

Integrating livestock into a small farm

SHEEP AND GOATS



SUSAN SCHOENIAN (Shāy-ne-ŭn)

Sheep & Goat Specialist

Western Maryland Research & Education Center (WMREC)

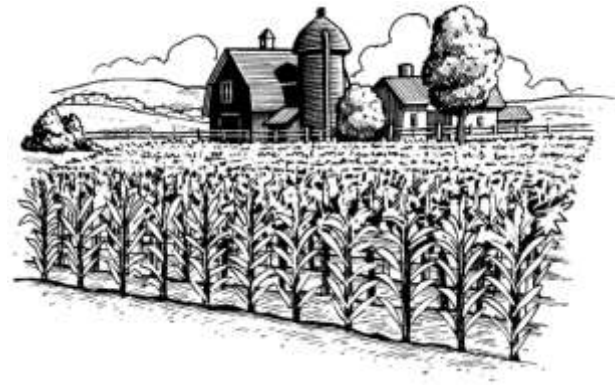
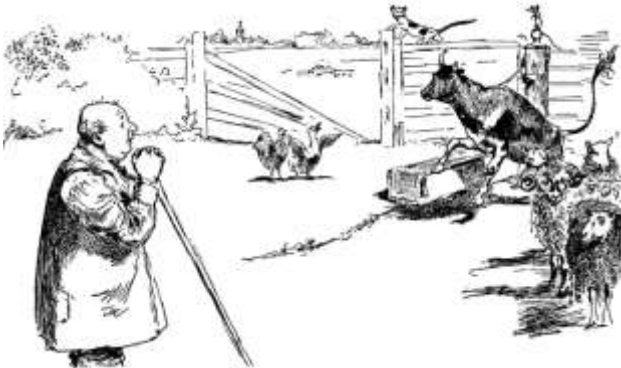
sschoen@umd.edu - sheepandgoat.com - acsrpc.org



American agriculture: Where do small farms fit in?

HISTORICAL, 1940's

- Diversified family farms
Mix of farm enterprises
- Integrated
Crops + livestock
- Mostly subsistence
+ supplemental income



MODERN, CONVENTIONAL

- Larger farms
- More specialization
Fewer enterprises
- More purchased inputs
Feed, fertilizer, and pesticides
- Greater use of technology

Choosing enterprises for your farm

Considerations

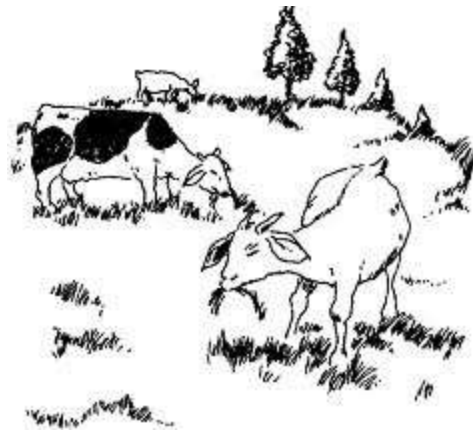


- Goals and objectives
- Personal preference
- Location and climate
- Resource inventory
 - Land
 - Labor
 - Capital
 - Markets
 - Management skills
- Relationships among enterprises

Three types of farm enterprises

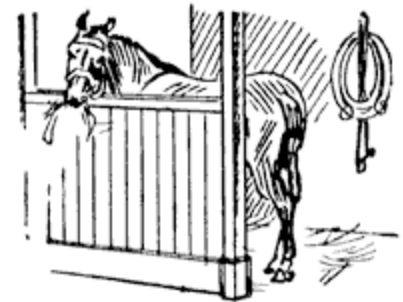
SUPPLEMENTARY

- Enterprises which utilize resources that might otherwise go to waste.



COMPETITIVE

- Enterprises which require the same resources at the same time.



COMPLEMENTARY

- One enterprise contributes directly to another.

