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New York State 4-H Sheep Achievement Program

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New York State 4-H Sheep Achievement Program

Awards

The New York State 4-H Sheep Achievement Program is based on the demonstrated acquisition of knowledge and skills relevant to sheep and sheep farming and provides a system of rewards and recognition for the individual 4-H sheep project member. Each 4-H sheep project member may be awarded up to 30 achievement awards, in specific areas of sheep production, by demonstrating a certain level of knowledge and skill. Sheep ownership is not required to earn any of the awards, although it is advantageous for several of them.

All achievement awards are made at the county level upon verification of accomplishment by the county Cooperative Extension 4-H educator and the 4-H sheep project volunteer leader. Upon receiving five of the sheep achievement awards, 4-H members will be recognized as 4-H novice shepherds, and a suitable patch will be given. After receiving 12 sheep achievement awards, they may become 4-H shepherds, and after 20 awards, 4-H master shepherds, suitable patches being given. Novice shepherd and shepherd awards are made at the county level with verification of achievement by a 3-person county 4-H Sheep Achievement Award Committee designated by the county 4-H Extension educator and the 4-H sheep project leader. Master shepherd awards are made by the state 4-H youth outreach director after certification by the county committee.

Members who become 4-H master shepherds are encouraged to be 4-H junior leaders in sheep farming projects.

The New York State 4-H Sheep Achievement Program is based on demonstrated knowledge and skills independent of judging contests and the showing of animals at county, regional, or state fairs. However, this program does not preclude such activities as may be desirable and possible. The New York State 4-H Sheep Achievement Program provides another means by which 4-H sheep project members may be rewarded for their accomplishments.

The 4-H Sheep Achievement Program is administered entirely at the county level except for the awarding of the 4-H master shepherd patch. The state college faculty will continually work with the educator committees and county personnel to update the program, add new or different achievements, and make changes in existing achievements as new information and circumstances dictate. The state level will also strive to provide the counties with the resource information, educational materials, and any other support possible to enhance the efforts of the 4-H sheep project members and their leaders and educators in carrying out the program.
All 4-H sheep project members may be awarded a patch indicating their membership in a county 4-H sheep (or livestock) project. Certificates will be awarded for each individual achievement. As members become 4-H novice shepherds or 4-H master shepherds, suitable patch additions will be awarded.

Membership patches and the appropriate shepherd patches should be worn on the left sleeve of a light-colored (preferably white) shirt. The shirt can then be worn to all 4-H sheep activities, and the member will be properly identified and the level of achievement duly recognized.

Patches and award certificates will be made available at cost through the Department of Animal Science at Cornell.

CERTFICATE SAMPLE

ACHIEVEMENT AWARD

New York State 4-H Sheep Program

This certifies that

_____

has duly demonstrated proficiency
in sheep achievement
#_____

Achievement title: _____

_____ _____
Date 4-H Educator

_____ _____
County 4-H Sheep Project Leader

Note to 4-H Sheep Project Members

The New York State 4-H Sheep Achievement Program is an opportunity for you to learn more about sheep and sheep farming; how to manage, feed, select, and house sheep and how to work with their products. It is up to you to complete the requirements for each achievement, and then you will be rewarded for doing so. Your 4-H sheep project leader and the county 4-H Cooperative Extension educator will see that you get proper guidance and will arrange to pass judgment on your level of knowledge and skill.

Work closely with them and select the achievements you wish to accomplish, and you can progress to become a 4-H Novice Shepherd, then a 4-H Shepherd, and finally a 4-H Master Shepherd. As you progress, you will be able to help younger 4-H members learn and do and receive achievement awards as you did. We hope you will become a Master Shepherd, then a Junior Leader in your county 4-H sheep project, and someday a leader active in all aspects of 4-H.

We hope you will find this an enjoyable, educational, and rewarding experience. Good luck and good shepherding.

Note to 4-H Sheep Project Leaders and County 4-H Cooperative Extension Educators

The New York State 4-H Sheep Achievement Program is an opportunity for you to work with 4-H members interested in sheep and to see them acquire knowledge and skills and be suitably rewarded. You, as Cooperative Extension educators and the project leaders will make the program a success. You will be helping each member meet the requirements for each achievement award to the best of his or her ability. It is you who will provide the opportunities and pass judgment on the success of each member. We will provide you with all the backup support and material that we can, and we are sure the members will be challenging you from the other side. In some cases, you will have to make do, improvise, and pass judgment, but if you encourage enthusiastic young 4-H members to reach their goals and you see them rewarded, it will be worth it all. We sincerely hope you find this 4-H Sheep Achievement Program helpful to you as you build strong county 4-H sheep projects.

