

DAGMAR THURMOND

PART 2:

Fallacies of Food Plots for producing **MORE QUAIL**

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In the previous issue of *Alabama Wildlife*, we took a look at how population management, mainly allowing young bucks to mature and keeping deer density in check with available resources, was the most effective method for producing large antlered bucks. And it was all based on an understanding of animal physiology - something that we can't change by planting a food plot. As deer populations respond best to population management, quail populations respond best to habitat management. If you provide the correct habitat structure, quail will survive better and be more successful at reproduction. Without providing a good home (i.e., proper habitat structure), you won't be producing quail and therefore won't ever have quail.

Wildlife habitat management revolves around two critical elements: knowing the life history and adaptations of the animal that you want to manage and knowing how to manipulate the environment to provide resources in a way that the animal is best adapted to use those resources. In this article, we'll look at the first critical element of successful wildlife habitat management, the species life history and adaptations, and how providing the proper habitat structure, not

food plots, will enable you to produce wild quail on your property.

Quail Adaptations

First off, we need to think about what exactly a quail is. A quail is not just a little brown bird that makes your heart skip on a covey rise but rather a product of physiology, morphology, and behavior all intricately packaged together to produce a unique critter that drives bird dogs crazy and causes many frustrated hunters to wrap their shotgun barrel around the nearest tree. Every animal, including quail, has a unique set of **physiological**, **morphological**, and **behavioral adaptations** that make it best suited to use a particular array of habitats. Sounds complex, but without an understanding of these adaptations, your management efforts could be off the mark, resulting in a great deal of work with nothing to show for it.

Some wildlife are much more flexible, or "forgiving" if you will, and can successfully survive and reproduce in a wide array of habitat conditions. These animals are called **habitat generalists**. On the flip side, some wildlife species are **specialists**—those animals that only do best where a very specific type of habitat occurs. In the case of habitat specialists, even subtle changes in habitat conditions may cause the



The bobwhite quail is a habitat specialist that is uniquely adapted to a particular array of habitats. An understanding of quail adaptations is a prerequisite to successful management.



A diverse native plant community provides an abundance of food and cover resources for quail. Native plant management has a much greater impact on quail habitat quality than supplemental plantings.

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species to either die out or move on to areas where habitat conditions meet their needs. For example, eastern wild turkeys are habitat generalists and can easily adapt to living in the grasslands in some portions of the Great Plains as well as the dense loblolly forests of the Southeast. **Bobwhite quail are habitat specialists**, relying upon **natural early succession plant communities**. Most properties have very few acres of properly maintained early succession habitat. Therefore, it is imperative that habitat management activities focus on meeting this habitat need.

Early Succession Plant Communities

Early succession plant communities are characterized as annual grasses and forbs such as ragweed, foxtail, goldenrod, and partridge pea that first appear/sprout up after the soil has been disturbed or the surface substrate (old dead plant material) has been removed, exposing the soil to sunlight. These diverse early succession plant communities provide multiple benefits for quail relative to their physiological, morphological, and behavioral adaptations. **First**, these plant communities reproduce mainly by seed, an important food source for quail. **Secondly**, these annual grasses and forbs attract insects—the primary food of quail chicks. **Thirdly**, and most importantly, because the soil was recently disturbed or the surface substrate was recently cleared off, early succession plant communities provide relatively open bare ground beneath a canopy of succulent, seed-producing and insect-attracting grasses and forbs. Remember, quail spend most of their time on the ground, and the relatively open bare ground beneath a protective grass and forb canopy makes foraging for seed while being shielded from predators or leading a group of 10 to 12 chicks through an insect-abundant area all that much easier. And that translates into greater survival and successful reproduction (i.e., having more quail). Providing this type of habitat structure (overstory herbaceous canopy with relatively open bare ground beneath) will determine whether or not you have quail!

Chick Foraging Ecology

Let's take a closer look at why early succession plant communities are important to quail chicks. Bobwhite chicks are **precocial**, meaning they leave the nest soon after hatching and can catch and consume prey (insects) on their own (i.e., not relying on the adult to feed them). As such, it is very important to have habitats that address the needs of quail chicks **because if you're not producing chicks during the summer, you're not producing adult birds for the fall hunting season!** As mentioned previously, early succession plant communities consist of an abundance of annual grasses and forbs—plants that are succulent and attract a multitude of insects, the primary food item for chicks. The more insects a quail chick can consume, the faster it can grow, and the faster it can grow, the sooner it develops feathers for flight and thermo-regulation, providing another avenue of escape against predators. Also, the sooner a quail chick develops feathers, the sooner it becomes less reliant on the tending adult for warmth at night.