Sheep and/or goats as supplementary enterprises



- Utilize unused labor.
- Utilize unused land, building(s) or equipment.
- Provide an outlet for products or by-products from other enterprises.

Sheep and/or goats as complementary enterprises

- Pasture-crop rotations
- Nutrient recycling
- Manure for fertilizer
- Mixed species grazing
 - Complementary grazing habits
 - Improved parasite control
- Weed and pest control
 - Grazing
 - Wool mulch
- Milk for feeding other livestock
- Market diversity



When sheep and/or goats are competitive enterprises



- When sheep/goats compete with other enterprises for the same labor.
- When sheep/goats compete with other enterprises for the same land or feed resources.
- When (additional) specialized equipment must be purchased to raise sheep/goats.
- **Need to determine which enterprise(s) will make better use of competing resources.**

Sheep and goats are multi-purpose animals.

- Meat
- Fiber
- Milk (dairy)
- Vegetation control
- Agri-tourism



Meat production



- ➔ **Primary reason sheep and goats are raised.**
- By-product of dairy and fiber production.
- Half of lambs and almost all goats produced in U.S. are consumed by non-traditional (non-commodity) markets (e.g. ethnic and direct markets).
- Prices can fluctuate widely due to differences in supply and demand and poor and/or lack of infrastructure.
- Prices tend to peak prior to or at various religious holidays.

Marketing meat animals

There are pros and cons to different marketing options.

COMMODITY

- ➔ Sale barn (stockyard)
Primary method sheep/goats are sold.
 1. Local
 2. Terminal (regional)
 3. Special sale(s)
- Broker or dealer
- Direct marketer
- Abattoir (processor)
- Live market



Marketing meat animals

There are pros and cons to different marketing options.

DIRECT

- Live animals
 - Ethnic customers
 - May include on-farm slaughter by customer (you may not assist)
 - Freezer trade
 - Facilitate slaughter at local abattoir.
 - Customer buys live animal and pays processing costs.
 - Breeding stock and youth projects.



- Meat (carcass, cuts, processed)
Requires USDA-inspection and labeling
 - Farmer's Market
 - Farm store
 - Restaurant
 - Retail store
 - CSA
 - Internet selling

Fiber production

Sheep and goats produce a variety of usable and valuable fibers.

SHEEP

- Fine wool
Rambouillet, Merino
- Medium wool
Dorset, Polypay, Columbia, Finn
- Coarse (long) wool
Romney, Lincoln, Border Leicester
- Specialty wools
Breed, type, or color
- Hair or hair x wool crosses
Fiber/fleeces generally not marketable and will lower value of wool clips, if mixed in.



GOATS

- Mohair
Angora goats
- Cashmere
Cashmere and other goats
- Cashgora
Cashmere x Angora crosses
- Pygora
Pygmy x Angora crosses

Marketing fiber

COMMODITY MARKET

- There are no commercial (commodity) markets for fibers other than white wool.
 - Annual Maryland Wool Pool
June 18, 2014



DIRECT MARKETING

- Fleeces (raw)
 - Direct to hand spinners
 - Fleece shows and sales
 - Maryland Sheep & Wool Festival
May 3-4, 2014
- Value-added
 - On-farm processing
 - Custom processing
 - Yarn
 - Batting
 - Roving
 - Bedding

Custom processing of fiber in Maryland

MILL AT MEADOWLANDS

- Randallstown
www.themillmeadowlands.com



SINGLETON FIBER PROCESSING LLC

- Frederick
www.singletonfiber.com



Dairy production

- Sheep and goats were domesticated and milked before cows.
- Sheep and goats vary in their ability to produce milk (quantity + quality)
- There are specific breeds of sheep and goats that have been bred and selected for dairy production.
- Goats produce more milk whereas sheep produce higher quality milk (better cheese yield).
- Some people that are unable to tolerate cow's milk may be able to drink goat or sheep milk or consume products made from their milk.



Marketing dairy products

Certification is not usually practical on a small scale.

