

## CHAPTER 3

## Pasturing Turkeys

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Turkeys can use many types of ranges and pastures to flourish. For the beginner, whatever pasture is available may be perfectly sufficient for the birds. Remember, North America is “home base” for the wild turkey, which is the not-so-distant ancestor of the barnyard turkey. Native ranges can provide a wealth of edible plants and insects, which are nutritionally vital to young poults for proper growth and development. Regardless of whether a turkey hatchling is wild or domestic, reared on a range or in a pen, its protein requirement is relatively high during the first four weeks compared to the nutritional needs of juvenile or older birds. This requirement can be filled by insects found on pasture or by using a nutritionally complete feed if the birds are managed in confinement. Turkey producers need to assess pastures with regard to edible plant and insect potential to ensure that they will provide enough food material for the birds to thrive. Keep in mind, that as the poults age, the ratio of animal to plant intake will change, with the young turkeys consuming increasingly more plant material than insects.

A wide range of native plants utilized by wild turkeys will equally serve free-range domestic turkeys. These include, but are not limited to, acorns, beechnuts, pine seeds, other hard mast, grasses, grass seeds, sedges, forbs, tubers, bulbs, crabgrass, and wild fruits (grapes, blackberries, huckleberries, strawberries, sumac fruit, dogwood berries, soft mast). For pastured or limited-range turkeys, alfalfa, clover, and grasses such as orchard grass serve turkeys very well; however, fescue is not recommended. Contact local Cooperative Extension agents to ascertain the best choice of pasture browse crops and planting strategy for your locale.

Using turkeys to glean agricultural fields of waste grain just after harvest can be a very productive way to pasture the turkeys. Potential sources of waste grain fields include, but are not limited to, soybeans, wheat, corn, and oats. However, turkeys are very sensitive to numerous mycotoxins (toxins produced by fungus and mold), especially aflatoxin. Moldy grains should be avoided at

all cost. Harvested fields of grain that are continuously wet will put birds at higher risk because of increased opportunities for them to consume grains that are contaminated with molds and mycotoxins. On the other hand, wild turkeys have been known to regularly feed on grain in harvested fields throughout the winter without any apparent problems.

Turkeys are excellent insect foragers. Most crops that are troubled by a significant insect population, including vegetable crops, are candidates for insect control by turkeys. According to turkey farmers, the only insects turkeys will not eat are the ones they cannot catch. The major insect groups utilized by the birds include the Coleoptera (beetles), Hemiptera (true bugs), Orthoptera (grasshoppers), and Homoptera (leafhoppers). Young plants and new fruit, however, may be susceptible to consumption by juvenile or adult turkeys.

Always be mindful that healthy turkeys will range substantial distances if allowed. This behavioral characteristic should be considered before turkeys are allowed free range without barriers.



*Turkeys foraging. Photo by Alex Hitt.*

## Transitioning Birds to Pasture

The age at which poults are allowed access to range depends on whether they have been brooded by a mother hen or reared separately in a brooder. If brooded by the hen, the poults can be allowed immediate access. However, even with a mother hen caring for them, very young poults, less than four weeks of age and especially during the first two weeks of life, are very vulnerable to extreme weather (temperature and precipitation) and predators, including domestic cats and dogs. Fairly high mortality can be expected if poults are allowed access to range immediately following their hatch. Hens with youngsters should be gathered at night and kept in a predator-proof facility such as a coop or barn. It should be noted that any truly free ranging flock of any age, including adults, will be vulnerable to predation. For maximum health and security of the flock, all birds should be gathered up before dusk and kept in a predator-proof enclosure for the night.

Poults reared in the presence of older birds will be more susceptible to disease because their immune systems have not had the chance to develop to their full potential. For maximum productivity, poults should be reared separately from adult birds and kept in groups with same age birds. Poults reared separately from the hen must be brooded indoors. Newly hatched poults are unable to maintain their body temperature without supplemental heat from brooders or the mother hen. Until birds are fully feathered at six to eight weeks of age, they are susceptible to inclement weather. Transitioning to the outdoors will depend on the weather. Warm, dry



*Turkeys on pasture. Photo by Mike Walters.*

mornings or afternoons are best. Poults can be allowed limited access to pasture at six weeks of age. This area should be surrounded by a poult-proof fence, as young poults can stray very easily. Older birds should not be kept cooped past mid-morning (except in inclement weather) as this will encourage bird-to-bird aggression and could lead to feather picking or even cannibalism.

