the hand.
LOCK: A naturally occurring tuft of fiber within the fleece.
LUSTRE: The sheen, gloss or shine of the fleece and fiber.
MATTING: The inextricable meshing of fibers in: the fleece.
MICRON: A unit of measurement equal to one thousandth of a millimeter. .
MUSHY: Fiber lacking in character. Reece wool with weathered and worn tips which cause irregularity of fiber length in processing.
NOILS: Tangles that occur as a result of short fiber contamination.
OPEN FLEECE: A type of fleece (as Shetland sheep or camelids) which does not hang together as a unit and tends to have lower grease content, as opposed to a closed coat (for example, Merinos and most fine wooled breeds of sheep) where the wool surface does not open and is characterized by high grease content.
PRIME FIBER: The best quality fiber that a particular alpaca has to offer. This may include some neck fiber.
SECOND CUTS: Short pieces caused by poor shearings. .
SEEDY FIBRE: Fiber containing seeds.
SKIRTING: Fiber of lower grade. Removed from fleece.
SILKNESS: Smoothness and slipperiness of fiber.
SOFTNESS: The tactile quality of the fleece.
SORTING: Breaking of a fleece up into qualities.
SOUND: Fiber without breaks or tenderness.

STAPLE: Single lock of fiber.
STAPLE LENGTH: The average length of fiber within the fleece when measured from its point of origin at the animal's skin to the tips of the individual fiber.
STRESS BREAK: occurs at one point across the fibers in the locks.
SUN BLEACHING: The changing of color of the tips of locks when exposed excessively to the sun. This can also be the cause of damage by drying out the tips of locks and causing tenderness at the tips.
SURI: Fibre that is pencil-like locks
TENDERNESS FIBRE: Weakness in the fiber. It may be general, which results in breaks at random places in the fibers in the lock under tension, or it may be a stress tenderness, where all of the fibers break in
The same place along their length, indicating something happened at one point in the growth of the fleece to produce a break at that point.
UNIFORMITY: Refers to the degree of consistency from one area to another .within the fleece of fineness, staple length, character (crimp, staple configuration, hand) and density. .
YIELD: The amount of clean fiber obtained from a particular alpaca.

Source: *http://britishllamasociety.org/Fibre/Fibre.html (excellent source of photos representing different colours/patterns)*

The fiber llamas are separated into different fleece types. Common terms to define the different fiber animals are woolly, silky and suri llamas.

Fibre

Llama and alpaca fibre production is a multi-million dollar industry in South America and with the recent trends to natural fibres, the prospect for developing a cottage industry here in North America is very promising.

Llamas have soft, fine fibre with remarkable warmth and insulating qualities. Llama fibre has a tensile strength and durability three times that of wool. Shearing every other year will produce an oil-free fleece weighing 2 - 10 pounds, with a fibre length of 4 - 7 inches.

The characteristics of llama fibre make it cherished by spinners and weavers.

The luxurious hair of a llama has a hollow core. This creates a natural insulator, so that the fleece does not have to be thick to be warm and is therefore lightweight. Warmth and cosiness of camelid garments are attributed to these microscopic air pockets in the fibres. This thermal capacity makes it seven times warmer than sheep wool. It has no lanolin and so is not greasy to touch.

Llama fiber can be spun to make beautiful clothing and blankets and is hypo-allergenic. Most show llamas are shorn in the spring in a “barrel-cut” style to maintain their beauty for public events. This cut also helps to keep the llama cool during the warm summer months.

Comparing Llama and Alpaca Fibre

Generally, alpaca fibre is superior to llama. Alpacas are bred for their valuable fleece and, therefore, selective breeding for their fibre is most important. They produce uniform, superfine fibre with a high quality of crimp and crinkle suitable for commercial fabric production and for the luxury fashion industry.

The fact that llama fibre is considered to be inferior to alpaca is largely due to the fact that it is very difficult to process because of its diversity in fibre thickness and length ranging from the super fine undercoat to the very thick, coarse, guard hair. Once guard hairs have been removed from llama fibre, the end product is generally the same as alpaca.

Llamas come in a variety of colours. There are more natural colours than any other animal. They can be white, cream, fawn, brown, red, charcoal grey, rose grey, red black, true black etc.

They can be one solid colour or a mixture of two or more colours either combining to produce an infinite array of shades or having two or more separate colours. Colour genetics is not fully understood and one cannot breed for a specific colour. Two dark animals might produce a white baby or a grey parent and white parent might produce a tri-colour baby.

Alpacas’ overall colour is cinnamon brown with a darker, sometimes grey face and a white chest and belly. The inner sides of the legs are also white.

Harvesting and Preparing Fibre

Llamas have a two-coated fleece comprising of outer guard hair and a fine undercoat. The undercoat is very fine, whilst the guard hair, the outer-coat is much coarser. Guard hair allows moisture and debris to be shed from the animal, whilst the undercoat provides warmth and insulation.

The undercoat sheds from time to time and can be brushed from the animal. In this way, the soft, downy fibre is collected, whilst the guard hairs mostly remain on the animal.

The blanket area of the fleece is the best fibre and they have little or no hair on their bellies, unlike alpacas. The neck hair is often much shorter and is good for felting.

Unlike alpacas, llamas do not have to be shorn but if it is, an average of 3-7lbs can be yielded. It is usually necessary to de-hair the fleece after it has been shorn and this is rather laborious since it has to be done by hand. It will also depend on the animal, as to how much guard hair it has, particularly if it is an older animal.

The wool from the barrel of the llama is the best. The belly and lower leg wool should be thrown away as it is typically shorter, coarser and dirty. The type of fibre will influence how it can be utilized. You can have your fiber professionally processed or prepare it yourself. Start by washing the fiber in hot water with a mild detergent. Let the fiber soak in soapy water for about 20 minutes. Do not agitate; agitating the fiber will cause it to felt. Soak in as many detergent baths as seem necessary to clean the fiber then rinse in hot water. Keep the water temperature consistent throughout the washing process to avoid felting. Air dry your fleece by placing it on racks. Handpicking the fiber to remove any bits of dirt or vegetation which remain after drying will make the carding and spinning easier. Carding is done to open and arrange the fibers so they can be easily drawn out in the spinning process. You can card by hand with carding paddles or use a drum carder.