Suggested Resources

Item	Source
SID Sheep Production Handbook	American Sheep Industry Association, Inc. 6911 South Yosemite Street Centennial, CO 80112 http://www.sheepusa.org/
NRC Nutrient Requirements of Sheep, 6th Edition	National Academy Press Washington, DC http://books.nap.edu/catalog/614.html
Cornell Sheep Program • http://www.sheep.cornell.edu/sheep/ • SheepSim – Simulation of genetics and management • SheepFlockBudget - Spreadsheet • Cewe – Database management system • FeedForm – Feed formulation software	Michael L. Thonney 114 Morrison Hall Cornell University Ithaca, NY 14853-4801 mlt2@cornell.edu
Storey's Guide to Raising Sheep by Paula Simmons & Carol Ekarius	Storey Books Schoolhouse Road Pownal, VT 05261 ISBN: 1-58017-262-8
Livestock and Carcasses: An Integrated Approach to Evaluation, Grading, and Selection, 5th edition (June, 1998) by Donald L. Boggs, Robert A. Merkel, Matthew E. Doumit	Kendall/Hunt Publishing Company; ISBN: 0787245690
The Veterinary Book for Sheep Farmers (2002) by David Henderson.	Diamond Farm Book Publications; Revised edition (December, 2002) ISBN: 1903366305
Sheep Book : Handbook For The Modern Shepherd, Revised & Updated (2001) by Ronald B. Parker	Swallow Press; ISBN: 0804010323
National 4-H Cooperative Curriculum System, Inc. (Look for sheep activities.)	http://www.n4hccs.org/
Cornell Poisonous Plant Website	http://www.ansci.cornell.edu/plants/index.html

4-H Member Record of Achievement *Member's name:*

Number	Title	Date earned	4-H leader's verification
1	Sheep Characteristics and Breeds		
2	Sheep Management I		
3	Sheep Management II		
4	Sheep Nutrition I		
5	Sheep Nutrition II		
6	Meat from a Lamb		
7	Rearing Orphan Lambs		
8	Feeder Lambs		
9	Slaughter Lambs		
10	Pelt Tanning		
11	Clothing from Sheepskins		
12	Shearing		
13	Wool Identification, Grading, and Marketing		
14	Hand Spinning and Weaving or Knitting		
15	Woolen Clothing		
16	Equipment Construction and Use		
17	Lambing Management		
18	Genetics, Breeding, and Selection I		
19	Genetics, Breeding, and Selection II		
20	Reproductive Physiology		
21	Breeding Ewes		
22	Health and Diseases I (External and Internal Parasites)		
23	Health and Diseases II (Infectious Diseases)		
24	Lamb Marketing		
25	Sheep Management Systems		
26	Pastures and Forages		
27	Preservation and Storage of Harvested Forages		
28	Sheep Dog Training		
29	Advanced Sheep Dog Training		
30	Poisonous Plants		
31	Predator Control		

4-H Member Record of Achievement (continued) *Member's name:*

Title	Date acquired	Achievements (list numbers)
4-H Novice Shepherd		
4-H Shepherd		
4-H Master Shepherd		
Additional achievements		

Achievements 1 through 31

No. 1
Sheep Characteristics and Breeds
Requirements

1. Identify the external parts of a live sheep.
2. Distinguish the sex of live sheep: rams, ewes, and wethers.
3. Identify 15 breeds of sheep from pictures or slides.
    a. Know the country of origin of each.
    b. Know the functional purpose of each, i.e., wool, meat, and milk.
    c. Know the general characteristics of each breed such as wool type, size, color markings, breeding habits, and fecundity.
4. Identify in "real life" 5 breeds of sheep.

4-H members can learn much of this information from textbooks or other sources, but must visit one or more sheep farms or fairs to complete items 1, 2, and 4.

