



West Virginia University

News Ewe Can Use

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The Wool Market & the WV Shepherd

by Tom McConnell, WVU Extension Service

The 2001 wool season is almost over. Price was not good. Recent prices serve as a reminder that wool is a commodity, traded internationally, and subject to the reality of exchange rates and demand swings. Gluts in the international market have kept wool prices low for a number of years. Generally, when supply exceeds demand, coarser grades are discounted more than finer grades, as finer wools can often be substituted for coarse wool uses. In overseas markets, American coarse wool is primarily used for ink blotters, floor buffers, carpeting, and spun into a coarse yarn that is woven into a material called a woolen, used for clothing and blankets for colder climates. Domestically, some coarser wool is used for the woolen trade and some is spun into a tighter yarn and woven into a heavy cloth for a harder finish outerwear. None of our WV wool goes into the construction of those finely tailored and very expensive men's and women's suits that always seem to be included in shepherds' conversations as examples of the price disparity between "our wool and their suits".

Other factors have contributed to a depressed market

for wool. Our wool (meaning coarse wool) lost demand because the countries that historically used it, most notably China, have not been able to secure loans from the International Bank to buy it. The strong American dollar, compared to the currencies of wool importing countries, has also had a depressing affect on the price of American wool. Industrialized countries that "bought in" to the petroleum-based fiber technology of the 1970's are probably responsible for the most serious and long-term decline in coarse wool use. Lost markets and market share can have a permanent affect on prices. When a company switches from wool ink blotters to synthetic ones they can't go back.

What Can We Do? It is obvious that the individual farmer can't have any impact on the factors that drive the international market. The only way an individual shepherd can have any impact on his price is to work with those variables he can control. The options include adding value and marketing efficiency.

Nationally, wool amounts to only 3-4% of the gross income per ewe, so some might decide to completely ignore any marketing efforts. But there are

simple and inexpensive marketing procedures a shepherd can use to increase his net income from wool. The place to start is by using objective measurements that allow both buyer and seller to describe wool in specific universally understood terminology (*see Making the Grade. Will Your Wool Pass or Fail? page 8*).

Clean and Delivered. Today, all wool is marketed or traded using objective measurements that determine precisely the average fiber diameter and the yield of clean wool. Selling our wool on a "clean basis" is a practical and fair approach for both the buyer and the seller. It is easy to imagine the variation in wool cleanliness and moisture resulting from different management situations, feed sources, lambing times, shearing schedules, and climates. Wool diameter will vary slightly from farm to farm, but the yield of usable wool can vary greatly. Buyers want to know how much the clean wool is going to cost per pound, not the load of wool, grease, and vegetable matter. Freight is generally charged on a grease basis to the seller. When converted to a per clean pound basis, higher yielding wool costs less to ship.

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Address Corrections

Please notify us if your address has changed or if you do not wish to continue receiving "News Ewe Can Use".

Helvetia's Wool Blankets Are "Ewe-nique"

Do you know where to shop for high quality wool blankets in WV? Well, look no further than to the sheep and shepherds of Helvetia to satisfy all your wool blanket needs.

Helvetia is a remote village located in central West Virginia. Its isolation has allowed the Swiss who settled there to retain elements of their culture in foods, music, farming, and dance. Swiss immigrants first settled the village in 1869. Today only a few families live in and around Helvetia.

Like all shepherds across West Virginia, Helvetia shepherds have been faced with high production costs and poor markets. In January 2000, a group of local shepherds began meeting with representatives of the WVU Extension Service and Mountain Partners In Community Development to explore options for improving the market for their wool. Out of these meetings came the idea of having the Helvetia wool processed into yarn and blankets. As a result, the Helvetia Shepherds Association (HSA) was formed.

Six shepherds, shearing a total of 365 sheep, are currently supplying wool for the yarn and blankets. About 2,200 pounds of

raw wool from various breeds such as Hampshire, Dorset, Columbia, Suffolk, and other crossbreeds is shipped via truck freight to MacAusland's Woollen Mills LTD., Bloomfield, Prince Edward Island, Canada.

Once the raw wool is received it is processed through washing, carding, spinning, weaving and sometimes dyeing of the yarn for blankets. On average, 8-12 pounds of raw wool are required to make a blanket. A variety of tweeds, colors, and naturals are available. To date, 100 blankets have been sold and 200 new blankets, made from the 2001 wool clip, will become available this December.