Standard turkey varieties are excellent flyers. To avoid potential escapees from the flock during pasture transition, the primary wing feathers of birds six to eight weeks of age can be clipped when the birds are allowed access to the pasture. Only the feathers of one wing should be clipped as this will create an imbalance when the bird tries to fly. As the birds molt and re-grow their wing feathers, re-clipping can be done to individuals that are more prone to flight. Once fully feathered, females of any age will be able to fly. Most heavy toms are not able to fly.

## Method of Introduction

The turkey coop will need a door, gate, or ramp to give the birds access to the pasture. When the pasture access is first opened, do not be surprised if poults do not immediately come out of the coop. Young turkeys are precocious by nature and their curiosity will eventually draw the birds to venture out of the coop and into the pasture.

Once the birds are on pasture, stocking density depends greatly on pasture productivity and rotation. A stocking density of 50 to 125 birds per acre is a good place to start. Monitor the pastures regularly to assess the quality of the forage and the flock's impact on the health of the pasture.

Many flocks are reared with the sexes separated to avoid conflict between males and minimize the potential for injury to hens by toms. This arrangement works well if enough space and equipment are available. Some producers rear both sexes together until the hens are marketed. The toms then remain on the farm if necessary until they reach their full market age and size.

## Expected Loss Of Birds During Grow-out

The greatest mortality of a turkey flock will be during the first and the second weeks of life. The next most vulnerable period for turkeys is during the transition period from brooder to range or pasture. Pasture-related

mortalities are primarily due to disease, exposure, or predation. Good husbandry practices and pasture management minimize loss from disease and exposure. It is equally important that producers assess risks associated with predators found in the area and take precautionary measures that will ensure the safety of their birds.

Average total mortality from hatch to market can be expected to be 15 to 25%. But with good care a producer can expect to achieve a 90% survival rate. Losses higher than 10% should lead to a close examination of husbandry practices, with the producer asking the question “What happened?” Good record keeping is central to the success of a turkey enterprise. With accurate records to rely upon, a producer can pinpoint the timing of mortalities, which can lead to the identification of factors contributing to problems with bird health or husbandry. In following good farming practice, any sick or fresh dead birds should be sent to a diagnostic lab, especially when mortality rates are higher than normal.

### Housing and Perching on Pasture

Turkeys on pasture face the challenges of weather and predators. To protect birds against predators, many producers choose to close the birds into shelters for the evening. With larger flocks, closing birds in may be problematic, so fencing will become the primary defense against predators. In this instance shelters are still a necessity for the protection of birds from weather conditions that could be harmful, such as extreme heat, heavy rain, hail, or snow. Natural windbreaks, such as tree lines or crops, will add to the protection of the flock from the elements.



Turkey sun porch. Photo by Mike Walters.



Portable turkey coop. Photo by Don Schrider.

Shelters can be as basic as a carport in the center of the field, or as complex as anyone can dream up. The main goal of the shelter will be to offer sufficient refuge for the entire flock without overcrowding. The minimal space allowance in a shelter for adult-sized birds is three square feet per bird. Be sure to place the shelters away from fence lines so that the birds cannot use the shelter as a launch site for flying over the perimeter fencing.

Standard turkeys will feel more secure if they are allowed to perch at night, with the exception of the heavy mature toms. Perches should be constructed inside the shelters and built all on the same level to reduce the birds squabbling and competing for the highest perch. Perches should be approximately 15 to 30 inches off the ground and at least 24 inches apart. Allow roughly 10 to 15 inches of perch space per bird in the flock. As an added measure for sanitation purposes, you may build a chicken wire framed barrier whose covered top is six inches below the roosts to keep the birds from getting into their droppings.

Also see Chapter 6, *Facilities, Fencing, and Shelters*, for more information.

