Animal Productivity Disorders: Because Of Pollution?

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When examining a performance problem in breeders, growing or laying birds, one avenue to pursue is to measure pollution or toxins or any damaging material in the air, water, bedding, grit, vaccine medicine or feed. Sample and measure accurately pollution of any kind.

Failure of any animal to maintain health or productivity in captivity can be due to pollution.

Example: Cup-type drinking waterers in a cage layer house were found to have E. Coli bacteria counts as high as 250,000 organisms per ml. of water when 2 to 10 organisms is plenty and zero (pure water) can occasionally be found. When the watering system was cleaned, birds with loose droppings returned to relatively normal droppings for a cage layer. Mortality was reduced and performance returned to relatively normal values. In cup or trough type waterers, beware of litter, manure, or feed from beaks of birds accumulating in the water prior to the bird drinking the polluted water. Test and/or clean any watering system as needed.

After several thousand pheasants died at 3 to 7 weeks of age, the feeder was found by a microscopist to have 11 percent of the material in the chain feeders to be litter material. E. Coli was found in dead birds—excessive fecal consumption was believed to be the cause. Feeders were raised to shoulder height of the birds and mortality returned to typical annual rate. Feeders set too low to the floor can have manure or litter kicked into the feed.

In a flock of single comb white leghorn breeders, the males at 40 weeks of age stopped attempting to mate (by human observation), and fertility dropped to near zero. This happened after ammonia gas fumes in the pen were measured at 20-40 parts per million, then 50-60 ppm. then 100+ ppm over a period of four weeks. Manure in the pit under sloping wire floors ranged from wet-solid to liquid from one month after housing on to 40 weeks of age. This situation was not reversed or remedied however the decrease in fertility occurred as ammonia fume intensity increased according to the flock supervisor. Toxic gas from manure can damage birds.

A flock of commercial table egg producing single comb white leghorns were not producing on the expected production curve at 30+ weeks of age. The shell and interior egg quality was normal but egg number was low. Birds taken to the lab showed no pathogenic lesion except pale combs and skin. Feathers were breaking and birds looked rough because feather loss was high. A sample of feed was tested and found to have 500 ppm copper and 2800 ppm aluminum. The birds were being fed extra copper sulfate. The aluminum was not traced but believed to becoming from flocculated fat from a processing plant where alum was used to float fat to the surface of a water tank for collection.

A turkey breeder flock was observed having no problems in individual breeder cages, except slightly low egg number. All health of bird and production parameters appeared normal. A sample of feed was tested to show mineral flow through a bird. The feed was found to have 15 ppm lead on a dry-weight basis in it. Lead by most people's standards should be 0 to 4 ppm or no higher than 10 ppm. Later human food samples were tested and found to have 4 to 6 ppm lead in some of them on a dry weight basis.

A flock of turkey poults were studied having been diagnosed as having E. Coli in the blood. On farm necropsy and laboratory diagnosis showed birds at 4 to 12 weeks of age to be eating litter found in the G.I. tract. This behavioral situation of birds eating litter instead of or in addition to feed is still a mystery to some people. If litter is reused, birds are overcrowded, litter is wet and full of undesirable microorganisms a bird eating litter can get sick and die. Pollution can come from any nearby source. Poultrymen or stockmen must search to discover pollution as a possible cause of health disorder in animals.

Opening unhatched eggs from many hatcheries shows contaminated yolk sac to lead all other abnormalities in embryos. Brown, dark yellow, or decomposed yolk material with an offensive odor prevents the yolk from being absorbed into the chick's abdomen and the failure of the yolk sac to be absorbed into the chick seems to prevent the chick from hatching. The shell membrane may fail to prevent transfer of undesirable microbes or dirty egg shells washed improperly may contaminate an embryo or ovarian transfer of microbes into the egg may cause or fail to halt this pollution. So, produce and set clean eggs.