ALLOWED

1. **Grade A dairy**
Fluid milk, cheese, and other products manufactured from milk.
2. **Grade B dairy**
Cheese and products manufactured from milk.

3. **No certification**
 - Soap or lotion
 - Milk for animal consumption
 - Home consumption

DISALLOWED

- Raw milk sales
- Raw cheese manufacture
Law is being changed to allow manufacture and sale of raw milk cheese from certain sized operations.



Vegetation control

Perhaps, the greatest value of sheep and goats

- Goats are natural browsers and prefer to eat brush, briars browse, tree seedlings, and twigs.
- Sheep are grazers and prefer to eat grass and forbs.
 - sheep + solar panels

Fee-based grazing

- Lease sheep and/or goats for grazing jobs.
- Operate a turn-key operation: provide transportation, fencing, water, shelter, and expertise.



Agri-tourism

- Petting farm
- Farm tours
- Farm store
- Farm Education
- School field trips
- Spring shearing
- Spring lambing, kidding
- Sheep and goat races



What you need to raise sheep and/or goats

- Land and feed
- Shelter
- Machinery and Equipment
- Predator control
- Labor
- Capital
- Market(s)



Land and feed



- Feed is the major cost associated with raising any livestock (usually more than 70% of production costs) and the female (ewe or doe) consumes most of the feed.
- Forage (pasture and hay) can provide the majority of nutrients required by sheep and goats.
- However, forage may not always meet the nutritional needs of animals, especially high-producing ones (e.g. young and lactating).

Land

- How many animals one acre of pasture can support varies and depends upon many factors including...

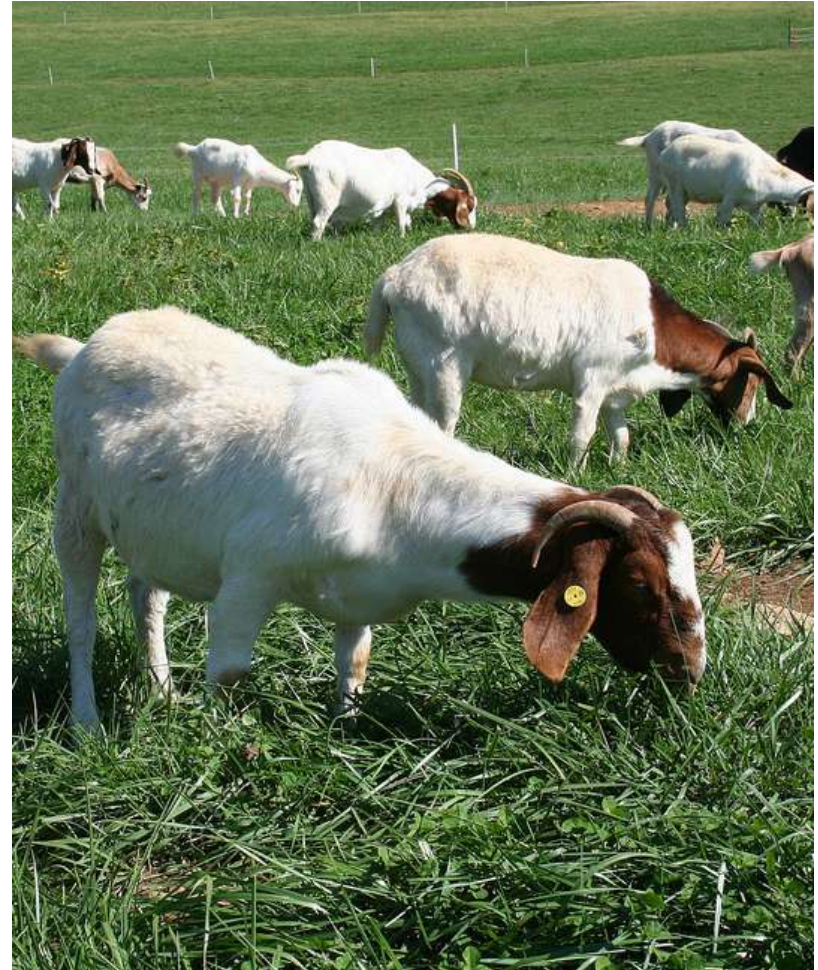
- Season
- Plant species
- Rainfall
- Grazing management
- Length of grazing season
- Amount of supplemental feed



- A common rule of thumb is 2 acres per cow (1000 lbs.) or 500 lbs. of grazing animal per acre (e.g. 500 lbs. / 160 lbs. = ~3 ewes per acre).