### Water and Food

Water consumption of free-range birds is often different than that of pen- or yard-reared birds. In many cases, true wild turkeys can survive without access to water at all. However, all turkeys, whether they are free-ranged, pastured, or yarded, should always have access to clean water. During hot weather, every effort should be made to provide cool water or at least water not heated by direct sunlight. Access to free-standing water, such as

ponds and puddles, should be limited as parasites may inhabit this water and infect the birds that consume it. Free access to ponds, streams, or puddles may be difficult to control for free-range birds but these should be eliminated for pastured or yarded birds if at all possible.

Standard varieties of turkeys can forage for some of their diet on the pasture, but grazing alone will not provide the nutrition required for proper growth. Standard turkeys must have access to high-quality feed offered free-choice throughout the day. High-quality feed will be necessary to get birds to a marketable weight by the projected harvest deadline, and provide an important incentive for birds to stay home. Turkeys that are free ranged or pastured without supplemental feeding will have slower growth rates than birds that are self-fed a complete feed ration. If supplemental feed is to be limited, the best time to feed pastured birds is in the evening when they are cooped for the night. Some producers feed only what the birds will clean up in a set period of time, such as 30 to 45 minutes. This tactic will give incentive for the birds to forage during the next day. Providing access to self-feeders throughout the day is the most appropriate feed management method for producers of holiday turkeys as it assures the most rapid growth rate and adequate nutrition for healthy development.

The supplemental feeding of turkeys with a nutritionally complete feed can be advantageous as the birds will receive essential vitamins and minerals that may not be consumed during foraging. Alternatively, vitamins and minerals can be delivered on a regular basis as an addition to the birds' water. Production will slow without free access to a complete ration.

When feeding grain to a flock you need to allow for a minimum of four linear inches of feed space per turkey in order to provide adequate room for them to eat. To avoid squabbles among the flock, this space will need to be increased if birds are fed a limited-time meal rather than allowing full time access to the feeders. The feed sites should be located on well-drained or elevated ground. They should be near the shelters or coops, especially the ones used for cooping the birds at night. As they get older and forage more, the turkeys can be weaned off of the grain if you choose to eliminate this element of their diet.

Feeders can be bought or of homemade construction. If homemade, expenses need to be calculated closely.



*Turkey round-up. Photo by Mike Walters.*

The cost of time and materials can be surprisingly high, often making the prefabricated feeders the best bargain in the end. Check the agriculture classified ads. Sometimes used equipment can be purchased at reasonable price. Be sure to disinfect and quarantine any used equipment before using it for your flock.

## Pasture Rotation

Pasture rotation management will vary depending on pasture productivity, age of the turkeys, stocking density, season of the year, etc. Disease control is an important factor that should not be ignored. Many diseases are transmitted through manure; therefore, a more rapid rotation is better than a slower rotation.

When utilizing permanent pasture, subdividing the area into four pastures and establishing a weekly rotation is a good practice. The turkey coop can be set up in the common corner and must be kept clean to reduce health risks. A wire floor in the coop further reduces health risks by keeping birds off the ground and away from their manure and wet, moldy feed.

Turkeys are easily driven by staffs with flags waved in the air or empty jugs tied on a line. The jugs can be tapped on the ground producing noise that will move stubborn birds along. Injured birds should be picked up and removed from the flock manually. Some birds may choose not move even if they appear to be in good health. These turkeys will need to be carried if not convinced otherwise; striking birds is unacceptable and will prove to be counter-productive. Herding dogs can be trained to drive turkeys, but they must not be too aggressive. If opting to use dogs, it is best if the flock is started out on the pasture with the herding dog(s)

from the start so that the birds become accustomed to the concept of being driven by dogs. Later introductions of dogs tend to cause panic in the flock. The main concept in driving turkeys is to strike a balance between pressuring for movement and the speed of movement. The turkeys should be driven in such a way so that the driver is casually walking behind the birds. Running the birds is not recommended as injuries, such as wounded legs or wings, may result. Panicked birds sometimes pile up in a corner, presenting another opportunity for injury or even death. When turkeys are injured to the point they can no longer walk, euthanasia should be considered.