The success of the HSA has been phenomenal and shepherds are very satisfied with the project. The current number of shepherds in the HSA make the organization workable but future expansion may be possible if demand for the blankets continues to grow.

The development of this project and the organization of the Helvetia Shepherds Association (HSA) has breathed some new life into this "ewe-nique" little community.



Blankets		
Twin	(60x90)	\$100
Full	(72x90)	\$110
Queen	(78X104)	\$120

Yarn
\$6.00 per skein
2 ply or 3 ply

May be purchased at The Hutte Restaurant in Helvetia or Grandpa John's Hilltop Inn in Pickens.

For more information call:
304-924-5455
304-924-5733
304-924-5431
or e-mail at

helvetia shepherds@hotmail.com

Look for the HSA Blankets at the "Shepherd's Holiday Showcase!"

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WV "Make It Yourself With Wool" Contest

When considering fine quality clothing, nothing compares to wool. Wool garments are durable, fashionable, and versatile. A wool garment is even more special when made by you or a loved one. The "Make It Yourself With Wool" (MIYWW) contest, which is sponsored by the American Sheep Industry Association (ASI), was developed to promote the beauty and versatility of wool fabrics and yarn while encouraging and recognizing personal creativity in sewing, knitting, and crocheting. Held in each of the major wool producing states, competitors are eligible to win many different prizes, including Pendleton fabrics, sewing equipment, money and supplies, as well as, the opportunity to participate in the national MIYWW contest.

The MIYWW contest consists of six areas of competition; four classes based on the age of the tailors and two classes specific to the type of garment. The age dependent classes are pre-teens (12 years and younger), juniors (13-16 years), seniors (17-24 years), and adult (25 years and older). The garment classes are, 1) a wearable accessory and 2) a new class this year called "Made for Others". Those entering can construct a one, two, or three or more piece ensemble. Judges will choose which garment or accessory is of the highest quality construction, most creative, and presented and coordinated in the most appropriate manner.

The 2001 West Virginia "Make It Yourself With Wool" contest will be held Saturday, December 8, at the Marriott Hotel in Charleston in conjunction with the "Shepherd's Holiday Showcase". The contest is sponsored by the WV Shepherd's Federation, WVU Cooperative Extension Service, and the WV Sheep Management Project. Winners of the state contest will advance to the national competition in San Antonio, TX to be held during ASI's winter convention in January 2002. More information about the MIYWW contest and entry forms can be found on the WV MIYWW website at www.wvu.edu/~agexten/temp/miyww.pdf. Tom McConnell, the state contest chairman, can be reached at (304) 293-6131 x4237 or via e-mail at tmconne@wvu.edu.

Shepherd's Holiday Showcase

Here it is! Just what you have been waiting for! The inaugural "Shepherd's Holiday Showcase" will be a gala event to introduce the public to the many talents of West Virginia's sheep and wool artisans. In an effort to promote the various creative uses of wool while highlighting some of the most talented individuals in our state, a holiday show and sale of arts and crafts will be held on Saturday, December 8, 2001 from 9:00 a.m. to 5:00 p.m. at the Marriott Hotel in Charleston. The event will be held in conjunction with the 2001 WV "Make It Yourself With Wool Contest" (MIYWW).

This is an excellent opportunity for our WV wool artisans and crafters to gain exposure for their unique items. All items will be made from wool or have a sheep theme and include wool rugs, sweaters, hats, gloves, scarves, sheep figurines, blankets, yarn, Santa's, snowmen, angels, and more. The "Showcase" is scheduled just in time to give holiday shoppers the opportunity to find those special one-of-a-kind hand crafted holiday gifts. The all-day event will also include, spinning, weaving, and shearing demonstrations, and the MIYWW style show. For more information about the "Showcase" or if you would like to participate as an artisan or crafter, please contact Georgette Plaughter, WVSMP at (304) 358-3661 or via e-mail at gplaughe@wvu.edu.

Don't miss this special holiday opportunity to see the best of what WV wool artisans and crafters have to offer!



DECEMBER 8, 2001
MARRIOTT HOTEL
CHARLESTON, WV
9:00 A.M. - 5:00 P.M.