Land

- With cool season grasses and legumes, there is usually too much forage in the spring, not enough in the summer, and practically none in the winter.
- These inequalities can be managed by...
 - Mowing pasture(s) in spring or removing a hay crop
 - Adjusting animal numbers according to forage availability.
 - Providing supplemental feed in summer.
 - Planting legumes and warm season grasses to improve summer grazing.
 - Extending the grazing season by grazing stockpiled fescue
 - Planting brassicas and winter annuals.



Feed

- Unless you have enough land to provide year-round grazing, you will have a winter feeding period.
- How much harvested feed you need depends upon species, size (weight), productivity, and duration of feeding period.
Usually $\frac{1}{4}$ to $\frac{1}{2}$ ton per female
e.g. 120 days \times 4 lbs/head = 480 lbs.
- Good quality grass hay can usually meet the nutritional needs of non-pregnant, non-lactating sheep and goats.



- Grain is usually given to females during late pregnancy and early lactation to meet their increased nutrient requirements and improve production.
 $\frac{1}{2}$ - 1 lb. per head during late gestation
1 to 3 lbs. per head during lactation
- Grain is given to young stock if higher levels of performance are desired.

Shelter

- A building that can house animals to protect them from cold, heat, or other inclement weather.
 - ~15 ft² per female housed
 - 16-20² for females + offspring
 - Standing room for shelter on pasture.
- A place to store feed and equipment.
 - ¼ to ⅓ ton of hay per female
- A place to work the animals.
- A place to isolate new or sick animals.
- Comfort for manager!



Machinery and equipment

- Fencing
 - Perimeter
 1. Woven wire with extra wires
 2. Multi-strand, high-tensile, electric
 3. Adapt existing fences
 - Interior
 - Permanent or temporary
 - Temporary
 - Electric netting
 - Polywire
- Own equipment vs. custom hire.
- Docking, castrating, and shearing equipment.



