

**SHEEP AND THE
ENVIRONMENT**

**SHEEP AND
WASTE MANAGEMENT**





The United States is saying good-bye to its “throw away” lifestyle.

Landfills in many

parts of the country are jammed to capacity, and attempts to build new ones are invitations to controversy. As a result, many Americans are realizing that they must replace their “use it and toss it” philosophy with a recycle and reuse mentality. Sheep can provide creative alternatives to traditional waste-handling methods. Sheep’s digestive tracts can process materials that otherwise would be treated as waste. And, sheep produce materials that can help manage waste in a more environmentally friendly manner.

SHEEP AS WASTE MANAGEMENT TOOLS

Sheep can play an important role in the bioremediation of soil contaminated by petrochemicals and in cleaning up oil spills.

For example:

- Since 1991, the Minnesota Department of Transportation (MNDOT) has used sheep manure from the University of Minnesota farms to help clean up soil contaminated by leaking underground storage tanks. Petroleum-contaminated soil is placed on an asphalt pad, then mixed with one part wood chips for aeration and moisture, and one part manure for every four parts of soil. The pile is covered with two layers of plastic and in about three months, the microbes in the manure and soil digest the petroleum product, leaving only harmless carbon dioxide and water.
- The cost of the “biomound” treatment is about \$13 per cubic yard, compared with \$40 per cubic yard for traditional disposal, which requires the soil to be incinerated. Plus, the sheep-manure process aids in land reclamation by adding nutrients to the soil, while incineration results in sterile soil that must be hauled away from the site.
- Wool is an excellent sponge for petroleum products. In a study of synthetic and organic sorbents for diesel, crude oil and other oils, Environment Canada found wool exhibited the highest oil retention capacity and the maximum

reusability of the seven organic sorbents tested.

- In the United States, private testing laboratories found that wool could absorb 12 to 44 times its weight in oil, depending on the pad thickness and type of oil. In addition, wool is a renewable resource that typically biodegrades within a few months. Absorbent wool pads can be reused up to eight times and the petroleum wrung from the pads recycled.
- Wool products for oil-spill cleanups have been promoted in Europe and Australia since 1990, but have just begun to break into the U.S. market. Hobbs Bonded Fibers of Waco, Texas, is converting low-grade wool into sorbent booms, pads, mats and other oil cleanup items. The project is funded by the Wool Environmental Projects Consortium, which includes the American Sheep Industry Association.

SHEEP AS CONSUMERS OF WASTE

Numerous waste materials contain nutrients that sheep need to thrive. Among these are crop residues, grass clippings and food processing byproducts that would otherwise be considered garbage. Some waste management experts estimate that 60 percent of landfill waste are organic substances from the yard. Feeding select wastes to sheep can help reduce the burden on the nation's overflowing landfills while converting the refuse into products such as wool, meat, manure, lanolin and milk for cheese. *For example:*

- Fort Saskatchewan, Alberta, Canada, uses sheep as natural lawn-mowers to keep city parks groomed. In 1993, the cost of the sheep grazing program was within 10 percent of the normal maintenance cost of conventional grass and weed control methods. Furthermore, the city no longer was plagued by broken lawnmowing equipment and sheep grazing controlled the parks' dandelion infestation.
- In Brownsville, Ore., 5,000 to 6,000 lambs graze broccoli fields after the farmers have finished harvesting. The non-usable portions of the plant becomes forage for the sheep and fertilizer — in the form of sheep manure — for the field. The microorganisms in sheep manure break down the plant waste left in the field, thereby returning nutrients to the earth for the next planting.

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Sheep and Waste Management is a publication of the American Sheep Industry Association (ASI), which represents more than 83,000 U.S. sheep producers. Sheep are a natural, low-cost means of managing rangelands, forest and agricultural lands, even as they produce important resources, such as wool, meat and lanolin. ASI is committed to proper grazing that benefits the environment, wildlife, the taxpaying public and consumers. For additional copies of this and other ASI pamphlets on sheep and the environment, contact the American Sheep Industry Association, 6911 S. Yosemite St., Centennial, CO 80112, (303) 771-3500.