Wool Items for Sale

- Fulk's Farms Crafts (Wool Rugs)
- The Grazing Herd Sheep & Wool Co (Outdoor Knitwear, Fleeces & Roving)
- Hopping Acres (Wool Handmade Sweaters)
- Kilmamock Farm (Sheeples, Wool Scarves, Hats, Gloves, Yarn)
- Helvetia Shepherd's Assoc. (Wool Blankets & Yarn)
- Joy-Lan Acres (Wool Snowmen, Santa's, & Angels)
- Threads Entwined (Hand-woven Scarves & Throws, Santa's)
- Wild N' Woolly Farm (Felt Clothing and Wall Hangings)





ERADICATE SCRAPIE!

NATIONAL SCRAPIE EDUCATION INITIATIVE

The U.S. Secretary of Agriculture has announced an important new program to accelerate the eradication of the fatal brain disease, scrapie, from the nation's sheep flocks and goat herds. "Scrapie in Sheep and Goats; Interstate Movement Restrictions and Indemnity Program; Final Rule", was published in the Federal Register August 21, 2001 and became effective September 20, 2001.

Key elements include:

- Interstate movement restrictions on animals from infected and source flocks, and high risk and exposed animals from other flocks;
- An indemnification program for owners of high-risk, test-positive, and suspect animals;
- A nationwide individual identification program for breeding sheep and goats
- Surveillance and testing of sheep at slaughter; and
- Uniform minimum standards for state scrapie programs.

About Scrapie

Scrapie is a fatal, degenerative disease affecting the central nervous system. An abnormal protein, called a prion, is associated with the disease. Transmission primarily occurs at lambing through exposure of a ewe's offspring and other animals to infected birth fluids and placenta; thus the emphasis placed on breeding animals in the eradication program.

Scrapie is in a class of diseases known as transmissible spongiform encephalopathies (TSEs). Other diseases in this class include bovine spongiform encephalopathy (BSE) in cattle and chronic wasting disease (CWD) in deer and elk. Recent publicity surrounding TSEs, and limited knowledge about these diseases, has heightened public concern. Extensive epidemiological research has shown no evidence that scrapie can be transmitted to humans.

Importance of Scrapie Eradication

The American Sheep Industry Association estimates that scrapie costs the industry over \$20 million each year in lost export sales, disposal costs for offal, and lost productivity. Even though research studies have shown that scrapie is not a public health risk, public perception may one day dictate eradication of all TSEs. Therefore, it is in the industry's best interest to eliminate scrapie in the U.S.

Individual Animal Identification

In order to eradicate scrapie among sheep and goats, methods for identifying infected and exposed animals must be created. Therefore, sheep and goats not enrolled in the Voluntary Scrapie Flock Certification Program (VSFCP) will be subject to new identification requirements before they change ownership and/or enter into interstate commerce. The following animals will need ear tags or tattoos:

- All sheep 18 months or older
- All breeding sheep
- All scrapie exposed, suspect, test-positive and high-risk animals
- Breeding goats, except low-risk commercial goats
- All sheep and goats for exhibition

Note: (There are less stringent requirements for sheep and goats moving interstate for grazing or similar management without change of ownership.)

The USDA will provide ear tags, without charge to producers. West Virginia producers can obtain official ear tags by contacting the WVDA Animal Health Division, Dr. Lewis Thomas, DVM, MPH, Director, at (304) 558-2214, or via e-mail at thomas@ag.state.wv.us. Sheep producers who prefer to use a different type of tag may purchase official tags through specified, approved tag companies. A list of approved tag companies and tag types will be maintained on the APHIS scrapie web page.

Compliance

Compliance for all scrapie exposed and affected animals went into effect September 20, 2001. Identification requirements for most sheep and goats (animals that are *not* scrapie-positive, suspect, high-risk, exposed, or from an infected or source flock) go into effect November 19, 2001. Identification requirements for commercial breeding sheep less than 18 months of age go into effect February 19, 2002. Producers will be required to keep identification records for five years after an animal has left the flock.

Health Certificates

In addition to official ID, each breeding sheep or goat crossing state lines or entering into interstate commerce must be accompanied by an official Certificate of Veterinary Inspection (health certificate) issued by an accredited veterinarian.

