

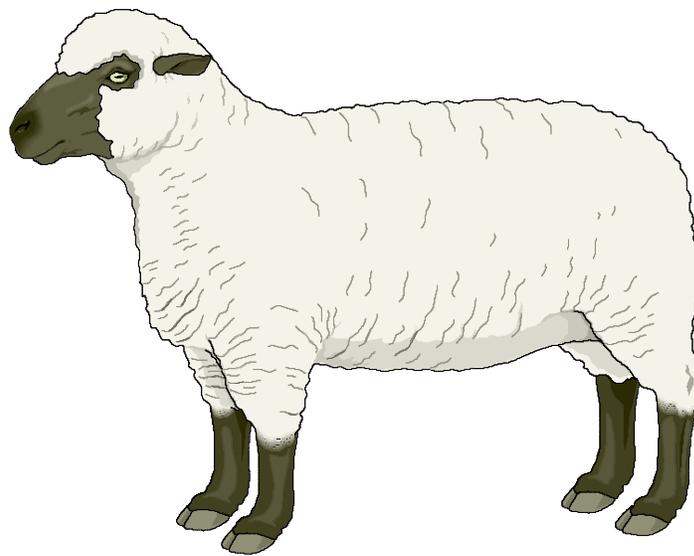


4H253



New Jersey 4-H Market Lamb Project Handbook

**A REFERENCE GUIDE
FOR 4-H MEMBERS, PARENTS, AND LEADERS**



THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS



Written by

Lisa Rothenburger, Somerset County 4-H Agent

in cooperation with the Somerset County Market Lamb Committee
and the New Jersey 4-H Market Lamb Committee

Reviewers and contributors

Mike Westendorf, Ph.D., Extension Specialist in Animal Science
Rod Gilbert, Delaware Valley College
Keith G. Diem, Ph.D., Program Leader in Educational Design

December 2002

© 2002, Rutgers Cooperative Extension

Visit NJ 4-H online at www.nj4h.rutgers.edu
(This publication is available for downloading)

**RUTGERS COOPERATIVE EXTENSION
N.J. AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK**

Distributed in cooperation with U.S. Department of Agriculture in furtherance of the Acts of Congress on May 8 and June 30, 1914. Rutgers Cooperative Extension works in agriculture, family and consumer sciences, and 4-H. Adesoji O. Adelaja, Director of Extension. Rutgers Cooperative Extension provides information and educational services to all people without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status (Not all prohibited bases apply to all programs.) Rutgers Cooperative Extension is an Equal Opportunity Program Provider and Employer.

PURPOSE

The 4-H Market Lamb Project is designed as a hands-on learning project that will teach 4-H members the process of raising an animal, which will yield a prime grade food animal upon sale and processing. The 4-H member will have the responsibility of selecting an animal which he/she feels will best suit this purpose, managing a feeding program which will insure that the animal meets minimum weight requirements, maintaining the health of the animal from the beginning of the project until the market lamb sale, and accounting for costs and income from the project. This project is intended to be a food market project and all animals are to be raised with the intention of processing for food and analysis at the end of the project. The annual 4-H Market Lamb Show & Sale is the culmination of the member's work in raising his/her selected animal to market weight and quality, with the additional benefit of promoting the sheep industry.

PROJECT ENROLLMENT

Participation in the market lamb project must be preceded by membership in a 4-H sheep club. This is not a mandatory project. Parents and leaders must determine the ability of the 4-H member to follow the project through from beginning to end.

The 4-H Market Lamb Project Handbook serves as a reference for 4-H members in raising market lambs. The "My 4-H Sheep Project Record Book (4H246)" should be used to record a 4-H member's annual participation in the 4-H sheep project. Both publications are available for downloading as PDF files from www.nj4h.rutgers.edu.

