

# Need For Poultry Husbandry Important

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UNIVERSITY PARK (Centre Co.) — Careful husbandry can reduce pollution from poultry manure and/or litter incorporated into soil.

Consider one or more of the following to reduce excess nitrogen, phosphorus, salts, or potash, as well as other compounds in the soil.

- Control or reduce excess molt of feathers from birds. Feathers in manure and/or litter may decompose as nitrogen in the soil when incorporated before sundown the day of spreading. Feathers can be hydrolyzed and converted into a feed ingredient for a protein source so therefore may give nitrogen to the soil upon decomposition. This

needs further testing.

- Prevent feed waste from feeders into manure or litter. Some farms appear to waste one to 10 percent or more of all feed purchased into the manure and/or litter. Feed has plenty of nitrogen, phosphorus, potassium, and salts in it. Feed can behave in the soil as fertilizer, so if it is wasted in manure and/or litter it may add to pollution of soil or water as well as cause loss of net income.

- Prevent mice, rats, and insects from reproducing or living in manure and/or litter. Waste material from these species, dead animals, larvae or pupae, or adult insects can increase nitrogen or other mineral nutrients of the soil when incorporated. This needs more field testing to determine the value or harm of the chemistry of manure in the soil.

- Urates from kidneys of birds

are high in nitrogen and usually adhere or stick to the manure, whereas urine from mammals is liquid and may remain near the barn and not accompany manure to the field. Poultry manure is usually perceived to be higher in nitrogen than manure and/or litter from mammals. Part of the reason for this is that nitrogen-rich urates adhere to manure in a normal bird dropping.

- Eggs from cage layers drop through cage floors into manure when the eggshell fails. In flocks where an eggshell problem exists, two dozen or more eggs per layer, on the average, may fall through cage floors to become part of manure which can represent 1-2 percent of the manure on a dry weight basis. Egg protein can add nitrogen to soil when incorporated. Raw egg albumen, if in excess, can plug up a drain field. Eggshell damage

problems should be avoided through purchase of a valuable strain of layer, then caring for its environment, nutrition, health, and behavior to keep eggshell damage at or near zero.

- Dust or particulate matter in a poultry house has been found to contain a significantly high quantity of feather or dander-like material. Excess dust can be vacuumed off the walls of a poultry house or kept to a minimum by keeping birds healthy, behaving normally, and not fighting or trying to fly or stampede.

- Chemical agents placed in litter and/or manure for control of odor, toxic gas production, flies, destructive insects, rodents or microbes should be approved by the crop or field supervisor or agronomist. Chemicals added to manure and/or litter may pollute when incorporated into the soil.

- Grit (insoluble or calcium) may destroy knives, pumps, or valves if manure and/or litter is pumped or used in a methane or bio-gas generator.

- Debris, such as garbage, sweepings, tools, equipment parts, filler flats, cracked eggs, dead birds, and body fluids, may cause pollution in soil to increase or decrease depending on what the debris is. Some debris may not

affect soil pollution.

- Bedding for litter may or may not worsen pollution. A chopped straw bedding may actually compost and improve soils. A wood by-product bedding may extract nitrogen from soils when it decomposes, making less nitrogen available to crops.

In summary:

- Some soil testing and manure testing labs report poultry manure is getting more concentrated in N, P, K and salts on a dry weight basis over the last 30 years while other laboratory reports disagree.

- Failure to have percent moisture of manure reported along with nitrogen, phosphorus, potash, and salts is confusing the situation. All quantities, qualities, and weights should be reported on a dry weight basis.

- When submitting a soil sample, consider requesting that a total soluble salts be tested through conductivity, which will be reported as millimhos/cm. If the result is above 40, ask your agronomist about it.

- If bird bowel is kept normal and manure is produced in a stool form, it can be aerated, dried, or composted to maintain quality of manure for sale. If this does not happen, manure can cost each farm many thousands of dollars annually.

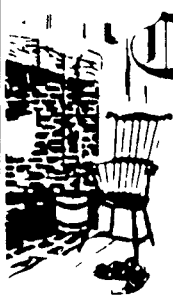
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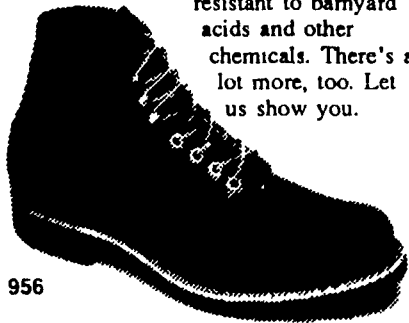
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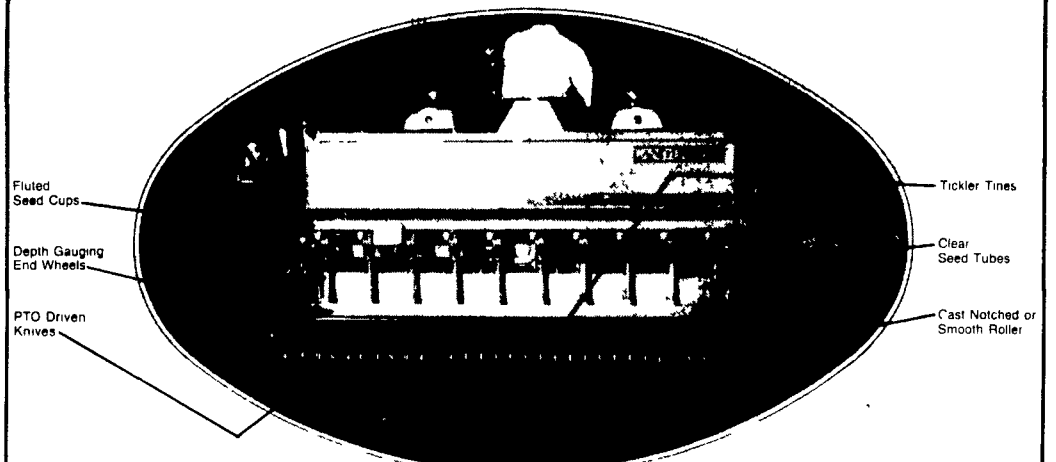


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