GOAL: ELIMINATE SCRAPIE FROM THE U.S. BY 2010.

Where to Learn More

For more information about the new scrapie rules and the VSFCP, visit The National Institute for Animal Agriculture web site at www.animalagriculture.org/scrapie or the USDA, APHIS, Veterinary Services web site at www.aphis.usda.gov/vs/scrapie.

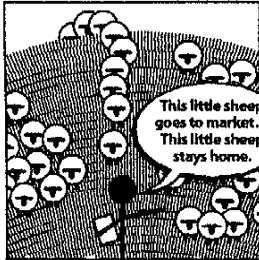
Or write:

National Scrapie Eradication
Program Coordinator
USDA/APHIS/VS
4700 River Road; Unit #43
Riverdale, MD 20737-1231

Start planning now, so you won't be caught unprepared!

How to Comply with the New Scrapie Eradication Program

Step 1

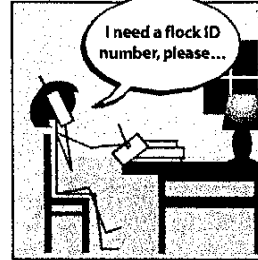


Determine which of your sheep or goats need official ear tags or other official ID to move interstate.

Do need official ID:
✓ Breeding Sheep
✓ Show Sheep

Do not need official ID:
✓ Feeder Lambs
✓ Slaughter Lambs

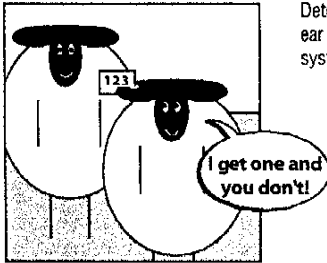
Step 2



Request a flock ID number from your local APHIS Veterinary Services office.

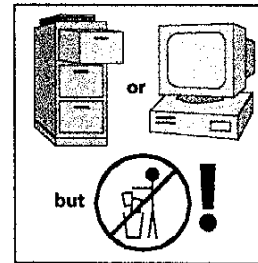
WV producers call WVDA Animal Health Division, Dr. Lewis Thomas, DVM, MPH, Director, at (304) 558-2214, or via e-mail at lthomas@ag.state.wv.us.

Step 3



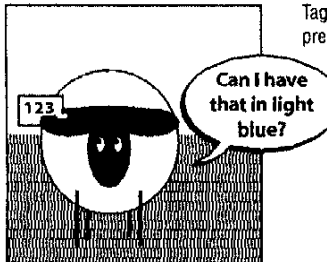
Determine which of the approved ear tags or other approved ID systems will work best for you.

Step 4



Set up a method to record the ear tags or other official ID that are applied.

Step 5



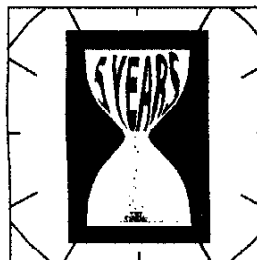
Tag the animals before they leave your premises.

Step 6



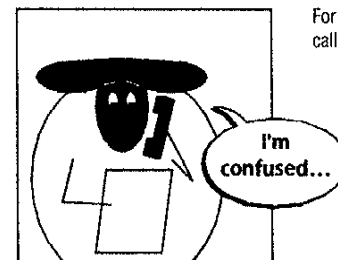
Get a health certificate from an accredited veterinarian prior to interstate shipment or sale into interstate commerce of animals for breeding or exhibition.

Step 7



Retain records for at least 5 years from the time the animals are transported or sold.

Step 8



For more information, call toll-free 1-866-USDA-TAG. (873-2824)



National News and Notes



Lamb Promotion, Information and Research Order (Checkoff)

A proposed order for a national lamb checkoff program was published by the U.S. Department of Agriculture (USDA) in the September 21st Federal Register. The American Sheep Industry Association (ASI) encourages U.S. sheep industry members to review the order and provide feedback during the 60-day comment period.

Under the proposed program, U.S. lamb producers and feeders and lamb packers would all pay an assessment. The program would represent the only livestock checkoff program of its kind in which packers are assessed. Individual U.S. lamb producers and feeders would pay a one-half cent per pound assessment based on live weight, and lamb packing companies would pay 30 cents per carcass. The proposed order calls for a deduction at sale, however, remittance would occur at the slaughter level for most transactions.