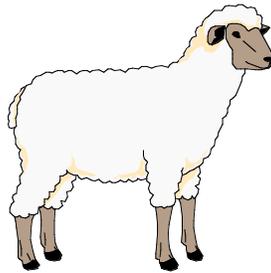


TABLE OF CONTENTS

- Suggestions For Improving Your Market Lamb
 - Suggestions for Selecting a Market Lamb (p. 2)
 - Suggestions for Developing a Quality Feeding Program (p. 3)
 - Suggestions for Maintaining the Health of Market Lambs (p. 4)
 - Suggestions for Fitting Market Lambs (p. 5)
 - Suggestions for Showing Market Lambs (p. 5)
 - Considerations in Selecting a Market Lamb Project (p. 6)
- Market Lamb Project Management Calendar (p. 8)
- Resources (p. 9)
- Glossary of Terms (p. 9)

SUGGESTIONS FOR IMPROVING YOUR MARKET LAMB

Suggestions for Selecting a Market Lamb

1. A market lamb, previously referred to as a “fat lamb”, is a ewe or wether lamb generally 4 to 8 months of age and weighing from 90 to 150 pounds. This market lamb designation should not be confused with a “hot house lamb” which is a milk fed lamb less than 4 months of age weighing less than 50 pounds. Hot house lambs are generally sold for Easter and Christmas markets.
2. Given an adequate feeding program, you should plan on your lamb gaining weight daily. The average will vary depending on shearing dates, weather conditions, breed of the animal, care given the animal, health of the animal, and the feeding program used.
3. The market lamb should be selected using information on previous years weight gains. The breed and birth date of the animal should also be taken into consideration. The date of the 4-H show may also be a factor in market lamb selection. An animal born too early may be over finished (having too high a fat content or too much fat cover) by the time of the fair. An animal born too late may be under finished (having too little fat cover). Select an animal that will result in a finished animal that weighs close to 150 pounds.
4. A market lamb should be selected for its confirmation and correctness, its potential to produce a quality market animal of the correct weight by the fair date, and its general health. Size is important, but it is not the only factor you should use in selecting your animal. Animals should be tall, long-bodied, and muscular.
5. Educate yourself on the traits of different breeds. Suffolks, Hampshires, and Dorsets have superior growth rates, muscling, scale, and trimness. Crossbred animals may give you the best traits of all animals.
6. Attend the market lamb and breed shows of other counties (or states) and learn from the success of others. This may also be a way to contact other breeders and an opportunity to discuss good feeding programs.
7. Look for the type of market lamb that will permit you to describe the lamb as:
 - Thickly muscled, meatier
 - Correctly finished and firm to the touch
 - Smooth shouldered and shows balance
 - Trim in the middle
 - Shows length, long in the loin, long in the rump, and wide at the dock
 - Has a bulge in the leg
 - Has uniformity in thickness over the back, loin, and dock
 - Is firm to the touch and uniform in covering

- Is fuller and meatier at the dock and heavier in the leg
- Is uniform in width from end to end

Suggestions for Developing a Quality Feeding Program

1. A feed trough and hayrack are essential for maintaining a quality-feeding program. You can purchase this equipment or construct your own. Whether you purchase or construct your own, keep these basics in mind:
 - Allow at least one foot of feeder space per lamb
 - Keep the trough clean
 - Use a trough that is easy to move and cleanIn addition to the rack and trough, you will also want a small wooden box or mineral feeder in which to place trace mineral salt.
2. It is very important that you provide your lambs with plenty of fresh cool water. A lamb needs approximately one gallon of water for every four pounds of feed it consumes. The watering container should be kept clean.
3. One of the most important decisions of your lamb project will be what and how to feed your lambs. No matter how good a lamb you start with, if it is not fed a nutritionally well balanced diet it will not develop to its potential. You should be familiar with the full range of a lamb's nutritional needs. Feeds are either concentrates or roughage. Corn, oats, barley, soybeans, other grains and protein supplements are considered concentrates. Hay, straw, pasture, and similar feeds are considered roughage. Concentrates contain greater food value than roughage and put the most finish on the animal.
4. When moving the lamb to a new environment any feeding adjustment should be made over a four to six day period. The animal may be stressed by the move and a slow change to new grain and hay will reduce the chance of illness. Remember that transportation can cause an animal to lose weight.
5. Grain management is important in maintaining a good feeding program. Gradually build up the amount of grain the lambs are consuming. If all the grain is not consumed cut back. If the animals consume all the grain too quickly, increase the feed ration. Be careful not to overfeed.
6. A grain ration containing 16% to 18% protein is adequate and available in most farm co-ops.
7. Good quality hay is essential to a quality-feeding program. Lambs should have roughage available at all times. Wet or dirty hay should be removed from the hay rack and surrounding area to maintain a clean environment.
8. A free choice mineral supplement for sheep (without copper) should be available in a dry container, which will not collect water.