Positive Attributes of Llama Fibre:

• There are many natural colours. Blending can produce an infinite array of colour.
• It is easily dyed and will maintain its natural lustre.
• It has more thermal capacity than almost any other animal fibre. Microscopic air pockets make garments that are lightweight with high insulation values. It is also naturally water repellent.
• It is easy to clean and process because it contains no greasy lanolin. The lack of lanolin also produces a high yield after processing (up to 95%). It does not shrink during washing or processing and has a lesser tendency to felt when washed.
• The lack of lanolin means that it can be worn by people who cannot wear wool.
• It is extremely durable and has been shown to be three times as hard wearing as sheep wool.
• It has a high lustre, giving garments a high visual appeal.
• It is soft, supple and smooth to the touch. The cellular structure of the fibre produces a soft hand, unmatched by most other speciality fibres.
• It usually creates less prickle or itch than wool due to the manner of scale placement along the shaft of each fibre.
• It is unusually strong and resilient and does not diminish in strength as it becomes finer, which makes it ideal for industrial processing as well as hand spinning.

Many people also needle-felt, locker-hook and do many other projects with their llama fiber.

Negative attributes of Llama Fibre:

- There is little elasticity and therefore, garments are prone to lose their shape.
- Moths love it!
- Sunlight harms it. The shades of colour can fade.

2. Packing

Llamas are excellent packers. Their two-toed foot with its leathery bottom pad gives llamas a great sure-footedness with minimal impact on the environment. Llamas are regularly used for packing by hikers, campers and hunters. Some park rangers are now using llamas as pack animals for park maintenance because they can go more places than mules and do less damage in the process. In addition, some golf courses are using llamas as caddies.

A conditioned llama can carry approximately 25% to 30% of its body weight, making a llama as strong, if not stronger, than a horse. Llamas are environmentally sensitive, intelligent creatures. Their feet, comprised of soft pads with 2 toenails, impact the environment less than the boots of an average hiker, yet llamas are strong.

Before packing with llamas, take time to learn the saddle system to be used, how to secure it without causing injuries and how to balance and pack it with weight appropriate items for the specific llama. Do not load a llama under the age of two years, and do not fully load a llama until it is well-trained, well-conditioned and near physical maturity, usually reached at 4 years old.

3. Cart Driving

A full-grown llama can easily pull a cart with two adults. Llama carts have been used for many special occasions, such as weddings and parades. Llamas can be driven single, double or triple hooked up side by side. A llama that may not pull single may pull just fine as a double or triple as llamas prefer to be with a least one or more herd mates. In addition, if you are doing any kind of distance or climbing hills you need the power of two or three llamas as long as the track or trail allows for it. Llamas responded to voice commands. They pull because they want too, not because they are forced.

Unlike horses, the equipment is light and easy to handle. Harnesses are made from one inch webbing which is long wearing and easy to care for.

Training is the key to safe and fun carting and llamas should be trained to pack and be comfortable on trails and around outside distractions before they are introduced to carting. Establish a training schedule that should be followed to ensure that llamas and driver are safe and happy. As you use no form of bit (like a horse uses) you need to have driver and llama understanding and vocal commands are key.

It is critical that the animals chosen are at least three years old, run together and are trained to pack before you introduce them to carting.

4. Guard Animals

A llama has excellent sense of sight, smell and hearing, which are used for detection of potential danger.

Llamas have an inherited fear of coyotes, cougars and other dog-like animals. Llamas make excellent guardian animals for sheep herds. They have similar dietary requirements and will defend the herd from many types of predatory animals. Llamas are often used as guard animals to protect sheep and goats from coyotes and will quickly alert and protect the herd when they spot a predator.

Llamas are territorial by nature, so the pasture becomes their territory and the flock their family group. They need no training, and usually begin their protective behaviours within days of his introduction to their charges. One llama in the pasture will “bond” with the sheep or goats and charge a coyote head first to chase them away. They may herd them to safety, sound an alarm at the sight of predators, stand guard between their family and danger, or run at and attack a predator with their feet, teeth or chest, and although no guardian animal can defend against attacks by predator packs, nor survive a direct attack by a cougar or bear, it does appear that the mere presence of a llama may prevent such attacks. If a llama catches a coyote, they will roll them with their head and try to trample them with their front feet. The llama’s large eyes can look different directions independently from one another and can see far distances.

It is our responsibility as caregivers to help prevent losses of livestock including our guardian animal by providing adequate fencing and shelter and otherwise discouraging the presence of predators. Llamas can be seen as one part of an “integrated protection program” that may even include guardian dogs. Not all llamas are suitable candidates for guardian responsibilities, and not all situations are suitable for the llama. The llama must be selected for their cooperative personality, territorial/protective tendencies and correct behaviours toward their charges.

Guardian Llama Selection Considerations:

• Llamas are usually more effective guardians after they reach one or two years of age.
• Multiple llamas in the same field are usually not as effective as a single animal.
• About 25% of intact males and 5% of geldings will attempt to breed ewes and may injure or kill them in so doing. This can and should be selected against.
• Most llamas will learn to tolerate a guard dog, but may not tolerate a working dog he sees "chasing" his sheep. For the same reason, he may not tolerate the ram during the breeding season.
• In hunting areas, a dark-coloured llama may be mistaken for a deer or elk.

5. Therapy

Dogs, cats, guinea pigs, rabbits, rats, horses, donkeys, llamas, alpacas, pot-bellied pigs and birds can all be used in therapy animal work. Llamas are gentle, intuitive and curious and thus make excellent therapy animals. They can have a positive impact on a variety of individuals in various environments. Llamas are very social animals and easy to train. They can be house broken, negotiate rooms, hallways, stairs, elevators, various floor surfaces and are happy travelling in a van.

