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How to Avoid Wool Contamination

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Idaho sheep producers must be continually alert to prevent contamination of the wool from their flocks. Wool buyers today are discounting and in many cases rejecting wool that is contaminated. The main sources of contamination are three old problems — improper branding paint, off-colored fibers and vegetable matter — plus one new one that is the most serious of them all, synthetic fibers.

Eliminate Synthetic Fiber

Contamination of wool with synthetic twine has become a serious problem for the wool industry. Domestic woolen mills have instructed wool buyers to examine fleeces for particles of synthetic fiber such as polypropylene, polyethylene, polyester and nylon. Wool buyers are to reject on delivery all wool that is found to contain contaminating fiber. Plastic string will make the wool worthless for wool yarn or fabric. Black polypropylene and colored synthetic fibers are impossible to remove completely from the yarn. Synthetic fibers will not take a dye and can be observed in finished cloth.

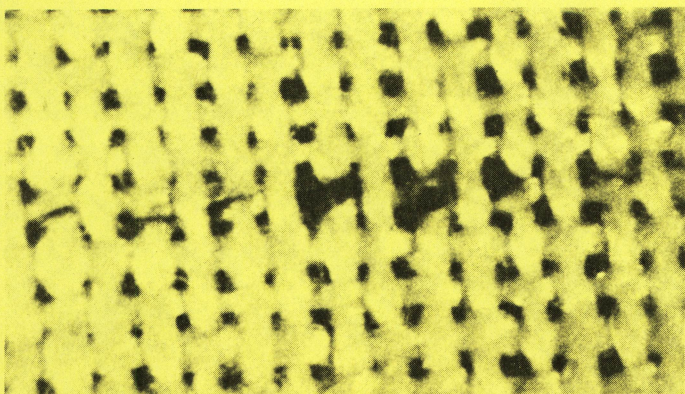


FIGURE #1
BLACK POLYPROPYLENE
IN WOOL/DACRON FABRIC

Polypropylene intermingled with fibers in the weaving process as shown in this section of finished fabric cannot be removed.

Polyester strings contaminating a total wool clip may come from several sources, including feed:

Pellets — Polyester fibers chopped and pelleted in commercial feeds will result in wool contamination.

Chopping — Baled hay, straw or other forages are routinely chopped with the polyester strings still attached to the bale. The polyester fragments ultimately will contaminate the wool.

Pasture — Grazing after a field is baled may contaminate the fleeces of sheep in the field. In the baling process, short ends of the polyester strings often drop to the field. Sheep movement can possibly cause static electricity in the wool which jump polyester fibers from the field surface to the belly wool.

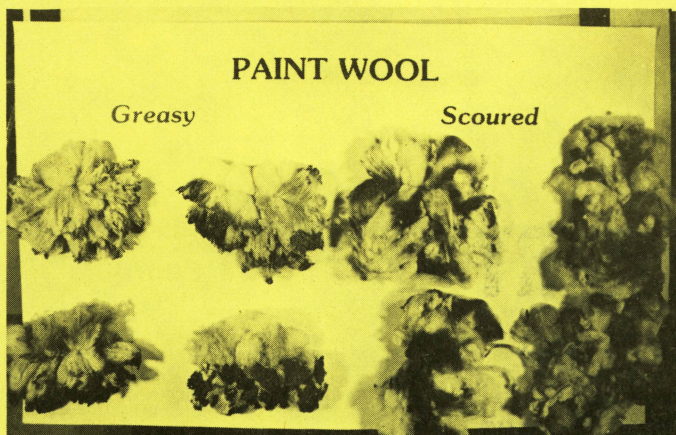
Feed grounds — Polyester strings cut from the bale and allowed to accumulate on the feed ground are not biodegradable. Wool may be contaminated as sheep rest on or travel over these strings and short particles.

To avoid these problems, remove strings from baled straw, bedding or hay and burn them in a garbage can or similar container. Do not allow these strings to lay around on the ground. Remove plastic strings from each bale before chopping hay and before scattering straw for bedding. Gather all strings and get them away from the shearing pens or other places where sheep are handled, sheared, fed or housed. Burn them in a container.

