

Domestication and Natural Behavior of Poultry

Our topics for this week are:

- Birds that have been domesticated for food and fiber
- How well maintained birds should act and be handled
- The potential adverse effects of excessive confinement on poultry

DOMESTICATION OF POULTRY

Poultry are birds raised for food or fiber and include chickens, turkeys, ducks, geese, guineafowl, and ratites.

Chickens (*Gallus gallus domesticus*) were domesticated from *Gallus gallus*, the Red Jungle Fowl in India and southeast Asia about 8,000 years ago as a source of meat, eggs, feathers, and leather.

Turkeys are indigenous to North America and the Yucatan peninsula of Mexico. They were domesticated from the wild turkey (*Meleagris gallopavo*), about 2,000 years ago by Mesoamericans as a source of meat and feathers and introduced to Spanish conquistadores by the Aztecs. They were brought to Europe in about 1519 by the Spanish and then spread throughout Europe. The name “turkey” came from a misidentification with guineafowl typically from the country of Turkey. They were originally called turkey fowl and later just turkeys.

Ducks may have first been domesticated from the Mallard, *Anas platyrhynchos*, in China and southeast Asia 6,000 years ago. They are raised for their meat, eggs, and down feathers. Ducks can also aid in controlling slugs and snails. Mallards are dabbling ducks, meaning that they tip their head into the water and filter water through their beaks for food without completely submerging their body.

Geese were domesticated from the Greylag goose, *Anser anser*, by the Egyptians about 5,000 years ago and also kept for their meat, eggs, and down. They were later valued by the Romans and people during the Middle Ages throughout Europe. Geese can also eat overgrown grass and weeds without compacting the soil, fertilize lawns with their manure, guard property as a sentinel, and control snakes. They will also eat small frogs, mice, and baby rats.

Guineafowl (primarily *Numida meleagris*) were domesticated 4,500 years ago in Africa for meat, eggs, and pest control. They were brought to Europe in the 15th century by Portuguese explorers and to North America by early settlers. They are sometimes kept as predator sentinels for other poultry.

Ratites are flightless, grassland birds: ostriches, emus, and rheas. The ostrich (*Struthio camelus*) is from Africa and was first raised for their feathers in the late 1800s to be used in hats and fans and later in the 1900s for their meat, eggs, leather, and oil. In the 1980s, ostrich raising became popular in the U.S., in part, because of a ban on trading with South Africa. Interest in raising emus and rheas followed. Emus (*Dromaius novaehollandiae*) are from Australia and have been raised for meat, eggs, feathers, leather, and oil. Rheas include Greater Rheas (*Rhea americana*) and Lesser Rheas (*Rhea pennata*) which are both native to South America. They have been raised primarily for their feathers and to a lesser extent for meat, eggs, leather, and oil.

Ostriches are the largest bird in the world (6-9 ft. high and up to 350 lb.). Emus are the largest bird in Australia (5 ft., 150 lb), and rheas are the largest bird in the Americas (4-5 ft., 80 lb.). Ostriches can run 40 mph, which is faster than any other 2 legged animal in the world. Wild males have harems of 2 to 7 females. Ostriches do not stick their heads in the sand, but they will lie flat on the ground as a passive defense.

NATURAL BEHAVIOR OF POULTRY

All poultry are highly social and are disturbed by isolation. In their natural environments, they spend nearly all their waking time foraging for food by pecking seeds, worms, larvae, and insects to eat, picking up sand and gravel for their gizzard, or investigating their surroundings. Dust bathing occurs in the middle of the day several times per week. Areas with trees are preferred to be used for roosting at night. Fortunately, excessive confinement of poultry which dominated the egg-laying industry in the U.S. is beginning to decline. In 2022, 32% of egg-laying hens are now cage-free.

Strange birds of the same species added suddenly to an established group will be attacked and either injured or killed. Due to the danger from predators, females prefer to hide to lay eggs and young birds are closely bound to wherever their mother goes.

Young poultry with prominent keel bones and large pectoral muscles such as some domestic chickens, turkeys, and ducks are capable of flying short distances and will perch or climb onto elevated resting spots. Turkeys will also spontaneously run short distances in a playful manner. Ratites have small pectoral muscles, no keel, and cannot fly.

Normal behavior of unstressed adult turkeys with sufficient room for exercise includes wing-flapping, feather ruffling, leg stretching, and dust-bathing. In the wild, they feed on leaves, seeds, berries, and insects by foraging and pecking off the ground and lower plants. They can fly short distances, and at night they roost in trees.

Most chickens and turkeys are raised commercially in high density confinement. Aggressiveness is enhanced by overcrowding. Head pecking of submissive or injured birds can be brutal and eventually kill the new member of the flock. Feather pecking is also common in poultry confined on metal or concrete surfaces and do not have the opportunity to forage and obtain natural mental stimulation.

Guineafowl stay in close groups and are ravenous foragers eating flying and crawling insects, ticks, worms, grubs, and snails. They will surround and attack small rodents, marauding birds, and snakes. They sleep in trees at night.

Ducks and geese get natural exercise by paddling through water. It is important for them to have sufficient water to immerse their bill and eyes to clean their face.

Ratite refers to a flat raft-like sternum in a type of birds with small pectoral muscles that cannot fly. All ratites have muscular legs and elongated toenails and are capable of swift running. Ostriches are the most aggressive and powerful. Ratites are not domesticated and can only become marginally tame.

Now let's recap the key points to remember from today's episode:

- 1. Poultry are birds raised for food or fiber and include chickens, turkeys, ducks, geese, guineafowl, and ratites.**

2. **For proper mental enrichment and growth, genetically diverse poultry should be allowed to spend much of their time foraging for some of their food, picking up sand and gravel for their gizzard, investigating their surroundings, dust bathing, and if evolved in a water environment, access to the ability to swim.**
3. **Excessive confinement saves money in containment and management costs but adversely affects poultry with confinement-related morbidity and mortality.**

More information on animal handling is available in my book, *Animal Handling and Physical Restraint*, published by CRC Press. It is also available on Amazon and from many other fine book supply sources.

Additional information is available at: www.betteranimalhandling.com

Don't forget, serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.