9. 4-H members who do not keep their market lamb on their own property should expect to pay a feed charge in order to insure the use of good quality grain and hay. The 4-H member may also purchase their own grain and hay for use with market lambs. 4-H members are responsible for their project animals.

Suggestions for Maintaining the Health of Market Lambs

1. Clean hayracks, feed troughs, water troughs, mineral feeders and pens will help your lambs perform better and stay healthier. Harmful bacteria can grow in containers which are not properly cleaned and lambs may develop diseases as a result.
2. All sheep and lambs have some stomach and intestinal roundworms. These worms are called parasites because they live off the nutrients in your lamb's bloodstream. When they get too numerous, they can make your lambs weak and may cause death. To prevent this problem, lambs should be dewormed according to the package directions. Careful attention should be paid to withdrawal periods. Market lambs are to be processed for consumption and FDA guidelines for all drug withdrawal periods must be absolutely adhered to.
3. The best prevention for lameness and a disease known as "foot rot" is to keep the lamb's feet properly trimmed at all times. Pens should also be well bedded and dry. The lamb's feet should be inspected every month and the excess growth trimmed away from the end of the hooves. In the event that an animal in the flock develops foot rot, the entire flock should be treated with a commercially available product.
4. Lambs should be shorn early. Cooler lambs gain weight faster and it is easier to evaluate your project animal for muscle mass and growth. The animal will need to be shorn again prior to the fair, in accordance with the rules of the fair.
5. If animals are ear tagged, this should be done prior to warm weather to prevent infection.
6. Docking and castration should be completed as soon as possible, generally at one to two weeks of age. If lambs are smaller or sickly, docking and castration should be postponed until the animal is healthy. Early castration and docking during cool weather helps prevent infection or maggot infestation. According to an Ohio State University research study (published in *The Shepherd*, September 2002), longer tail length may help reduce rectal prolapse. The study suggests that tails should be docked at the distal end of the caudal fold. Contact your veterinarian for more information.

7. Market lambs should be vaccinated. Consult your veterinarian for proper vaccination type and schedules. Some common lamb vaccinations include:
 - Clostridium perfringens C & D
 - Tetanus
 - Pneumonia
 - Soremouth

Suggestions for Fitting Market Lambs

1. Visit other county market lamb or breed sheep shows to learn about new and/or different fitting techniques and to watch veteran showmen fit their sheep for the show.
2. Market lambs should be slick sheared approximately two weeks before the fair. By slick shearing the animal, you can best showcase the muscling and finish of the market lamb.
3. Start handling the animal weeks before the fair. Start with short periods on the fitting stand so that your animals will adjust to being worked with.
4. Fitting a market lamb includes cleaning feet, cleaning ears, cleaning the nose, and making sure that the body of the lamb is free of dirt and straw.

Suggestions for Showing Market Lambs

1. Visit other county market lamb or breed sheep shows to learn about new and/or different showing techniques and to watch veteran showmen show their sheep.
2. When showing your animal, move slowly and keep assuring the animal that everything is all right. The judge must be able to feel the animal without disruption.
3. If possible, practice for the show by working your animal away from your flock so the animal becomes accustomed to you. This will insure that when your animal is in the show ring it is comfortable being with you.
4. If using a halter when showing, the lead should be rolled up out of the way. The sheep should be held by the head as if no halter were being used.
5. Proper posture and position are essential in the show ring. Exhibitors should always face the judge and keep their animal between them and the judge.
6. When showing, make sure that all four feet of the animal are on the ground. Do not pull the head up so high that the front feet come off the ground.

Considerations in Selecting a Market Lamb Project

The following areas need to be considered as you start your market lamb project. Careful attention at the start will allow you to have a more productive project year.

1. What shows will I attend and what is the show date?

This only requires the use of a calendar to figure the number of days from purchase until the day of the show. If all lambs need to be purchased by May 1 and the show is August 21 you have 113 days to get your lamb to the desired show weight.