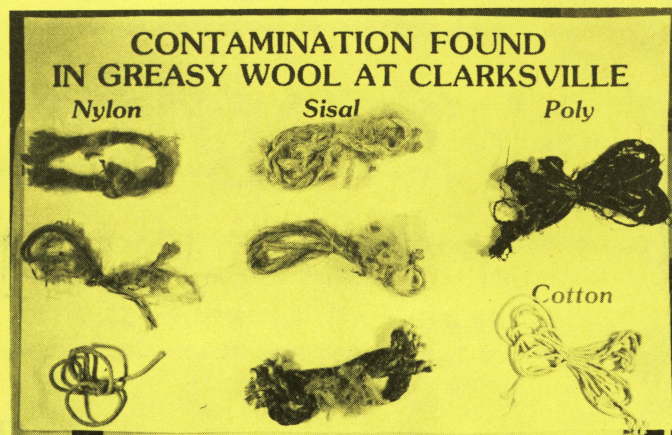
Never tie a fleece with plastic twine. The only material that should ever be used to tie fleeces is paper twine. It is better not to tie a fleece at all if paper twine is not available. Only cotton string should be used to close or tie ears on a sack of wool. Never use sisal, jute or plastic string to tie fleeces or sacks. Use only burlap bags to sack wool.

Use Proper Paints

Do not use a house or barn paint to brand sheep because such paints are non-scourable. A non-scourable paint must be completely removed from a fleece before processing. This requires hand labor which is expensive and time consuming. Furthermore any particle of non-scourable paint that remains cannot be removed from a bolt or cloth or finished product without ruining the fabric. Use only branding fluid



Non-scourable paints or similar fluids remain attached to wool fibers and cannot be removed by any process.



These are the most common sources of wool contamination found in shorn fleeces.

that is scourable. Do not dilute or mix with linseed oil or lamp black or other contaminating substitutes. Excessive branding fluid will also be discriminated against.

Prevent Off-Colored Fibers

A fleece may be rejected if it contains an abundance of kemp, hair or off-colored wool fibers. Kemp is the chalk white, brittle, weak, opaque, structureless fibers that are found mixed in the normal fibers of a fleece. These fibers will appear prominently in finished fabric. Kemp will not take a dye; hence, its presence in wool is most objectionable. Black fibers will not take a colored dye; thus, a fleece heavily contaminated with black fiber can only be used in black fabrics and yarns.

Select against kemp and black fibers in breeding sheep. Separate black sheep and shear them last. Separately sack fleeces that are gray or black. These fleeces may sell at a discount of one-third or more. Separately sack the wool from the black face breeds since it may contain excessive black fiber.

Protect Against Vegetable Matter

Vegetable matter of any kind in a fleece is not desirable. Burrs, grass, seeds, awns, chaff, hay, straw and any other vegetable matter must be removed. Burrs and similar materials cannot be removed from wool by scouring alone. They must be removed by combing, a process that removes both vegetable matter and noils (short fibers) from top (long fibers). To remove vegetable matter from noils and short

clothing wool requires carbonization — immersing wool in a dilute sulphuric acid or aluminum chloride solution. This process is costly and results in a weight loss of about 10%.

To minimize vegetative matter accumulation in wool —

- Avoid grazing sheep in areas badly infested with plants that have burrs.
- Avoid spilling or pitching chopped hay on the sheep when they are fed.
- Use good clean bedding.
- Remove weeds, hay and other vegetative wastes from holding and shearing pens.
- Keep shearing floor clean and dry. Brooms should always be available on the shearing floor. Sweep at regular intervals.
- Place tags, dung locks, stained pieces and other floor sweepings in a separate bag and label properly.
- Mark bags or bales only with approved marking materials. Do not use paint!
- Keep fleeces free of straw, manure and extraneous matter.
- Clean trucks or freight cars to eliminate contamination from foreign substances and materials when the wool is shipped.

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