The order calls for a delayed referendum to be conducted no later than three years after assessments begin. During this three-year period, full refunds may be requested.

Lamb imports would not be assessed under the proposed order.

The proposed checkoff is expected to raise approximately \$3 million each year and would fund a promotion, research and information program. The program's goals would be to increase demand for lamb, maintain and expand markets for American lamb and lamb products, and to compete against rising foreign imports of low-priced lamb.

The program would be administered by a Lamb Promotion, Research and Information Board appointed by the U.S. Secretary of Agriculture. Industry organizations would nominate representatives to serve on the 12-member board, which would include: six producer representatives (three each from two regions), three feeder representative's two packers/processors and one seedstock producer.

The American Sheep Industry Association's weekly newsletter for September 28, 2001 contained a series of questions and answers regarding the checkoff. Topics addressed included: Why do we need a checkoff program with all of the federally funded American Lamb promotions currently underway? How does not having a

checkoff affect a commodity producing industry? Is any checkoff better than none at all? Why aren't lamb imports included in the checkoff proposal? How would a checkoff help sheep and lamb producers compete and profit against imports? The article can be viewed on the ASI web site at www.sheepusa.org.

The USDA/AMS has also posted information about the checkoff in a Q&A format on its web site. Questions include: Why did the Department of Agriculture publish the proposed Lamb Promotion, Research, and Information Order in the Federal Register? What is the purpose of the order? When would members of the industry be able to vote on whether or not they favor the Order? Does the proposed Order provide for refunds? The USDA/AMS Q&A can be viewed at www.ams.usda.gov/lsg/.

Comments on the proposed order must be submitted no later than November 20, 2001 to Ralph L. Tapp, Chief, Marketing Programs Branch, AMS Livestock and Seed Program; USDA Stop 0251, 1400 Independence Avenue, SW; Washington, D.C. 20250. Comments may also be submitted electronically to ralph.tapp@usda.gov or by fax at (202) 720-1125.

Wool Payments Issued by FSA

The U.S. Department of Agriculture's (USDA) Farm Services Agency (FSA) recently issued 2001 wool payments to U.S. sheep producers. Some \$17 million in direct payments to producers for fiscal year 2001 was secured by the American Sheep Industry Association (ASI) and was authorized by Congress in August as part of an agricultural assistance package. The payment rate was approximately 36 cents per pound. Producers who applied for and received wool payments in 2000 automatically received 2001 payments. FSA offices automatically processed payments based on the 2000 payment applications and sent producers deposit information on the amount paid.

The End for the Wool Stockpile?

The 2001/2002 season will be the first in more than 10 years that there has not been a wool stockpile. Buyers will be forced to purchase wools based on public offerings. Over the next year, buying strategies and practices will likely change to better handle the Australian and new Zealand recesses. Buyers will likely develop their own stockpiling strategies. However, the end of the stockpile could increase competitiveness in the open wool market. This could lead to higher prices if mills continue to purchase wool at current levels.

The wool market has slowed considerably. The top end of the price range for the few wools that have traded was around \$1.30 per pound on a clean and delivered basis. (Prices decline 10-20 cents per pound, clean and delivered, for each USDA grade break.)

from ASI Sheep Industry News September, 2001.

Breeding Ewe Lamb Payment Program

USDA's Farm Services Agency is working on the details and application procedures for the breeding ewe lamb payment program, which is part of the recently announced \$43 million U.S. sheep industry assistance package. The \$43 million package will be in addition to the earlier three-year, \$100 million assistance package that resulted from the successful 201 trade action.

A new \$13 million breeding ewe lamb payment program will be added this fall to compliment the current 201 feeder and slaughter lamb payments. A fourth year of assistance has been also been added which will begin July 2002 and will include the breeding ewe lamb program, a \$10 million feeder and slaughter lamb program and USDA meat purchases.

Details of the Ewe Lamb Payment Program will be announced soon.

The Wool Market & the WV Shepherd

(Continued from page 1)

Almost all wool used commercially in America is priced on a cleaned and delivered basis to Charleston, SC. This is historically the port of entry for most imported wool and where most wool processors have operated. It is the port closest to Chargeurs Wool – USA; the company that bought the 2001 WV clip.