### Disease Considerations

While there are many routes for disease transmission, three prominent ones include people, domestic fowl, and wild fowl. Despite what many farmers believe, people pose the greatest risk for disease transmission to the flock. People have the ability to transmit almost any disease across many miles from numerous sources. The biosecurity-conscious turkey producer should limit access to the flock and farm to only essential personnel. These personnel should follow specific and thorough sanitation procedures to reduce the risk of disease transmission. The procedures must include provisions that keep farm personnel from visiting other poultry farms unless absolutely necessary. If you decide to allow visitors on the farm, provide protective clothes and shoe covers to protect the flock. At the very minimum, footbaths with scrub brushes need to be provided so that the shoes of visitors can be disinfected before they enter the farm and animal areas. The cleanliness of visitors

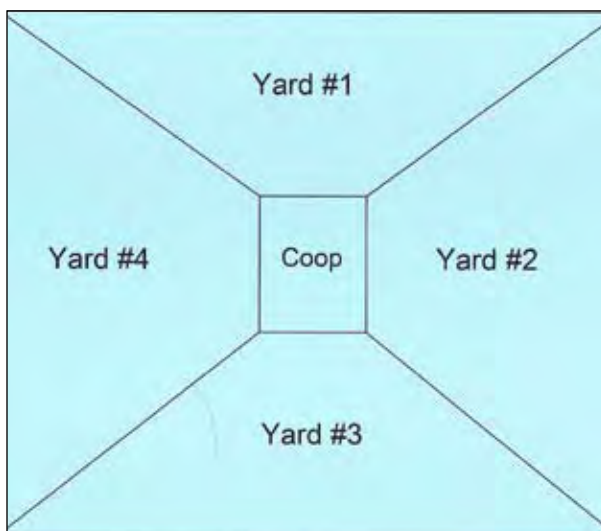
extends to any vehicle entering the farm and especially any equipment that was used on another poultry farm. Keep in mind that it takes only a speck of manure, or other form of contamination, to seed the farm and flock with a devastating disease. Check any equipment entering the farm closely and clean and disinfect to prevent introduction of diseases.

Domestic fowl are a considerable risk factor for disease transmission. It is best to rear turkeys separately and independently of any other fowl, especially chickens. Chickens may harbor any of several diseases, most notably blackhead, that can have severe impact on turkey health. Many turkey producers who try to rear chickens and turkeys together fail in turkey production, though there are exceptions. A number of small-scale producers do raise the two species together. The key to their success is waiting for the development of strong immune systems in young poults before the introduction to chickens, good pasture rotation practice, and in some cases, the use of medicated feed for the turkeys.

Wild fowl, in particular waterfowl, have the ability to transmit a number of diseases, especially avian influenza, to domestic birds. It is easy for the wild birds to mix with domestic birds and nearly impossible to exclude wild birds from ponds or streams accessed by domestic birds. Thus, if you use ponds or streams to provide water for your birds, the odds of transmitting a disease to the flock become greater. Both domestic and wild waterfowl can carry organisms that have little to no noticeable affect on themselves but are deadly to turkeys. Great care and observation must be taken to ensure that risks are kept to a minimum.

There are many diseases of concern to turkey producers. However, the one disease that seems to cause the most problem is “blackhead.” This disease is caused by the protozoan *Histomonas meleagridis*. The protozoan is harbored in the body and the eggs of the common cecal worm, *Heterakis gallinarum*. The common cecal worm is easily consumed by the foraging turkeys. The protozoa can be rapidly inactivated by normal environmental processes, but it is protected while in the cecal worm eggs. Cecal worm eggs can survive in the soil for up to two years.

Blackhead causes significant morbidity and mortality in turkey flocks. When turkeys are reared on the ground or on pasture, it is imperative that the birds do not remain in the same area beyond one grow-out season. This is



the most important reason why turkeys need to be rotated on pasture. Optimally, turkeys should not be reared on the same ground for at least two years. These “down years” are times to cultivate crops on the land while denying access to turkeys or any other fowl. Pastured turkeys can deposit a significant amount of manure during a production year. The two or three years of rest from turkey production should be productive crop years because of the soil improvements from turkey manure and activity. Good rotational practices with pastures will lend to not only controlling blackhead, but will help to prevent other diseases such as fowl cholera.