Research has shown that animals help humans by alleviating loneliness, acting as social bridges, reducing blood pressure, directing thoughts outward and serving as strong motivators for accomplishing difficult tasks. Visiting with therapy animals has been shown to lower anxiety and motivate participation. In physical therapy, the client may be motivated to brush the animal or walk with it. In mental therapy, the animal is seen as a friend and ally, thus presenting a safe atmosphere for sharing. Therapy animals serve as non-judgmental companions in the process of learning and development. They are used for everything from help with lessons to teaching social skills and responsibility. They help students with emotional problems that interfere with school, including grief and personal crisis. Their presence brings a sense of normalcy to institutional settings. Therapy animals can bring comfort to clients directly as well as families, friends and support workers sharing experiences with that client.

Therapy animals regularly visit:

- Long term and skilled care facilities
- Assisted living communities
- Hospitals
- Residential treatment centers
- Schools
- Libraries
- Alzheimer Centres
- Physical rehabilitation centers
- Adult and Child day care
- Hospice
- Disaster areas
- Anywhere there is a need

An excellent video link demonstrating therapy animals at work can be found at:
http://patspets.ca/wordpress/videos

Qualifying to be a Therapy Animal:

There are a number of organizations in which to qualify therapy animals with.

Some examples of the requirements and rules of various organizations are:
- Minimum age requirements for you and your animal
- Your animal must be spayed or neutered
- Your animal may not be fed a raw protein diet
- Your animal must have a record of vaccination in accordance with your vet's recommendations
- Your animal must be bathed before each visit
- You and your animal must wear ID while on the job
- Your animal must be kept on a lead of a maximum length while on the job

Therapy animals are part of a formal certification process that may involve an initial interview, behavioral and temperament assessment, training classes, extensive practical laboratory experience and a final assessment.

Therapy animals are best known for bringing affection, comfort and happiness to people in confined living situations, whether they are in a hospital for a short stay or living in an assisted living home. Sadly, sometimes family and friends are too uncomfortable to visit their ill or aging loved ones because of their condition or other logistical challenges limit personal visits. Connecting with an animal, petting or cuddling with it, can bring a smile and warm memories to those who feel ill, lonely or neglected.

But therapy animals also serve in many other ways, including helping people with learning difficulties, helping people with mental and physical therapy, and bringing comfort to people in stressful situations such as those recovering from disaster.

Research has shown that contact with a therapy animal helps improve a patient's physical, mental, emotional and social state, which in turn helps them better engage and participate in the process of their treatment and recovery.

Therapy animals come in all shapes and sizes, and their most important characteristic is not their species, breed or appearance, but their temperament. They are friendly, patient, confident, gentle, and at ease with strangers. They provide unconditional acceptance and never fail to put smiles on the faces of children and adults.

A therapy animal must enjoy human contact and excessive petting. And they must be comfortable staying in place, whether it is on a floor, chair, couch, bed or lap, or in their handler's arms. Therapy animals do not need to perform, though a few simple tricks will surely delight their audiences.

Your therapy llama must obey basic obedience commands, and be tolerant of disturbances such as:

- Clumsy handling by children and elderly people (though the animal's handler should never let their animal be abused)
- Equipment such as wheelchairs, walkers, crutches and canes
- Sudden and loud noises
- The surprise of seeing another animal in a facility

Therapy animal evaluations generally include disturbances such as those listed above, but the goal is not to have an animal that doesn't react at all. After all, a sudden, loud noise would make you jump! But such disturbances should not cause the animal to panic. And if it does react, with its handler's assurance it should quickly regain composure.

Source: *http://www.therapydoginfo.net/*

BEFORE THE NEXT MEETING

Try one, or both, of the following activities.

1. Explain the ways a llama will defend itself and can serve as a guard animal in an individual farm setting. List how a llama guards animals differently than other types of guard animals (e.g. what does a llama do differently than what a donkey might do guarding animals). Record your findings in your Record Book.

OR

2. Does anyone in your area use a llama as a therapy animal? If it is okay with your parents, ask if you can accompany them on one of their visits. Before going, ask questions such as:
• What type of facility will you be visiting?
• Are there any rules in the facility that you should be aware of?
• What should you wear for the visit?
• What is the llama's name? Details about the llama? (you might be asked questions about the llama)
• How long will the visit last?

NOTE: If no one in your area has a therapy llama, try finding someone with a therapy animal of any type and accompany them on one of their visits.

MEETING 5 DIGGING DEEPER

DIGGING DEEPER #1

For Senior Members

More Llama Jobs!

In addition to the llama jobs listed in Meeting #5, there are additional jobs that llamas can be used for such as entertainment. Llamas have been used for square dancing, complete with costumes.

The question is, how are llamas trained for square dancing? Research, on the Internet, at the library or by talking to a llama trainer, to find out what the training process is to start training a llama to be a part of a square dance set. Record your findings in your Record Book.

Additionally, what do the costumes look like for llamas? Are there patterns available or have people created outfits on their own? Try to find pictures and possibly a costume to share with the group at the next meeting when explaining how to train llamas to square dance.

Are there other jobs that llamas can do that aren't covered in this project? If so, record these jobs in your Record Book as well as details as to how llamas are trained for these jobs.

DIGGING DEEPER #2

For Senior Members

Advertising

Promote your product! Make a one page ad for the Ontario Farmer to promote your product. Your product could be (but is not limited to):

- Fibre
- Manure
- Packing services
- Guard llama services
- Therapy llama

ACTIVITIES

Activity #9 – Dyeing with Kool Aid

What you need:

- llama fibre
- unsweetened Kool Aid packets
- 250mL (1 cup) water
- 75mL (1/3 cup) white vinegar
- rubber gloves (optional)

Getting Started:

1. Soak wool in 1 gallon of warm water and 1 cup of vinegar until fibers are thoroughly wet (about 10 minutes).

2. To start, combine 1 packet of Unsweetened Kool Aid with 250mL (one cup) water and 75mL (1/3 cup) of vinegar. The amount of water that you use will affect the brightness of the colour. To test the colour, submerge a small amount of wool yarn in the dye. You can make the colour more vibrant by adding more Kool Aid, and mute it by adding more water. Once you are satisfied with your colour, you may need to mix additional dye solution, depending on how much wool you are going to dye.