Packaging and Trucking. Most experts agree that when it comes to our coarse wool, trucking efficiency is the most important consideration. Anything we can do to increase trucking efficiency will increase the net price. Packaging efficiency is the key to trucking efficiency.

The second most important technological development after objective measurement has been the nylon pack. The burlap bag has been the package of choice for more than 400 years. A British text written in 1745 even refers to a “pakk of wooll” weighing fifteen stones and ten pounds (220 lbs). That is the same weight recorded for bags of wool today. Burlap has taken a lot of criticism by the industry in the last several years. It contaminates the wool and offers no storage or trucking efficiency. A burlap bag holds about 7 lbs of wool per cubic foot whereas a nylon pack will hold about 21 lbs per cubic foot. By baling wool in nylon packs, a truck that once hauled 17,000 - 20,000 pounds of wool is now capable of hauling 42,000 - 47,000 pounds. That volume can reduce trucking by 3-4 cents per pound!

Wool buyers generally will not bid on wool packed in burlap. If they consider buying wool that is not baled, they will make arrangements to have it baled - at the shepherd's expense. The WV Wool Pool adopted the nylon pack early in the process. The Pool owns two wool balers and recently purchased a new scale for weighing bales. The nylon packs, balers and scale allow us to more efficiently and effectively package and market our wool. We have secured a supply of used nylon packs that are convenient for on-farm use at shearing time. These packs are available to WV shepherds upon request at no cost.

Value and Quality Control. A high quality clip gives our Pool more marketing options and opportunities. In our fifth year of packing wool, we are still finding black

fleeces, dirty fleeces, and even some tied fleeces in the bags of wool. These contaminants affect the value of the wool in several ways. Black wool can ruin a sample because it will not take a dye. Dirty fleeces lower the yield for everybody in the pool. (In other words, the clean wool producer carries the dirty wool consignor!) Tied fleeces create more work at the pool. (Someone has to untie the fleeces, one at a time, at the expense of everyone else.) Bags are identified when they arrive at the pool so the “off” fleeces are recorded and subtracted from that shepherd’s check. This process tends to lower pool efficiency as labor is expended to remove the fleeces and report the discounts.

The Bottom Line. The gross price WV shepherds received for their wool in 2001 was \$0.50/lb *clean and delivered*. Therefore, each bale of wool is core sampled at the processing plant and the samples analyzed to determine fiber diameter and yield. WV Wool Pool yield generally varies between 50% and 65%. The most recently marketed 2 million pounds of WV wool sampled had an average fiber diameter of 31.3 microns. About 230,000 pounds of grease wool was marketed through this year’s pool. So, what’s the bottom line for the WV shepherd? A sample formula goes like this:

Estimating Wool Pool Profits

Bid price: \$0.50/lb clean & delivered (approx. 31.3 micron wool)	\$0.50
Yield: 58% (range 50% - 65%)	x .58
Grease Price: \$0.29/lb grease base	\$0.29
Trucking: grease base - 42,000 lbs @ \$1,100	-\$0.03
\$1,100 ÷ 42,000 lbs = \$0.03 per lb	\$0.26
State Pool: State pooling expenses vary dependent on transportation distance and maintenance for balers. (range \$0.01 - \$0.02/lb)	-\$0.02
	\$0.24
Local Pool: Deduction varies based on history of the pool structure and available volunteer labor by shepherds (range \$0.02 - \$0.06)	-\$0.06
Bottom Line: Price per pound received by the shepherd	\$0.18

The Wool Market & the WV Shepherd was condensed from an article of the same name written by Tom McConnell. A complete text of the article is available on the WVSMP website at: www.caf.wvu.edu/avs/sheep/woolpool.htm.



WVSF and WV Wool Pool Receive Funds

The WV Shepherds Federation received \$886.80 from the 2001 Wool Outreach Program sponsored by the American Sheep Industry Association's Wool Council. The funds were applied toward the purchase of a new scale (pictured at left) for weighing wool at each of the six WV Wool Pool sites.

Making the Grade. Will Your Wool Pass or Fail?