Diseased birds should be immediately removed from the flock. Sick or freshly dead birds need to be taken to a diagnostic lab to ascertain the cause of illness or death. Injured or diseased birds can be easily spotted because they will either not move or, when moving, they will have an abnormal gait. Diseased birds may also make abnormal sounds such as sneezing, coughing, or making distress calls. Herding birds into a corner of a coop or pasture is a good way to isolate and catch desired birds. Catch birds with as little stress to the flock as possible to avoid panic that will only cause further complications with the birds. Depending on disease diagnosis, it may be best for overall flock health and long-term survival of the turkey enterprise to euthanize and destroy any and all diseased birds.

For more information on diseases and their prevention see Chapter 5, *Common Diseases and Health Problems of Turkeys*, and Chapter 7, *Health Promotion and Biosecurity*, of this manual.

## Predator Challenges

There are many potential predators of turkeys. In the brooding house rats, snakes, skunks, and weasels all pose a potential risks for young turkeys. Once the turkeys go on pasture the number of potential predators expands to include foxes, bobcats, coyotes, crows, owls, hawks, dogs, and cats. Options for outdoor protection include wire mesh fencing, portable electric poultry mesh, and high-tensile electric fences. Permanent wire mesh fencing should be four to six feet tall. Hot wires along the bottom and top of mesh fences will help prevent some mammalian predators. When using portable electric poultry mesh, be sure to have a large enough charger to maintain the electrical charge to the fencing so that it will be an effective deterrent. With both portable and high-tensile electric fencing, keep the

area under the fence mowed so the plants do not short circuit the fence. To reduce maintenance of the fence line for smaller pastures, you can place a layer of weed blocking fabric under the fence to eliminate the need to cut grass along the fence regularly.

During the day while on the range the younger, smaller poults face the greatest risk of predation. In instances where raptors pose a great risk, it is best to delay the introduction of the birds to pasture until they are 10 to 12 weeks of age and large enough to no longer be as attractive to birds of prey. Cover is often the bird’s best defense against raptors, so make sure the birds have access to a shelter or plantings that will provide them sanctuary in the event of a flying predator. Some producers have observed that raptors hunting poultry are often deterred if the birds are ranging with larger animals such as sheep or a flock of geese.

Gathering the turkeys in predator-proof coops at night is the best prevention against nocturnal predators. In some cases, only constant vigilance and attention to detail will serve to protect the birds. This may come in the form of a livestock guardian dog, donkey, or llama. With proper training, a livestock guardian can be an effective tool for the protection of your flock.

For more information, see Chapter 8, *Predator Management*, of this manual.

## Other Potential Problems

Turkeys are aggressive by nature. Any individuals that become lame or go down for any reason are subject to aggression and attack from other turkeys. Therefore, any lame or injured birds should be removed from the flock and placed in a protected area until they recover.

Cannibalism and feather picking are always a threat with any turkey flock. Proper diet and plenty of space on pasture should prevent these problems. If picking and cannibalistic behaviors begin to present themselves in the flock, the first action on the producer’s part should be to provide supplements to fill the nutritional deficiencies that the birds may be experiencing that cause the negative behaviors. Supplements can include a higher protein ration, additional vitamins in the form of water-soluble vitamins, or, maybe, a little extra salt. In some cases picking and cannibalism can be solved by providing the flock with free-choice oats or greens such as cabbage or fresh-cut alfalfa. When individual birds show signs of being pecked they should be removed to

a protected area until their feathers grow back to avoid further injury.

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## Resources

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American Pastured Poultry Producers Association, 36475 Norton Creek Rd, Blodgett, OR 97326, (541) 453-4557, [grit@appa.org](mailto:grit@appa.org).

ATTRA - National Sustainable Agriculture Information Service, PO Box 3657, Fayetteville, AR 72702, (800) 346-9140 (english), (800) 411-3222 (español), [www.attra.ncat.org](http://www.attra.ncat.org).

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