3. To create a solid colour, add the wet wool to the dye mixture. Allow the dye to saturate the wool for about 10 minutes. It is easiest to dye an entire wool garment in a shallow dish. Yarn can be dyed in drinking glasses. Continue to Set Directions.

OR

To dye yarn in multiple colours, it is best to start with your lightest colour first. Dip the wool into the dye mixture up to about 1.25cm (½ inch) before you want the colour to stop (the yarn will act as a wick and draw the dye up). Let it sit about 5 to 10 minutes in the dye mixture checking regularly for your desired colour. Carefully remove the wool and add the undyed part to the second colour. To dye larger samples multiple colours, it is best to hand paint the dye with either a paint brush or eye dropper. When you have achieved your desired colours, continue to Set Directions.

Set Directions

You will need to set the dye with heat. This can be done using a microwave or on top of the stove.

To set your dye in the microwave place the yarn or garment in a microwave safe dish covered with plastic wrap. Small amounts of yarn can be set in as little as 30 seconds; garments can take as long as two minutes. You will know that the dye is set because there will be clear (or milky) liquid at the bottom of the dish. You should watch the microwave closely while the garment is heating.

To set the dye on the stove, slowly simmer the garment in the dye bath for about 20 minutes or until the water turns clear (or milky).

Once the dye is set, allow the wool to cool naturally. It is important not to shock the wool with extreme temperature changes or it can felt. Once the wool has completely cooled, rinse it gently in tepid water, roll it in a towel to absorb excess moisture and allow to dry on a flat surface. Tepid water consists of two parts cold water and one part boiling water.

Activity #10 – Llama Obstacle Course

If not possible to go packing on an actual trail, a “trail” scenario can be set up in a paddock or elsewhere. Almost all 4-H members do trail obstacles because they are fun and can show others how and what they have accomplished in training. It is a way for great interaction not just with your llama but with other 4-H members and their llamas. Obstacle courses for some are a sporting event, for others a way to practice and train their animals for going on hikes. Many different kinds of obstacles are used, i.e. bridges, ramps, tunnels and steps to name a few. All trail obstacles must be appropriate not only for the age of the 4-H member but just as importantly for the physical ability and age of the llama. Never do anything that can harm yourself or your llama!

Things to remember:

• Be sure the trail is safe for all member age groups
• No obstacle is too demanding on the llama, especially young llamas

Source: *https://www.unce.unr.edu/4H/programs/stem/files/pdf/LlamaProjectLeadersGuide.pdf)*

Trail Obstacles

1. Tunnel
2. Jumps
3. Teeter-Totter
4. Bridge
5. Circle with pick-up item
6. Passing to the side
7. Stepping in the ladder
8. Circle in a box
9. Limbo bar
10. Backing in and out
11. Backing up with angle in obstacle
12. Change of pace
13. Circle with front feet in back feet out
14. Hula Hoop pass over
15. Log step-over

Activity #11 – Public Relations Obstacle Course

The idea of the public relations obstacle course is the same as for trail, but with the obstacles seen as people/community interaction. Many llama owners, 4-H members and others take their llamas to schools, hospitals, nursing homes and also have them in parades. The idea is to train your llama not to be afraid of flashbulbs, balloons, small children, wheelchairs or large groups of people. Some llamas take to public relations better than they do trail events. Be creative, the list below are just suggestions.

Public Relations Obstacles

1. Weaving between chairs
2. Photo Shoot
3. Walking past bench and being petted
4. Balloon tunnel
5. Backing around object
6. Weaving between poles with balloons
7. Limbo bar
8. Walking up 2 steps across platform down 2 steps
9. Walking up to a costumed character
10. Show teeth and foot of llama to a person
11. Carry a large doll as if it were a small child
12. Let stranger pet the face
13. Kazoo stand, stand while a kazoo is blown
14. Umbrella pass

MEETING 6 - Training, Showmanship and Grooming

Objectives:

- Learn what items and techniques are needed for training llamas.
- Learn how to properly groom a llama.
- Learn proper terminology and techniques for taking a llama into the showring.

Roll Calls

- Name one thing you have learned by taking this project.
- Name an item that is needed to groom a llama.
- When showing a llama in the showring, what is one piece of advice you could give to the handler?

Sample Meeting Agenda – 2 hrs. 20 minutes

Welcome, Call to Order & Pledge		5 min
Roll Call		5 min
Parliamentary Procedure	Minutes & Business	10 min
Topic Information Discussion	Discuss Llama Training.	20 min
Activity Related to Topic	Activity #12 – Grooming a Llama (instructions found at the end of this meeting)	30 min
Public Speaking/Judging Activity	Activity #13 – Judging Llamas (instructions found at the end of this meeting)	20 min
Topic Information Discussion	Discuss Showing a Llama	20 min
Public Speaking/Judging Activity	Activity #14 – Assemble a Show Box (instructions found at the end of this meeting)	20 min
Wrap up, Adjournment & Social Time!		10 min
At Home Challenge	Get ready for the Achievement Program!	

Topic Information

Llama Training

Llama training as with any training of an animal is greatly rewarding. Llamas are naturally cautious about their surroundings and what is in it. They approach each new item or unknown activity with reservations. Remember that llamas as with all browsers have a basic instinct: to flee. On the food chain they are the “prey”. Keeping the natural instincts of the llama in mind, if strange things are introduced to them slowly they learn to ignore it and move on to the next activity, without wanting to bolt. Llamas like to see and do new things, and they are very intelligent. Because of that, they get bored easily.