Early succession habitats dovetail perfectly with the physiological adaptations (i.e., the need for insect foods) of quail chicks. However, there is an equally important morphological need that

early succession habitats provide quail chicks. Early succession habitats, by nature, have very little ground litter or thatch build up on the ground (the area from bare soil to about 1 inch above ground) while at the same time providing overstory cover. This inherent open, bare ground characteristic of early succession habitats allows chicks to walk around to search for, chase after, capture, and consume insects. Remember, the more insects a quail chick can consume, the quicker it grows and the sooner it can reap the benefits of feathers. This same early succession habitat is also very beneficial, mandatory really, for adults too! Adult quail eat primarily seeds and are relatively weak scratchers. So the open, bare ground beneath the protective cover of annual seed producing grasses is a dream come true! It's the abundance of seed and insects combined with grass and forb overstory with relatively open, bare ground beneath that make this habitat so important for producing quail.

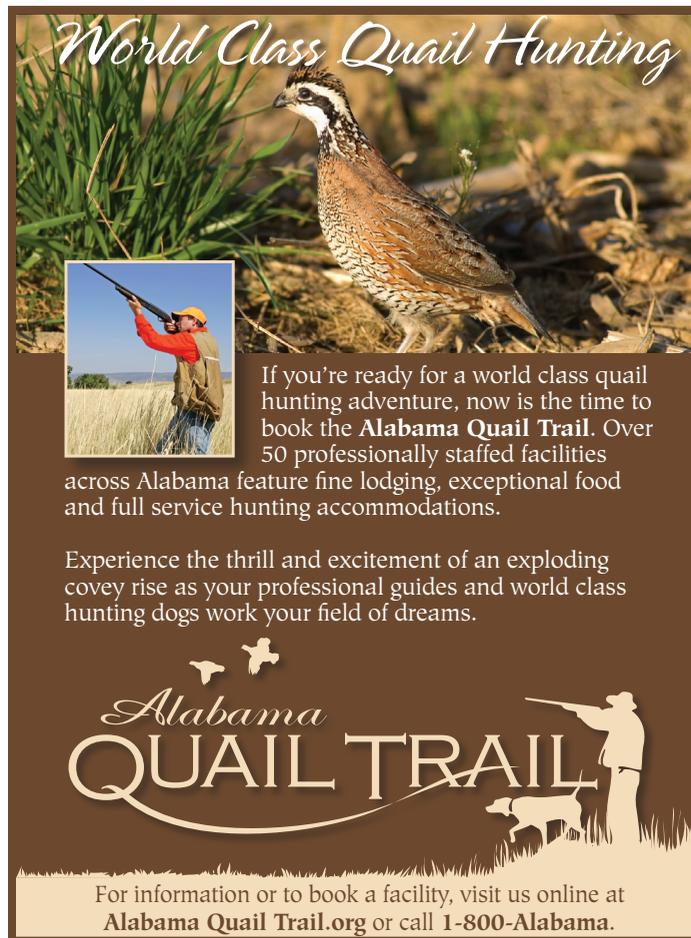
Habitat Structure, Not Food Plots

It's far more important to have the proper habitat structure (early succession plant communities) quail are adapted to rather than planting small grain food plots (sorghum, wheat, millet, etc.). Without first having the proper cover established, grain food plots themselves really won't do much good. Furthermore, quail do a lot more than just eat! They nest, rear young, roost, dust, etc. Without first addressing the cover needs (i.e., early succession plant communities), quail won't be able survive and/or reproduce well on your property. Managing for quail in today's landscape takes a bit of hard work in creating and then maintaining proper habitat. Quail habitat management is not something that you can just do once and then walk away from, but requires continued yearly management to maintain proper habitat structure consistent with the species' needs. *If there was a "silver bullet" that we could plant for quail to make things easier, believe me, we would be writing about it!*

Management Techniques

So how do you create the early succession habitats? There are several techniques that can be used to create early succession habitats, whether in an open field or beneath an open pine stand. **First** and foremost, prescribed burning and disking every one to three years are the best quail management techniques. Mowing is an extremely poor habitat management technique for quail. Mowing eliminates vertical vegetation structure (i.e., cover), essentially eliminating 2- to 3-foot high grass and forb cover. **Secondly**, the buildup of grass and forb clippings on the ground makes it difficult for quail to move around in. And **thirdly**, most mowing occurs during the nesting season; mowing over quail nests is obviously not a good thing to be doing if you want to have quail! Furthermore, it's important to remember that you'll have to *manage most of your property as early succession habitat*. Food plots may be important in the more northerly ranges (Illinois, Kansas, Missouri) of quail during the winter, supplying much needed energy during harsh winters. However, having proper habitat structure (i.e., early succession habitats) is the key to having more quail, both up north and here in Alabama!

In the next issue of *Alabama Wildlife* we'll be talking turkeys and addressing the "how" and "why" of getting more turkeys on your property.



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