No. 2
Sheep Management I
Requirements

1. Properly catch a sheep.
2. Identify the age of sheep by their teeth.
3. Set a sheep on its rear and hold the animal properly.
4. Trim the feet of a sheep.
5. Dock a lamb.
6. Ear-tag a lamb or sheep.
7. Hold a sheep in a standing position.
8. Move a sheep properly (after having been caught).
9. Make a rope halter for sheep and tie the following knots:
    a. bowline
    b. square knot
    c. half hitch

No. 3
Sheep Management II
Requirements

1. Drench for internal parasites and know the name of the drench material and why it was chosen.
2. Become familiar with the FAMACHA method of controlling internal parasites.
3. Tag or crutch a sheep.
4. Shear a sheep (marginal proficiency acceptable).
5. Properly care for shearing gear.
6. Care for a ewe and lamb(s) at parturition.
7. Properly inject a sheep (with either vaccine or a therapeutic drug). (Veterinary supervision may be necessary.)
8. Skirt a fleece for baling.

No. 4
Sheep Nutrition I
Requirements

1. Identify 8 harvested sheep feeds such as alfalfa hay, timothy hay, corn silage, corn grain, and oats.
2. Identify byproducts high in fermentable fiber such as soybean hulls, wheat mids, and distillers dried grains.
3. Know the names of the nutrients required by sheep, including the vitamins and minerals.
4. Know which feeds are adequate in which nutrients.
5. Know the general level of each nutrient required for maintenance, growth, pregnancy, and lactation.
6. Know which nutrients are likely to be deficient in New York State sheep flocks.
7. Know how to use a table to estimate the nutritive content of feeds.
8. Know how to use a table to estimate the nutritive requirements of sheep.

No. 5
Sheep Nutrition II
Requirements

1. Know the function of each nutrient, e.g., calcium is necessary for bone growth.
2. Understand the use of a feed chemical analysis such as determined by Dairy One http://www.dairyone.com/
3. Understand the necessity of including fermentable fiber in sheep diets.
4. Be able to balance a diet for a growing lamb and a lactating ewe, using local feeds insofar as possible.
5. Know the symptoms expected in sheep deficient in the nutrients most likely to be low in New York feeds.
6. Visit a feed store and discuss the use of purchased feeds (including minerals) in balancing diets for sheep.
7. Make a list of all feeds and supplements available at the feed store that are suitable for sheep and write comments on the appropriateness of each for sheep.
8. Know all the parts of the G.I. (gastrointestinal) tract of the sheep and the function of each.
9. Mix a ration by hand suitable for feeding sheep.
10. Discuss with your leader the proper method of feeding sheep including adapting sheep to a change of feed, cleanliness, eating time, feeder space required, and feeding frequency.

No. 6
Meat from a Lamb
Requirements

1.Know "what's in a lamb" in terms of expected carcass weight and the proportion of the carcass expected to be trimmed retail leg, loin, rack, shoulder and breast, flank, or shank.
2. Visit a slaughterhouse or meat store and observe lamb carcasses and understand how the carcass can be divided into retail cuts.
3. Be able to identify the retail and wholesale cuts of lamb meat.
4. Understand the relationships between mature size or parental size and "ideal" slaughter weights for lambs.
5. Know the live animal and carcass quality grades and yield grades and be able to discuss the factors that establish these grades.
6. Know the recommended cooking procedures for each retail cut.

No. 7
Rearing Lambs Artificially
Requirements

1. Rear 2 lambs artificially from birth or shortly thereafter to 40 days of age when the lambs are consuming only dry feeds.
2. Record the weekly weights of the lambs and graph their progress.
3. Record all feeds that are fed to the lambs.
4. Understand that the lambs develop from rather helpless animals requiring frequent feeding to rather voracious eaters.
5. Know the nutrient content of lamb milk replacer.
6. Know the nutrient content of dry feeds to which the lamb is weaned.
7. Understand the reasons why newborn lambs must receive colostrum.
8. Be aware of the primary diseases and health hazards of artifically-reared lambs.

No. 8
Feeder Lambs
Requirements

1. Rear 2 feeder lambs from 40 or 50 pounds to a market weight of 90-100 pounds.
2. Weigh the lambs weekly and record the weights on graph paper.
3. Record all feed consumption.
4. Know the nutrient content of the feed.
5. Understand the cause and prevention of the following possible problems with feedlot lambs:
   a. urinary calculi
   b. overeating disease
   c. coccidiosis
6. Be able to compute and ascribe meaning to
   a. weight per day of age
   b. feed efficiency
   c. rate of gain
   d. cost per pound of gain (or kg)
   e. total cost of marketable lamb
   f. net gain or loss ($) from lamb feeding
7. Learn feeder lamb selection criteria and procedures.