To help a llama become comfortable with being touched, move slowly and talk softly to help it relax. Stroke the llama while talking and move to different areas such as the head, legs and belly. This is called desensitizing the llama. With practice, the llama will become comfortable with being stroked all over its body.

Some Items You Will Need

There are a few items you will want to have on hand when working with your llama. If you are starting with a young llama, have a proper fitting halter, lead rope, soft gloves, a small fanny pack to put some treats in and a smooth wand 120 to 150cm (4’ to 5’). The wand can be commercially purchased or it can be a piece of 1.25cm (½”) PVC pipe. This wand is used to desensitize the back and legs of a llama. A small fanny pack to put some treats in. The gloves help with rubbing the head and neck of llamas that are not used to being handled. A cotton rope about 3.3m (10’) long with a snap on one end will help in training. Using heavy hemp ropes is not recommended as hemp will catch llama fibers and pull whereas cotton should not.

One of the key things you will need to consider is where you are going to start training the llama(s). Keeping safety of you and your llama a top priority, choose locations that will set both of you up for success.

Getting Acquainted

Spend time getting to know your llamas and letting them know that you are not a threat and will cause them no harm. When you start training your llamas they will quickly form a bond-of-trust with you. You will find that they come to trust you and look to you for guidance when they are confused because they do not know what it is you want them to do or they are afraid. If you are afraid then they will be afraid. If you are nervous they will be nervous. If you are angry they will be frightened. When you have formed that essential bond-of-trust with your llamas it will last a lifetime.

Body language

One of the most valuable skills you can possess for training llamas (or owning them) is the ability to read their body language and understand what they are telling you. Your llama will communicate with you using a range of body postures and sounds. Get to know what they are telling you and your job will become much easier. Spend as much time as possible just watching your llamas and noting how they interact with each other in different situations. Watch very carefully how they behave when you do certain things and ask yourself why they are reacting the way they do. Also remember that different llamas may react differently to a range of situations.

Patience

Remember that llamas (just like us humans) have different personalities and metal capabilities. Some will be quick learners and some will be slow. Read their body language correctly and you will quickly get to know how very different they are.

Repetition

No matter what particular training exercise you are performing with your llamas, be it haltering, leading, desensitising, brushing, trekking, fitting a pack etc., the exercise must be repeated over and over again until the llama fully understands and accepts what it is you are trying to get it to do and becomes comfortable doing it. If you find something is just not working then you need to stand back, assess where the problem lies and then re-evaluate how you will now re-approach that particular exercise. In many cases you may find that the llama simply does not understand what it is you want it to do and as such cannot comply properly. Don't forget that llamas will have off days when they just won't get it right, just stop the session and switch to doing something else.

Short and Simple

Keep your training sessions short and simple to start with. Begin with 15- 20 minute sessions for a llama new to the training. Remember that the llama is learning something which is totally alien to him/her and will need time to assimilate what he/she has learned even if the session is going well. It's good to end your training session on a positive.

Training Time

Set aside sufficient time to train and interact with your llama, especially during the early stages of training. Be consistent and practice, practice, practice.

Desensitization

Desensitization means to make less sensitive. Its goal is to eliminate or reduce the exaggerated, emotion-based reaction that an animal has to a specific thing—be it other animals, kinds of people, certain places or events or certain noises. Systematic desensitization is a structured plan. It involves a gradual process of exposing an animal to a less intense version of the thing or event he fears, in such a way that the fear isn't triggered.

Desensitization starts with showing or exposing your llama to a weak, less threatening version of the thing he fears or dislikes. We weaken the thing or event by making it smaller, slower, shorter lasting, farther away, less noisy, or still rather than moving. Over time, as the pet habituates at that low exposure, we gradually make the thing (person, animal, place, object, noise, event, etc.) stronger again by, for example, bringing it closer, increasing its volume or having it move. So a systematic desensitization plan starts with exposure to the least scary version of the feared thing and gradually moves to stronger versions until full or normal exposure is reached.

For example, let's say your cat is afraid of male visitors to your home. You might first expose your cat to a man who's far away and standing still—exposure that your cat notices but without feeling scared. Over time, you would gradually bring the man closer but still make him less threatening by asking him not to look directly at your cat and not to reach out toward her—something that, again, your cat can notice without fear. The final goal is to have your cat comfortable around men who are moving around normally in your house, close up and greeting, petting or playing with her. This same desensitizing approach can be applied to your llama when introducing them to new activities, settings and situations.

Source: *https://www.aspca.org/pet-care/virtual-pet-behaviorist/dog-behavior/desensitization-and-counterconditioning*

If you have a young llama, you will need for him to allow you to touch him all over his body. In order to have a 'touch me" llama, you need to desensitize him. This is where a wand comes into play. Bring your llama back to his training stall, haltered and with lead rope. As you talk with your llama in a soft voice have the wand in your right hand. If necessary let him see and smell it. With a slow motion bring the wand up to the back of his neck and move it down and along his back. As you do this he will probably jump around. Be careful not to stick your llama with the wand. Continue doing this until he can stand still. Then start moving the wand down his legs and around the feet. The reaction will most likely always be the same, a bit of jumping around. The next area, after the legs and feet, is the belly. Never carry on this activity for more than 15 minutes. Stop if the llama gets too stressed.

Haltering

Putting Halters on Llamas:

If you have a young llama and he is halter broke, yet shy of the halter, you might want to spend additional time working with him on haltering. If your llama does not have a halter on, move him into the training stall and have the halter with you. Get him to stand and walk up to him. Approach in a quiet, reassuring and calm manner, place a looped lead around his neck, and do not tie it! A tied rope around the neck can cause many problems for the llama and you. If it runs, the rope could strangle the llama. Having the looped lead in your left hand take the halter and be sure the nose band part is open. Slowly move it up to the llamas face. You will want to slip the halter around the llamas nose, moving it to just in front of the eyes. Some individuals introduce the halter while their llama is feeding so they are distracted in a positive way. Take your right hand reach around the llamas head and get the crownpiece. Bring that around the llamas head and buckle it.