Testing drinking water from several farm wells where animals were diarrhetic or having loose droppings shows high E. Coli counts in drinking water at the source. This has been remedied, corrected, or reduced by not spreading manure closer than 100 yards to a well head. Stopping the spread of manure on a water shed, around or above a spring or pond can reduce pollution as well. Feces, urates, litter, bedding, dead fowl, mice or insects must be incorporated in the soil at the proper depth before "sundown" the day it is removed from the pen. Local laws may require composting or incinerating of dead animals. This source of pollution can damage water, soil, crop yield or human or animal health. Apply droppings or manure at a maximum of 0-2 ton dry matter per acre annually.

Pollution disorders can be prevented but can rarely be corrected. Consider these:

- If something is clean or pure when purchased, keep it clean while in storage or during administration.
- If a breeder is unhealthy, place it in a hospital pen and keep it and its eggs separate. Allow actual symptoms of birds in hospital pen to confirm a health program.
- If an egg is not clean and sound sort it, clean it and treat all pollution immediately. Clean air, eggs, water or feed, or do not use them.
- Incubators and hatchers can spread health problems. Toxic gas chemicals may weaken membranes or resistance in the embryo so use them wisely or not at all.
- Adding a pollutant to clean up a pollutant seldom or never works, so clean up and prevent pollution.

Many animal farmers today invest in feed ingredients that will not last one year without rotting, but the same farmer invests thousands of dollars annually in toxic chemicals that last many, many years and can still kill an animal or human.

Think about pollution, act before pollution, but do not react to pollution in error.

Christmas Tree Growers To Gather

HALIFAX (Dauphin Co.) — Six hundred Christmas tree growers from across the commonwealth and from adjoining states will gather Aug. 9-11 for the 50th Pennsylvania Christmas Tree Growers' Association's Summer Membership Meeting.

The Days Inn, Allentown, is the convention headquarters with field trips planned to the Lee and Sandy Walker farm, Lehighton, and the Rodale Institute, Emmaus. A special western barbeque and 50th meeting celebration is scheduled for Friday, Aug. 11 at the Greg Umlauf farm, Emmaus.

"Agriculture Alternatives for the 21st Century Christmas Tree Grower" is the theme for the event, with speakers presenting new methods of plantation tree growing using soil and plant fertilization innovations along with conventional and biorational insect and disease controls.

Featured speakers include Leonard Ridzon, Waterford, Ohio, founder of "Nutricarb," the process of using soft coal for soil nutrition; Dr. Akhatar Khwaja, soil scientist and agronomist, Oshkosh, Wis., speaking on nutritional management for Christmas trees; and Dr. Dan Skow, Fairmont, Minn., author of "Mainline Farming for Century 21" and president of Ag Labs, Inc., speaking on balancing soil nutrients.

Rayanne Lehman, Pennsylvania Department of Agriculture entomologist, will speak on biology and control of the White Pine Weevil. She will be joined by Dr. Paul Heller, Penn State College of Agricultural Sciences entomologist, presenting conventional and biorational controls to manage Cooley Spruce Gall Adelgid.

Tree growers will visit the Rodale Institute on Thursday, Aug. 10 and view the institute's farming system trials, compost utilization trials, farm scale composting unit, and view a presentation on using compost in Christmas tree nursery beds.

A trade show, presenting up-to-date Christmas tree equipment and services, is scheduled for Wednesday, Aug. 9 from 5-10 p.m. and on Thursday, Aug. 10, from 8 a.m. to 2 p.m. at the Days Inn, Allentown. Field demonstrations of equipment will follow on Friday, Aug. 11 at the Lee Walker farm, Lehighton.

Tree growers, landscapers, garden center owners and other industry related individuals are encouraged to attend the convention and trade show. Additional information and meeting registrations can be obtained by calling the Pennsylvania Christmas Tree Growers' Association at (717) 362-3705 from 9 a.m. - 5 p.m. Monday through Friday or by writing to the PCTGA Office, 44 Cessna Drive, Halifax, PA 17032. The deadline for registering for the meeting is July 15.