No. 9
Slaughter Lambs
Requirements

1. Follow a lamb through slaughter and record the liveweight, carcass weight, and eventually the weight of the retail cuts. Measure the loin eye and fat thickness over the back.
2. Discuss the slaughter of lambs with the butcher, including sanitation standards, meat inspection, and kosher vs. non-kosher killing.
3. Know how lambs are marketed from the farm to the retail store or through the freezer trade.

No. 10
Pelt Tanning
Requirements

1. Obtain a fresh lamb pelt from a butcher and properly tan and clean it so that it is a useful sheepskin.
2. Be able to discuss the physical and chemical processes that are involved in tanning.
3. Understand commercial tanning procedures.
4. Know the uses of sheepskins and pelts.
5. Know how the value of the pelt affects the price of live slaughter lambs.

No. 11
Clothing from Sheepskins
Requirements

1. Make a suitable piece of clothing from a freshly tanned sheepskin. A vest or a hat is suggested, although even a sheepskin coat could be made but probably from more than one sheepskin.

Achievements 7, 8, 9, 10, and 11 can all be completed with the same lambs.

No. 12 Shearing
Requirements

1. Become a proficient sheep shearer and be able to shear 6 sheep per hour in the professional manner expected of custom sheep shearers.
2. Be able to properly sharpen combs and cutters and otherwise care for shearing gear.
3. Know the various types of equipment used, when used, and why.

No. 13
Wool Identification, Grading, and Marketing
Requirements

1. Identify the grades and classes of wool.
2. Properly skirt a fleece for baling.
3. Identify the parts of a fleece such as the belly wool and britch.
4. Visit a wool market such as a wool pool and write a report on how the wool is marketed.
5. Understand the proper use of wool of the various grades.
6. Know the common "impurities" and "defects" in fleeces.
7. Know the expected "shrink" or "yield" of a fleece and the factors that contribute to it.
8. Know which breeds of sheep produce which grades of wool.

No. 14
Hand Spinning and Weaving or Knitting
Requirements

1. Obtain raw wool and properly card, clean, and spin the wool into yarn.
2. Knit a clothing item such as a cap or mittens or weave an item such as a pillow cover from the wool.

No. 15
Woolen Clothing
Requirements

1. Collect and identify samples of various types of woolen fabric such as woolen, worsted, knit, and felt.
2. Make at least one clothing garment from all-wool fabric (comparable to the Make It Yourself with Wool Program).
3. Participate in your county 4-H clothing review.

No. 16
Equipment Construction and Use
Requirements

1. Make a rope halter suitable for sheep.
2. Construct the following items:
   a. grain feeder
   b. hay feeder
   c. folding panel or lambing pen
3. Design a sheep-sorting chute, explain why the design is good and under what conditions it would be used.
4. Design a sheep barn for a small flock of ewes or for feeder lambs. Explain the advantages or desirability of the design.
5. Explain the advantages and disadvantages of different types of fencing for sheep.

No. 17
Lambing Management
Requirements

1. Work with a sheep producer during lambing and assist her or him for 3-5 days (or nights).
2. Understand the habits of a ewe before and during lambing.
3. Demonstrate how to properly care for ewes and lambs at this time.
4. Know what would indicate lambing difficulties and what to do.
5. Know how to care for chilled lambs.
6. Know how to "graft" a lamb to a ewe.

No. 18
Genetics, Breeding, and Selection I
Requirements

1. Understand basic Mendelian genetics and the inheritance of single gene traits.
2. Be able to predict the phenotype of lambs from parents with different genotypes for horns and coat color.
3. Know the relative importance of the various economic traits.
4. Know the meaning of terms such as homozygous, heterozygous, dominant, recessive, lethal, and heterosis.
5. Understand a practical means for selection for fertility or fecundity, growth rate, carcass merit, and wool farming.

No. 19
Genetics, Breeding, and Selection II
Requirements

1. Understand the basic principles of genotypic and phenotypic variation, especially in multiple gene traits such as growth or wool farming.
2. Know the meaning of such terms as hetero-sis, repeatability, heritability, selection differential, genetic variation, correction factors, and selection index.
3. Obtain the records from a flock of at least 20 ewes and calculate an index on each ewe based on wool and lamb farming.
4. Identify which are the outstanding ewes in the flock and which ewe lambs should be saved as replacements.
5. Outline a suitable breeding program for this flock to increase its genetic merit over the ensuing 10 years.