You might find your llama doesn't care for the halter so let him wear it a little while. Once he is relaxed, carefully unbuckle the halter and slowly remove it. Repeat this process each day, slowly increasing the amount of time they wear the halter. Always supervise during this transition. Remember, llamas are curious and will often be familiar with the halter and lead rope via their mother or herd mates. Never leave a halter on an animal all the time. Animals can get their halters caught in fences, on poles and limbs.

Lead Rope

Once your llama is comfortable with being haltered and wearing it for extended periods of time consider introducing the lead rope. To begin have your llama in your small pasture, so if he gets away from you, you do not have to run all over to catch him. Slowly move out to different spaces and environments. A trained mentor llama will reinforce the behavior you are seeking and help the new llama learn by example. This is an excellent opportunity to start the process while they are in tandem with another individual.

Do not tie the lead rope around your hand or any part of your body. The use of gloves will be helpful to protect your hands. If you put knots about every 50cm (20") in your lead rope, the knots keep the rope from sliding through your hands. So you are standing in front of your llama, lead rope attached, you turn and start walking and come to a quick stop, he doesn't move. Back up to him, speaking calmly, turn and say 'walk up" as you are walking. He again does not move. If he has his front feet planted walk back up to him shorten your lead, as you pull say "walk up" and move his head from side to side. The moving of his head from side to side should make him relax his planted front feet and take a step forward. Once you get him moving, keep saying "walk up" as you walk around. Now in the course of all these things he might decide he isn't going with you and he turns and runs, let go of the rope.

If you haven't become frustrated or he isn't too stressed, try again. It will take a few work outs but he will follow.

Once your llama is following you around in your training pasture, open the gate and lead him around a larger area. Keep your excess lead rope looped in your left hand. You do not need to have a long lead with your llama. As you and the llama move out into a bigger area, find items to step over, such as small logs. If possible walk through water. Let him learn about new sights and sounds. The training sessions on the lead should get a little longer each time and as you work together, you should also begin having slack in your lead. It is recommended that you change sides after a few lead rope training sessions. Many people work with their llamas only on their left side. When you work both sides, your llama gets used to you being on either side and doesn't become nervous when you change sides.

As you work your llama and feel more comfortable with him, move out into other areas. It helps to walk by the cars in your driveway, around the house, across small ditches and walking on pavement. When you go to different areas, stop and tell him to "stand." This helps for the showing in the ring.

Teaching Your Llama to Stand

If you have set up a training area with a pen in a small pasture, you will want to work with your llama in the pen. If he has never been in the enclosure before, once you have him in let him get used to it. Your llama needs to be reassured that this place is not going to hurt him or that it isn't a place to be afraid of. If you are in the pen with him speak in a smooth calm voice. Llamas learn that the different pitches in sound can mean different things. Talk with him, saying his name as you walk around slowly. He might just stand there or he might jump all around. Once he has become used to the idea that you aren't going to grab him and do something terrible he should relax.

When your llama has become as relaxed as possible, speak his name and say "stand" and begin to walk up to him. As you get closer to him keep repeating his name and stand. If he runs to another area, start over again. Remember, only do this for about 15 minutes. You may or may not get up to him during this session. If not, there is always the next time. If he gets too excited stop and let him relax.

When you are able to have him stand and can walk up to him, reinforce this behavior in a positive way. Then carefully place your arm around his neck. If he says "no" keep repeating this in small doses until he stands and allows placing your arm around his neck. Remember to positively reinforce the behavior you seek and recognize small improvements along the way not just the final outcome. Now that he will stand and let you walk up to him in the stall, let him out into the small pasture and do the same training if necessary.

Llamas like to play hard to get, so keep in mind that each time you go to get him, you might have to direct him to the small pen. Having your llama stand can save a lot of time in haltering and close observation to ensure they are healthy.

Backing

Once your llama has learned to lead comfortably and stand, begin to teach him to back. The easiest way for many is to walk up and face him, and gently rattle the snap where it hooks to the ring on the halter. As you do this say the word “back”. He might not go straight back, but as you work with him on this you will learn to guide him back straight. This can help you if you walk into a spot that is too tight for him to turn around. In time, just saying “back” should cue him to move.

Kush

If you have a young llama under a year old, teaching them to kush, or to lie down, is much easier than trying to teach an older llama to do this. When llamas kush they are at their most vulnerable, so they really have difficulty doing this on command. One way to teach them to do this is to stand in front of your llama, kneel down, then pull down on the lead rope while saying “kush”. You will find the llama will lower his head but not go down on his knees. So each time you are kneeled down pull the lead rope up shorter so that his head has to go lower. At some point in his training you will see him go down onto his knees. Keep pulling the lead rope down and towards you. Keep pulling as you say “kush.” He then should set his back down. Don’t jump up. Praise him and let him settle in. After a few minutes stand up. He will most likely jump right up. Repeat this training procedure again. You will find that he will kush eventually on command. Once he kushes for you, start moving around him. This will teach him that you are not a threat to his safety. Once all of this has been done, if in the future you need to have him kushed down to place a pack on his back or to check him for an injury, things will be easy.

Foot Pickup

Being able to pick up your llamas feet is one of the more important things you want to do with your llama. After you have your llama desensitized to the point where you can touch the llama’s legs, you can start working on making him pick up his foot for you. One way is to slowly run your hand down the llama’s leg while saying “foot”. At first he might move to the side or back away from you, but if you keep it up, he will lift his foot. Slowly take the foot in hand and lightly feel his foot and pads. Remember when you have done one foot you have 3 to go. This simple feat gives you a way of checking his feet for injury, without him jumping all about. When trimming his toenails, the ability to pick up his feet will make that activity much less stressful to him and to you.

Some llamas that will not allow their feet to be touched will have to go into a chute for toenail trimming. If you are out packing and your llama comes up lame and if he is foot sensitive, without help you will be having to continue on making things worse or get him down to care for the foot.