2. How big should my lamb be at the time of the show?

To answer this question you need to know the weight range that is allowed at the show (90 to 150 pounds). If the champion always seems to be a lamb weighing 120 to 150 pounds, then you need to keep this in mind as you select your lamb. Lambs that can carry this kind of weight and have the right composition of muscle and finish will need to have sufficient skeletal frame.

3. What type of lamb should I be looking to buy?

The first thing is to check the availability of lambs of the type desired in your area. If you are going to look for a lamb that will weigh 120 to 150 pounds, you will most likely need to get a Hampshire, Suffolk, or Dorset that is bred for muscle and leanness. You also have to consider the structure and pattern of the lamb you are going to purchase. Your lamb should be straight and strong down his top, standing wide on a correct set of feet and legs, and have muscle. When you look at the lamb from the side he should look balanced. This means that all the body parts should blend to present a harmonious picture.

4. How much weight does my lamb need to gain to make market weight?

If you use the example in question 1 and 2 above, you know that you have approximately 110 days to reach an average weight of 120 pounds. The average daily gain will be approximately 3/4 to 1 pound per day. If you figure the lamb can gain 90 pounds in the 110 days that you have to feed him, you need to start with a lamb that has a weight of 30 to 40 pounds.

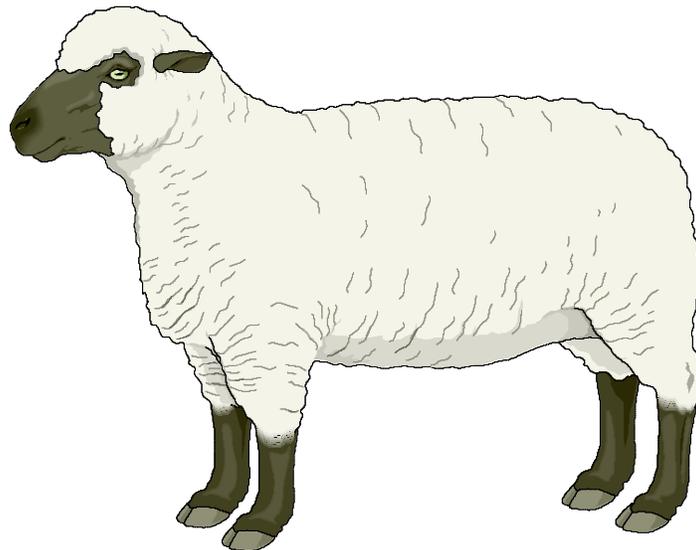
5. What should I feed my lamb and how much?

A good quality commercial 16% protein lamb or sheep feed is most likely the best bet. This feed should be fed at the rate of 2 to 3 pounds per day. You will need to find a way to check the weight gain on your lamb so that you can adjust your feeding program according to the lamb's growth. Most lambs will convert feed to gain at the rate of 1-1/2 to 3 pounds of feed to 3/4 to 1 pound of gain. This feeding rate may be able to be continued right up to the show. Fresh water and good quality hay (but not an excessive amount) should also be fed along with free choice

minerals and white salt. Too much grain and too little roughage can cause rectal prolapse. Watch calcium/phosphate ratio to prevent urinary calculi. Too many lambs either come up short on weight or become too heavy because weights are not checked during the feeding period. Plenty of exercise is necessary.

6. *What do I need to do to ensure my lamb is healthy?*

The first thing you should do is buy from a flock you know is healthy and well managed. You should ask if the lambs have had overeating and tetanus vaccinations. Be aware of soremouth in the flock of origin and find out if it has been a problem recently. You can ask if the lambs have been de-wormed and if not see if you can get it done by the flock owner. The last thing is to have your lamb sheared. Ask to see all the lambs sheared before purchase, if possible. A lamb in sheared condition will gain more efficiently especially in hot weather. Keep hooves healthy and well trimmed. Keep lambs in a cool, well-ventilated facility. In extreme heat confine indoors during the day and exercise in the evening.