No. 20
Reproductive Physiology
Requirements

1. Know the parts and functions of the female reproductive tract.
2. Know the parts and functions of the male reproductive tract.
3. Understand the seasonally polyestrous nature of the sheep and the controlling mechanisms.
4. Understand the reproductive capacities of both ewes and rams.

No. 21 Breeding Ewes
Requirements

1. Follow 2 ewes from breeding (preferably recorded from a marker on the ram) through pregnancy and lambing.
2. Care for the ewes and lambs after lambing, dipping navel cords, docking, and so forth.
3. Observe the early growth of the lambs (record their body weights for 6 weeks on a graph).
4. Calculate the feed required during pregnancy and compare it with that required for lactation.
5. Build a creep and creep feed the lambs.

No. 22
Health and Diseases I (External and Internal Parasites)
Requirements

1. Must know the proper names, life cycles, and proper control methods of each of the following external and internal parasites of sheep:
   a. external
      i. lice
      ii. mites (various types)
      iii. keds
   b. internal
      i. stomach and intestinal roundworms
      ii. hairworms
      iii. hookworms
      iv. lungworms
      v. tapeworms
      vi. flukes
      vii. coccidia

No. 23
Health and Diseases II (Infectious Diseases)
Requirements

1. Know the cause, means of transmission, symptoms, and treatment for prevention or cure of each of the following diseases:
   a. enterotoxemia
   b. foot rot
   c. sore mouth
   d. listeriosis
   e. scrapie
   f. tetanus
   g. ovine progressive pneumonia
   h. mastitis
   i. epididymitis
   j. pinkeye
   k. rabies
   l. lamb pneumonia

No. 24
Lamb Marketing
Requirements

1. Know the kinds of markets available and the advantages and disadvantages of each.
2. Chart weekly live lamb prices at a local or on-line market for one year.
3. Chart weekly retail leg of lamb prices in a retail store for the same period as in (2) above.
4. Must be able to effectively grade both live lambs and lamb carcasses.

No. 25
Sheep Management Systems
Requirements

1. Understand the annual operational calendar for each of the following sheep farming systems:
    1. Lamb feeding
    2. Early lambing
        i. Hothouse lambs
        ii. 100 to110-lb market lambs
    3. Late lambing
        i. Feeder lambs
        ii. 100 to110-lb market lambs
    4. Accelerated lambing systems
2. Know the advantages and disadvantages of each of the above systems.
3. Be able to determine which system would be applicable to certain farm situations.
4. Know how to select breeds, breeding schedules, feeding and management procedures within each system to effectively tap into year ‘round markets in the Northeast.

No. 26
Pastures and Forages
Requirements

1. Be able to identify 4 pasture grasses and 4 legumes commonly used in sheep pasture and hay meadows.
2. Discuss the differences in the nutrient content of grass and legume hay.
3. Know the effect of date of cutting on the nutritive value of New York mixed hays.
4. Understand the agronomic practices necessary to properly establish and maintain a stand of sheep pasture or hay land.
5. Discuss sod seeding and clear stands.
6. Be able to identify effective fencing systems.

No. 27
Preservation and Storage of Harvested Forages
Requirements

1. Know the general basis for hay and silage making, including
    a. effects of date of cutting and stage of growth
    b. factors causing hays or silages to "heat"
    c. effects of heat damage on nutritive value
2. For hays, be informed about
    a. necessary moisture content to prevent spoilage
    b. round vs. square bales
    c. species differences
    d. storage losses
3. For silages, be informed about
    a. hay-crop silage
        i. species differences
        ii. silo types
        iii. feeding value
    b. corn silage
        i. moisture content
        ii. nutrient deficiencies
        iii. feeding methods

No. 28
Sheep Dog Training
Requirements

1. A 4-H member may train a dog of an acceptable sheep dog breed such as a border collie or an Australian kelpie in a 4-H dog training class through the Graduate Beginner level.

No. 29
Advanced Sheep Dog Training
Requirements

1. Train a sheep dog beyond the 4-H dog training level so that it can be used to suitably work sheep.

No. 30
Poisonous Plants
Requirements

1. Collect, identify and mount 5 poisonous plants indigenous to your area that could be consumed by sheep.
2. Know the toxic materials in each and appropriate antidotes for countermeasures.
3. Know the pasture management systems that effectively reduce the potential hazard of each.

No. 31
Predator Control
Requirements

1. Become familiar with natural predators in your area.
2. Describe fencing systems to control predators.
3. Describe how guard animals (dogs, llamas, donkeys, mother cows) can be used to control predators.