Taking a Brush to Your Llama

If your llama has not been desensitized you are not going to be able to brush him. Llamas like to brush themselves against shrubbery but initially may not receive a human brushing him/her as readily. The only way you can clean a llamas' fiber is with a brush. Various brushes have different ways of pulling on the fiber. It might be necessary to try 2 or 3 brushes before you find one that works best on your llama. Some llama owners use blowers on their llamas, they are good for getting out dirt and other things, but can mat up the fiber if not used correctly.

Bathing

Someday you might find yourself having to bathe your llama. If you do not have the facilities for bathing with warm water and a place to put him for drying, it is recommended not to bathe them in winter. It takes hours for them to dry, if done in cold weather you could end up with a sick llama. If it's a nice warm day in the summer and you have a blower, bathing is not much of a problem.

Tack

There is not a lot of tack you will need for a llama, but what you get has to be right: a lead rope with a snap clip, llama halter, toenail cutters, brushes and combs. As you go along you might buy a blower, but that is a special choice. The lead rope of choice by many people is a flat web type with a snap clip on one end; it is not as heavy as the round rope type.

You will need to buy a llama halter and it must be sized to fit your llamas' age: weanling, yearling or adult. The halter is cut different for over the nose. An improper fitting halter will slide down and off the bridge of the nose cutting off the llama's airway. Just like you, llamas do not like the feeling of having no air. As with any animal you do not want to leave a halter on your animal all the time. It will begin to rub the hair off of the top of the nose bridge. A llama with a raw spot on their nose will likely be uncooperative as they suffer discomfort. The llama halter comes either with adjustable bands or is pre-sized. Just remember to get the right size for your llama and do not be tempted to use halters made for a different species.

The type of toenail cutters to buy is personal preference.

Source *http://extension.unh.edu/resources/files/Resource002387_Rep3486.pdf*

Showing

Public Perception

Of all the things you do with your llama at the fair nothing is more important for you to remember than their care and feeding. The general public comes to the fair to see your animal and how that animal is cared for. The public has a way of remembering things that might be unpleasant to the animal, such as overcrowding, no water, bad or no feed or soiled bedding. These things stick in the public's mind. Not only do they think the animal is being poorly cared for at the fair but think of how they see the animal living at home. You are an ambassador for showing care and compassion to animals. If you have an animal that has gone lame while at the fair, you will not show the llama in any classes. His care is more important than some show class; his physical health cannot be jeopardized. Having posters and displays of your project on the wall tells many stories to the public, but don't forget that talking to the public is an educational experience for them also. Answer all questions as honestly as you can. If you don't know the answer to a question, find another 4-H member who might be able to. Remember, there is always your 4-H leader that can answer questions as well.

Source: *Care of Animals in Public Settings, Animal Quality Assurance: http://extension.unh.edu/resources/files/Resource002387_Rep3486.pdf*

Criteria

As the Judge, you will consider the handler's ability to show his or her animal to its best advantage at halter. Judging is based on the exhibitor's basic skills in training, fitting, grooming and following directions, as well as style and ability in presenting the animal to the Judge for evaluation. The conformation of the animal is NOT to be considered.

Handler

Handler's attire should be neat, clean, conservative and appropriate for the class. In addition, the handler should be prompt, alert, confident, poised and courteous. Exhibitors should be natural. Overshowing and undue fussing and maneuvering are objectionable. Exhibitors should be courteous and sportsmanlike at all times. The handler should not converse with other exhibitors or with people outside of the arena.

The Llama

The animal should be clean and free of debris, in good condition, with trimmed toenails. The halter and lead should fit properly and be clean, in good repair and safe. The lama should tolerate touching of the body, parting of the fleece and examination of the teeth.

Exhibitors should follow these guidelines during classes:

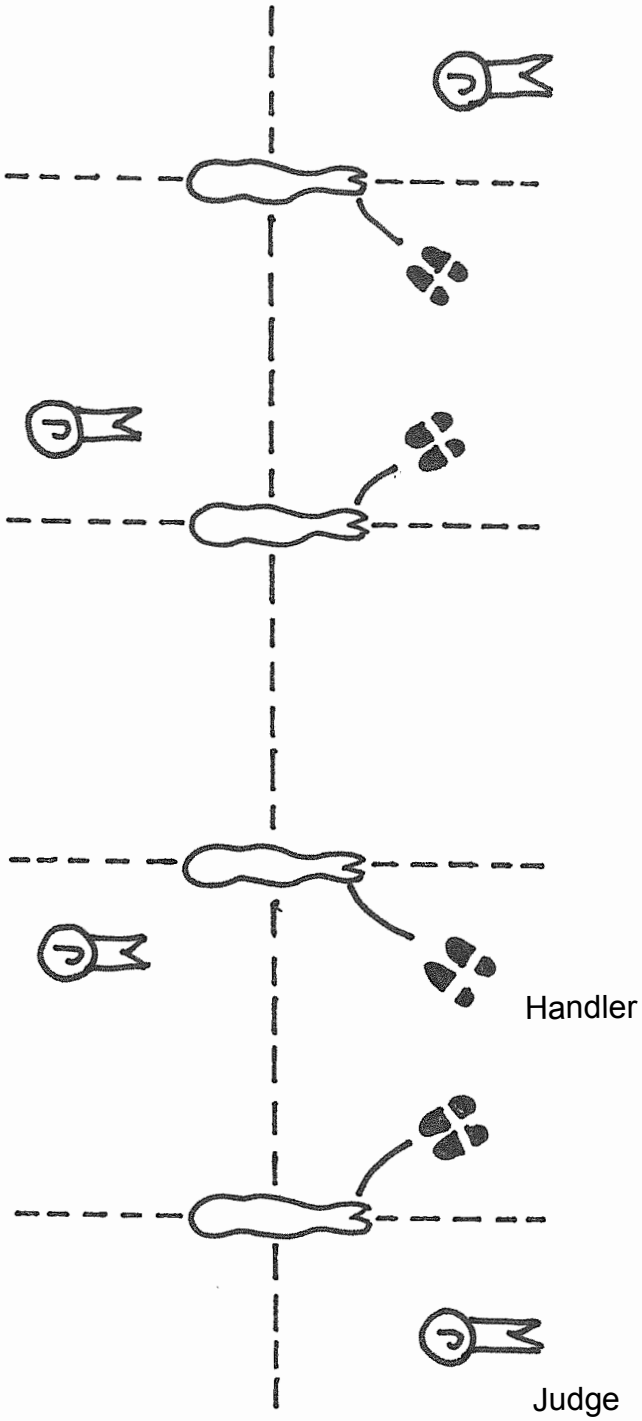
DO: maintain a safe distance between animals
DON'T: crowd or touch others
DO: lead the animal from the left side
DON'T: lead from the right side
DO: hold the lead in his/her right hand at least 8 inches from the halter
DON'T: hold the lead close to the halter or so far away as to lose control.
DO: hold the excess lead in a figure eight in the left hand.
DON'T: coil the lead around the left hand or let the end dangle.
DO: set up the lama squarely on all four feet, stand facing the lama at a 45 degree angle off its left shoulder, move smoothly from side to side, passing in front of the lama as the judge moves around and be aware of his/her position relative to the judge at all times
DON'T: obstruct the Judge view of the lama.