Predator control

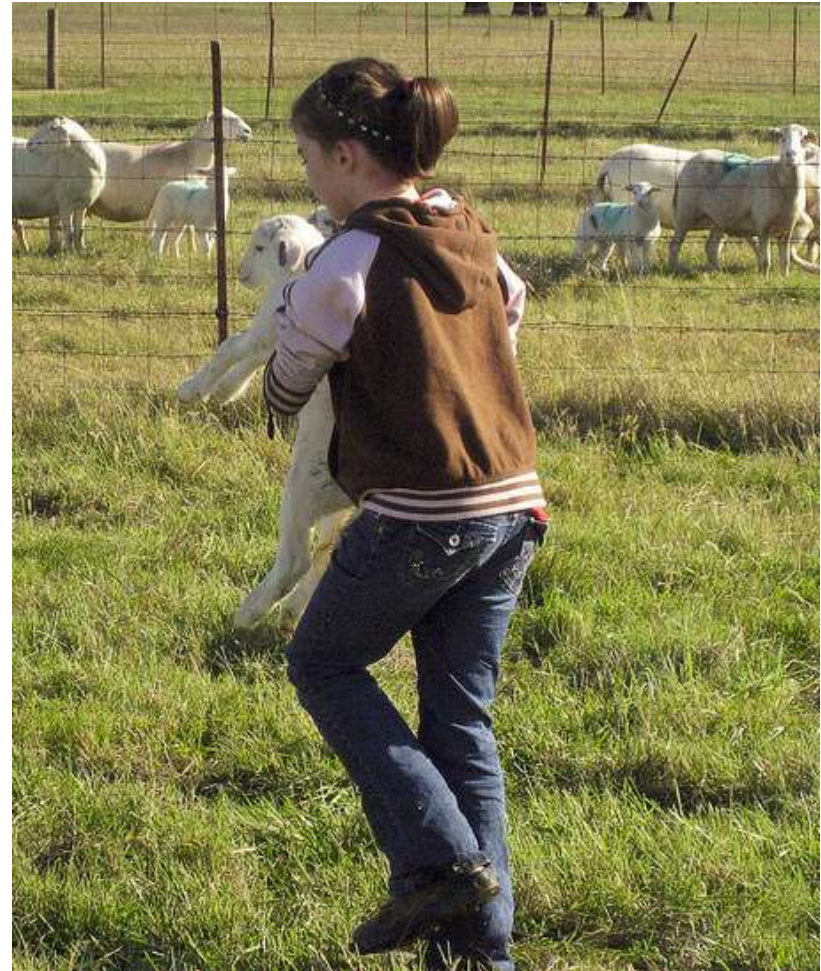
- Sheep and goats, especially lambs and kids, are very vulnerable to an array of predators: domestic and wild dogs, coyotes, bears, foxes, eagles, vultures, bobcats, cougars, and wolves.
- Predator control starts with a good fence.
- Livestock guardians can be effective deterrents to predators: dogs, donkeys, and llamas.
- Other options include night penning, indoor lambing/kidding, and fall or winter lambing/kidding.



Labor

Consideration: amount and distribution of labor

- **Breeding**
Natural < artificial
Pen or pasture < hand mating
- **Lambing and kidding**
pasture lambing < indoor lambing
spring < winter
- **Health care**
Especially parasite control
- **Hoof trimming**
- **Shearing**
Hair-sheep
- **Marketing**
commodity < direct
live animal < carcass or meat



Market(s)

- Who?
- What?
- Where?
- When?



Do you need any special permits to raise sheep and/or goats?

SCRAPIE ERADICATION

- All sheep and goats must be identified with official USDA scrapie tags when they leave their place of birth and enter commerce (with few exceptions).



NUTRIENT MANAGEMENT

- A nutrient management plan is required for all livestock farms that have more than 8 animal units (8000 lbs) or more than \$2,500 in gross income.

Biggest risks associated with sheep and goat production- the three "P's"

- Predators
Sheep and goats are vulnerable to attacks by various predators, including domestic dogs, eagles, vultures, foxes, bears, and coyotes.
- Parasites
Sheep and (especially) goats are more susceptible to the negative effects of internal parasites (GI worms) than other farm livestock.
- Profitability
Even though market prices are often high, high production costs (and overhead) make profit margins narrow and difficult to maintain in a small scale enterprise.



Tips for success

- Choose the right breeds or crosses.
- Start with sound, healthy animals.

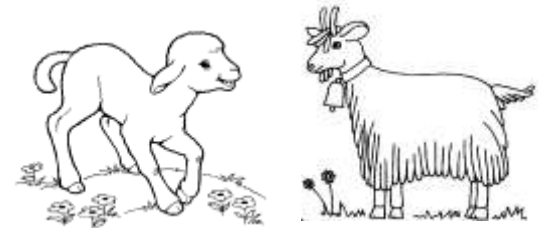
"You get what you pay for."

- Good nutrition usually includes pasture, hay, grain, and minerals.
- Don't get sheep and/or goats if you don't genuinely like them.



More information

- Web portal: www.sheepandgoat.com
- Wild & Woolly Quarterly Newsletter
- Winter webinar short courses
- Biennial Lambing & Kidding Schools (2015)
- Integrated Parasite Management Workshops
- Western Maryland Pasture-based Meat Goat Performance Test
- 4-H animal science program
- E-mail: sschoen@umd.edu





Thank you for your attention.
Do you have any questions?