The history of wool in the U.S. is rich with terms used to describe wool by both buyer and seller. Terms such as fine, low 1/4, coarse, character, handle, luster and loft are subjective in nature. Grade is the term used to describe the relative diameter of wool fibers. The grade, or fiber diameter, defines the potential end-use for wool. Three systems used to describe wool grade in the U.S. are BLOOD, NUMERICAL COUNT, and MICRON.

BLOOD SYSTEM

The BLOOD system is the oldest system for grading wool and originally referred to the fraction of Merino blood in the sheep producing the wool. The BLOOD System divides all wool, from finest to coarsest, into six market grades: FINE, 1/2 BLOOD, 3/8s BLOOD, 1/4 BLOOD, LOW 1/4 BLOOD, COMMON and BRAID. Merino wool is classified as FINE. Crosses between Merino sheep with other breeds, usually meat breeds, result in wool fibers that are almost always coarser than the pureblood Merino. The BLOOD system has not been recognized by the USDA since 1955.

NUMERICAL COUNT SYSTEM

The NUMERICAL COUNT system divides wools into 14 grades, each designated by a number classifying wool by fiber diameter. Numbers range from 80s for the finest wool, to 36s for the coarsest. COUNT refers to the "hanks" of yarn, each 560 yards long, that can be spun from

one pound of wool top. Thus a 64s (560 X 64) wool yields 35,840 yards of yarn from one pound of top. The coarser the wool, the lower the "yarn count". Thus, 48s wool would only spin 48 hanks or 26,880 yards.

MICRON SYSTEM

The MICRON system most accurately describes the fineness of the wool fibers by objectively measuring the average fiber diameter in a given lot. A MICRON is 1/25,400 of an inch. Assignment of grade is based on objectively determined average fiber diameter and standard deviation (a measure of variability) of diameter of a representative sample from a given lot of wool. For each of 14 grades, the USDA specifies a range for average diameter and a maximum standard deviation. Samples having standard deviations greater than the specified maximum are downgraded to the next lower grade. An 80s wool which averages 18.1 MICRONS is less than one half the average diameter of a COMMON and BRAID 36s which has an average diameter of 39.7 MICRONS.

DIAMETER VARIABILITY

A wool fiber is divided into three sections: the root, the shaft, and the tip. The tip of a fiber on a lamb's fleece is pointed, while the tip from a mature fleece is flat, because of previous shearing. The wool fiber diameter can vary along its length, primarily due to nutrition. A sheep on a high plane of nutrition grows a coarser fiber than one on a poor ration. The diameter

within a given fiber can vary as much as 5 MICRONS due to nutrition. A break or tender spot in the fiber can be caused by an extreme drop in nutrition or stress from an infection or illness. Studies in New Zealand have determined that shorter daylight hours result in smaller fiber diameter, regardless of nutritional levels.

PROCESSING

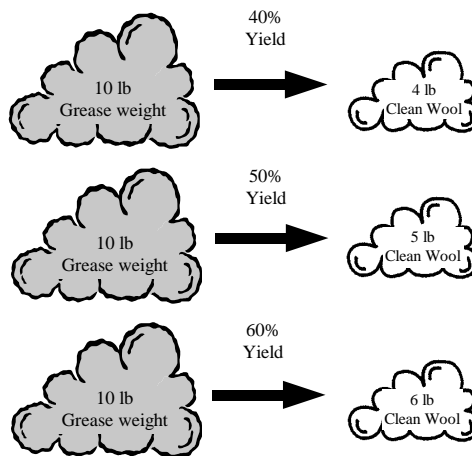
Grease wools are processed into finished products via either the worsted or the woolen system. The worsted system utilizes wools of longer length within a grade and the woolen system the shorter length wools. In the worsted system, after scouring and drying, the wool is carded and then combed so that the wool fibers lay parallel and the yarn is smooth. In the woolen system, after carding the web card is split into rovings and the rovings spun directly into yarn. In the woolen system, the fibers are criss-crossed and a more bulky yarn is produced.