The animal should be trained to lead out at a brisk pace and to stand quietly in a balanced posture. A handler should never be rewarded for efforts in showing a poorly trained animal.

Avoid wrapping a lead rope around your hands or body in order to prevent serious injury in the event a llama or alpaca suddenly takes flight.

POSITIONS OF THE LLAMA, HANDLER AND JUDGE

Keeping toes pointed toward the animal's eyes, the handler should face the llama diagonally at a 45 degree angle off of the llama's shoulder, in front of, and to the side of the head, moving slowly and smoothly from side to side as the judge moves around the animal.



Show Ring Terminology

- Haunch Turn – sharp right turn with haunch remaining in one spot
- Head to Tail Line Up – you will form a straight line with the head of your llama facing the tail of the llama in front of you
- Llama Length – is the space that would be used by another llama if he were walking directly in front of you
- Parade – walking clockwise with the llama on the inside of the circle
- Reverse – you must walk in reverse direction. Be sure you are on the proper side of the llama
- Ring Steward – the only person allowed in the ring other than the show people and the judge
- Set Up – be sure your llama is standing squarely on all four feet
- Side By Side Line Up – you will line up your llama side by side making sure to keep your line straight
- Slack – refers to the lead line, it should have a slight U in it and not be tight
- Switch – the judge will hold your llama and you must lead another 4-H member's llama
- Tracking – the way the llama walks. The judge is watching his feet and legs

Judging

For confirmation detail, including positive and negative attributes, please reference the Structure and Confirmation section of this manual.

Judging is:

1. Evaluating a llama on its type, quality conformation, movement, soundness, fiber quality and disposition relative to:

a. Its intended purpose
b. How closely it approaches the ideal llama

2. Being able to assess the relative "excellence" of two or more llamas.

http:*//www.extension.umn.edu/youth/mn4-H/projects/docs/Lama-Showmanship-Curriculum.pdf provides an excellent source of judging/showmanship activities in addition to a great llama information reference list.*

ACTIVITIES

Activity #12 – Grooming/Fitting Activity

Have all types of grooming equipment (combs, brushes, blowers and any other acceptable equipment) on hand. If possible, show items that are not correct for grooming a llama.

Give each member the opportunity to use all of the equipment. It is important that the members know how to properly brush a llama.

Source: *https://www.unce.unr.edu/4H/programs/stem/files/pdf/LlamaProjectLeadersGuide.pdf*

Activity #13 – Judging Llamas

Have members judge a class of multiple llamas and give oral reasons for their placings. If a Senior member has completed a llama judging score card in a previous meeting, have the member present the score card to the group. Judging Sheet can be found in the Record Book.

Activity #14 – Showbox

Have members assemble a show box of supplies that would be needed when showing a llama at a show or fair. Provide a variety of choices (both appropriate choices and inappropriate choices for a llama show box).

Once the show box is assembled have each member choose an item from the show box and, one by one, have them tell the group what the item is used for and why it was chosen for the show box.

Achievement Program Ideas/Suggestions

- Show a llama in a show or at a local fair.
- Hold a llama information session/workshop at a local community event, at school or at a 4-H Fun Night/Sign-up night.
- Attend a llama information workshop/day at a local college, government sponsored event, etc.
- Have members make a presentation at school about the unique features of llamas.
- Create a skit about grooming, training or showing a llama and present it at an Awards Program, at school, at a Women's Institute meeting, at a retirement home, etc.
- If possible and if leaders are comfortable enough, take a llama to a local retirement home, hospital, school as a therapy animal.

Special Projects

These projects are done outside of meeting time and are for members interested in doing more – often senior members. It's up to you as the leader to decide if you will require members to complete a Special Project for club completion. Some ideas include:

- Interview a llama farmer and write a press release for the newspaper.
- Create an item from llama fibre.
- Create a display about raising llamas and display it at a local agricultural fair, shopping mall, school, etc.
- Figure out how much it costs to raise one llama for a year.
- Create a video about llamas and post it on YouTube.

Tour Ideas

- Visit a llama farm.
- Attend a llama show at a local agricultural fair.
- Visit a store that sells llama products i.e. farm supply store, clothing store, etc.

Guest Speakers

4-H leaders do not need to be experts on the information being discussed. This project is well suited to having guest speakers lead information and activities. Suggested meeting speakers are:

- Llama Farmer
- Llama Judge
- Veterinarian
- Therapy Association Representative
- Llama Shearer
- Fibre Artisan/Spinner
- Llama Packing Tour Operator