Recycled Newspaper for Animal Bedding

The West Virginia University Extension Service conducted a study on the use of recycled newspaper for animal bedding and poultry litter. Utilizing newspapers for these and other purposes will help reduce landfill volume, extend landfill life and reduce landfill dumping costs.

The project began in October 1990 funded in part by the West Virginia Fuel and Energy Office through the West Virginia University Energy Extension Service. The study team included five extension agents, three specialists and a graduate research assistant.

A survey to determine interest in using recycled newsprint for bedding was sent to dairy farmers in Mason, Preston, and Jefferson counties. Response was received from 39 dairy farmers. Eighty-two percent of these dairy farmers indicated an interest in trying recycled newspaper bedding. A survey was also sent to 219 poultry producers to assess current poultry litter practices and future litter needs. Response was received from 29 percent of the producers surveyed. Nearly 65 percent of the broiler producers and 69 percent of the turkey producers indicated they would be willing to try recycled newspaper for litter. The major reason expressed for willingness to try newspaper litter was the present cost or availability of other litter materials (shavings, sawdust, peanut hulls and bark chips). Broiler production in the West Virginia five-county production area is projected to double in the next five years to 80 million broilers annually. Annual turkey production is 3.5 million.

The study involved on-farm demonstrations. Twenty-two people attended a newspaper chopping demonstration with three different on-farm type paper chopping machines. Paper was distributed in dairy free stalls and youngstock housing as it was chopped. Paper was also chopped later with a John Deere 36-knife forage chopper and baled in 40-80 pound bales with a John Deere hay baler.

Manure samples were analyzed for crop nutrient values and elemental concentration values including heavy metals. There was no significant difference in N, P2O5 and K2O in manure samples from free stalls with paper bedding and with sawdust bedding. Calcium was 39 percent higher with the sawdust bedding. Samples from manure packs with paper bedding and with hay/straw bedding showed N, P2O5, K2O, calcium, manganese and ammonia to be considerably higher with the hay/straw bedding. Paper bedding contained three times more aluminum and four times more iron, slightly more copper, but less manganese. Nickel, lead and cadmium were below detectable concentrations in both paper and hay/straw bedding.

About 10 pounds of paper bedding per stall per week was used. Comments from the dairy producers were: newsprint bedding does not stay in free stalls very well; need to bed more often than with sawdust; shredding in the barn is an extremely dusty job; newsprint bedding in heifer barn manure-pack seems to maintain a drier bed than does straw.

Broiler producers in West Virginia usually place three tons of shavings/sawdust or other litter in a 26,000-bird house. One and one-half ton of chopped paper was placed in several broiler houses of equivalent size in Hardy and Grant counties. Observations throughout the six-week flock period did not show any differences in bird performance or environmental quality except there was less dust with the paper litter. Some litter caking occurred under the nipple waterers in the paper litter houses, but caking also occurred in the shavings/sawdust houses.

Crop nutrient values for N, P2O5 and K2O in broiler litter on a dry basis for paper litter at 25.7 percent moisture were 4.4, 1.5 and 3.3 percent, respectively. For paper litter at 20.9 percent moisture, the values were 4.6, 1.5 and 3.2 percent, respectively, and for shavings/sawdust litter at 24.4 percent moisture the values were 4.2, 1.4 and 3.0 percent, respectively. Testing for broiler litter elemental concentration values has not yet been completed.
During highway transport of the paper litter in manure spreaders there was not any detectable scattering of the paper particles. A few large paper particles were found in the grassland field after spreading. These were multi-layer chunks which had not been chopped to normal particle size.

Recycled newspaper appears to be an acceptable litter material for broiler houses. Recycled newspaper litter is now being used in at least 20 broiler houses in West Virginia. Using recycled newsprint litter for the 40,000,000 broilers and bedding for the 27,000 dairy cow and replacement stock in West Virginia at a cost of $50 per ton could reduce present litter and bedding costs by 82 and 30 percent, respectively.

Three fact sheets in a series on recycled newspaper for animal bedding were printed and have been widely distributed. The topics addressed are: Safety and Processing, Use and Results, and Absorption and Decomposition.

An exhibit was also prepared and has been used extensively (20 major events in a three-month period). A two-minute video on using recycled newsprint for animal bedding was produced in cooperation with extension media services. The video was distributed to 44 TV stations and a satellite network.

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