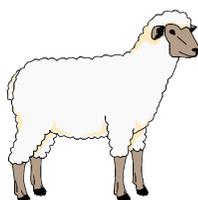
MARKET LAMB PROJECT MANAGEMENT CALENDAR

| | |
|-----------------------|--|
| Prior to May 1 | Select lamb |
| May 1 | Deadline to own lamb Weigh lamb De-worm lamb. Consult your veterinarian for a de-worming cycle. You may need to de-worm monthly. |
| June 1 | Weigh lamb De-worm lamb if needed |
| July 1 | Weigh lamb De-worm lamb if needed |
| August 1 | Weigh lamb Deadline for last de-worming Schedule to have your lamb inspected by a veterinarian and obtain a certificate of veterinary inspection (CVI) |
| 2 Weeks Prior to Show | Slick shear your market lamb Have your lamb inspected by a veterinarian and obtain a CVI |
| Afternoon Before Show | Bring market lamb to fair grounds with health certificate |
| Day of the Show | Arrive at least 1/2 hour, prior to show time Wear proper attire for show & sale Arrive at least 1/2 hour prior to sale time |

RESOURCES

4-H Skills for Life Animal Science Series, 4-H Cooperative Curriculum System, 2000 (These series of project activity guides can be ordered through the Rutgers University Publications Center at Cook College). Or online at www.n4hccs.org.

Raising Sheep the Modern Way, 1991. Paula Simmons. Storey Communications, Inc. Pownal, VT. 05621



GLOSSARY OF TERMS

Abomasum – the “true” or fourth digestive stomach of a ruminant.

Average Daily Gain (ADG) – the amount of weight a lamb gains each day. Calculated by dividing the total weight gained in a period by the number of days in the period. Example: 60 lbs gained in 90 days = $60 / 90 = .67$ lbs. per day.

Bacteria – micro-organisms that can be beneficial or detrimental to your animal.

Balanced ration – feed ingredients combined in amounts and proportions that will meet an animal’s daily nutritional requirements.

Breed – a group of sheep that look alike and have the same ancestors.

Castration – removing testicles from male animals.

Condition – the amount of fat an animal has.

Conformation – the shape and design of an animal.

Cryptorchid- a lamb with one or more of its testicles retained in the abdominal cavity.

CVI – certificate of veterinary inspection obtained from the veterinarian after a flock check.

Deworming – giving a chemical to an animal orally or through injection to prevent or destroy any internal worms.

Docking – cutting the tails shorter on baby lambs. This is performed for sanitary reasons.

Ewe – female sheep.

Fat lamb – a ewe or wether lamb generally 4 to 8 months of age weighing from 90-150 pounds.

Finish – used to describe the level of body condition in relation to a lamb's readiness for slaughter.

Finished lamb – a lamb that has reached correct weight and body condition to be sold for slaughter.

Flock – a small group of sheep.

Hay – Livestock feed made from grasses that have been cut and dried so they can be stored without molding.

Hot house lamb – milk fed lamb less than 4 months of age and weighing less than 50 pounds.

Lamb – A sheep under one year of age, or the meat from young sheep.

Livestock – farm animals raised for milk, meat, work and wool.

Market weight – the weight of the animal when sold for processing.

Omasum – the compartment of the ruminant stomach between the rumen and the abomasum. The omasum works like a filter, trapping undigested food in the rumen and letting small food particles pass to the abomasum.

Ovine – term that refers to the species of sheep.

Parasite – an organism that lives on another organism usually to the detriment of the host animal.

Processing – Slaughter or butchering of market animals.

Ram – male sheep.

Ration – the amount of feed eaten or provided within a 24-hour period.

Reticulum – the rumen compartment below the esophagus where food is collected and regurgitated back up the esophagus.

Rumen – the largest compartment of the stomach of cattle, sheep and goats.

Ruminant – an animal with cloven hooves and a large microbial fermentation chamber that comes before the gastric stomach.

Scrotum – the sack or skin that contain the testes.

Showmanship – presenting an animal at a show including proper fitting of the animal, showing and exhibitor appearance.

Vaccination – an injection of disease organisms that are either dead or modified to be harmless and which will stimulate an animal's immune system to protect itself against the real disease.

Wether – castrated male sheep.

Withdrawal time – the amount of time between when a drug is administered and there is no minimal chance for drug residues in the meat.



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,
my country, and my world.



4-H Motto

To Make the Best, Better

4-H Slogan

Learn by Doing