Breed	Spinning Count (approx.)
Merino	64's to 80's
Columbia	50's to 60's
Southdown	56's to 60's
Hampshire	48's to 56's
Suffolk	48's to 56's
Dorset	48's to 56's
Cheviot	48's to 56's
Lincoln	36's to 46's
Romney	40's to 48's

USDA Standard Wool Specifications				
Type of Wool	Blood System	Numerical Count System	Micron System (microns)	Maximum Standard Deviation (microns)
Fine	Fine	Finer than 80's	Under 17.70	3.59
	Fine	80's	17.70-19.14	4.09
	Fine	70's	19.15-20.59	4.59
	Fine	64's	20.60-22.04	5.19
Medium	1/2 Blood	62's	22.05-23.49	5.89
	1/2 Blood	60's	23.50-24.94	6.49
	3/8 Blood	58's	24.95-26.39	7.09
	3/8 Blood	56's	26.40-27.84	7.59
	1/4 Blood	54's	27.85-29.29	8.19
	1/4 Blood	50's	29.30-30.99	8.69
WV Wool Pool Wool	Low 1/4	48's	31.00-32.69	9.09
Coarse	Low 1/4	46's	32.70-34.39	9.59
	Common	44's	34.40-36.19	10.09
Very Coarse	Common	40's	36.20-38.09	10.69
	Braid	36's	38.10-40.20	11.19
	Braid	Coarser than 36's	Over 40.20	--

Glossary of Wool Terms

BELLIES	Short and often times defective wool from belly of sheep.	SECOND CUTS	Short tufts of wool cut at least twice by the shearing.
BLOOD	When prefixed with ½, 3/8, ¼ or low ¼ it indicates the degrees of fineness in the wool.	SPINNING COUNT	A term of British origin which describes the fineness of wool. It indicates the number of hanks (560 yard lengths) of yarn that can be spun from one pound of clean wool. A pound of clean wool that will spin 64 hanks is called 64's.
BREAK	Wool that is abnormally weaker in one spot along the fiber length.	STAPLE	This properly refers to the length of the fiber. In a more restricted sense it refers to a lock of wool in the fleece.
BRITCH	Wool from the hindquarters of the sheep, usually the coarsest on the body, often hair-like.	TAGS	Large locks of wool combined with dung or large quantities of grease and dirt.
CARDING	The process uses a system of wire rollers to straighten the fibers and prepare the wool for spinning. The untangled wool fibers lie parallel and form a fine web of continuous strips or "silvers".	TENDER WOOL	Wool that is weak at one or more places along the fiber.
CORE SAMPLING	A method of sampling wool to determine its yield.	TOP	A continuous strand of partially manufactured wool, which previously has been scoured, carded, and combed; an intermediate stage in the process of worsted yarn.
CLIP	Usually refers to the total annual production from any given flock, state, or country.	VEGETABLE MATTER	Any material of plant origin found in the fleece, (burrs, stickers, chaff, and seed heads).
CRIMP	The natural curl or waviness in wool fibers.	VIRGIN WOOL	Wool shorn from the live sheep or pulled from sheep skins. This term properly refers to any wool that has not been previously manufactured into yarn.
DENSITY	The number of fibers growing on a given area of the sheep's body. The more fibers per square inch, the greater the density.	WOOLEN	A system of processing that utilizes the shorter length of wools within a grade.
FELTING	The matting together of wool fibers.	WORSTED	A system of processing that utilizes the longer length wools within a grade.
FLEECE	The wool shorn from one sheep.	YIELD	The amount of clean wool that is derived from grease wool in the scouring process; is expressed as a percentage.
GRADE	Relative fineness of the wool.		
GREASE WOOL	Wool as it is shorn from the sheep before any processing.		
HANDLE	A term referring to the actual feel of the wool.		
HANK	A 560-yard unit of wool yarn wound on a reel.		
KEMP	Brittle, chalky white, weak fiber found as an impurity in the fleece.		
LANOLIN	Wool grease; this substance, sometimes called "yolk", is a secretion from the sebaceous glands of the sheep.		
LOCK	A small, approximately finger-size bit of wool that tends to stay together when shorn from the sheep.		
NOILS	The short and sometimes defective wool fibers removed in the combing of top.		
RAW WOOL	Grease wool in natural state before scouring.		
SCOURED WOOL	Wool washed clean of grease, soil, and sweat salts.		



(Figure Source: ASI)

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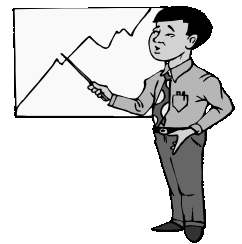
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