

Field Management

History

Fields have been a part of the Spring Island landscape for centuries. The extensive field and ditch system that was created to support agriculture, hunting, and grazing have permanently altered the flora and fauna of the island. The majority of the current fields were created in the 1960s by the Walkers. Historical aerials in the Nature Center show the vegetation of the island prior to the Walkers, along with the original hand-drawn field plans. Many of the original fields created by the Walkers are now on private lots or part of the golf course.

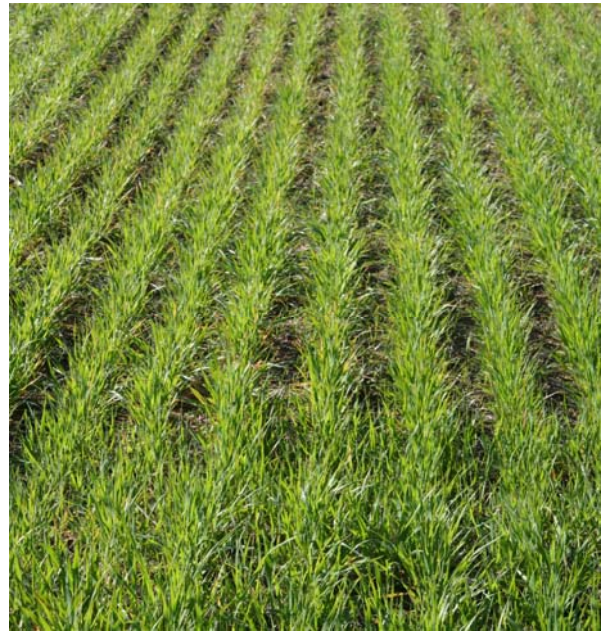
Management philosophy

The number of agricultural fields in Beaufort County and the Southeast has declined sharply over the last several decades. As a result, those early successional species that were once plentiful also declined in abundance and distribution. The bobwhite quail is the classic example. Quail numbers have decreased through most of their range because the early successional habitat on which they depend has been severely reduced over the last several decades.

In addition to providing an important component to the habitat diversity on the island, fields also have cultural and historical importance and give Spring Island the feel of a southern shooting plantation.

Besides a handful of fields planted in edible crops (primarily corn) for the Spring Island members, most are planted to feed wildlife and to provide roadside aesthetics. Fields are planted year round. Typical warm season crops include millet, sorghum, Egyptian wheat, corn, and soybeans. Typical cool season crops include naked oats, winter wheat, and clover. The Trust continues to experiment with new crop species

to diversify the plantings and available wildlife food. Not all fields are planted however; many are maintained in native vegetation.



Field planted with naked oats (January)

Edges

Scattered around Spring Island Drive are numerous small (<3 acres) fields. These small fields reflect a traditional approach to wildlife management. Animals often are found at the boundary of different habitats, a transitional area called an **edge**. Small fields have a greater edge-to-area ratio than large fields. Spring Island also has a few large open field areas. In these large fields (e.g., Covey Rise), we maximize edge habitat by managing sections of the field at different successional stages.

We often leave borders of native vegetation on the edges to provide a transitional habitat between the field and forest. This “soft” edge is especially important for those fields that border thick forests rather than open fire-maintained pine stands. Field borders may contain grasses, such as broomsedge, or other “weeds” such as ragweed, dog-fennel, and partridge pea.



Food plot with field border

It is a good land management practice to never “clean your plate;” we always try to leave some cover for the wildlife to use. “Clean” farming where entire fields are completely cleared after harvest is bad for wildlife. Often after a field is plowed, the weedy field borders may be the only cover left in a field. We also leave crop stubble in the fields for months after production for the same reason. Weedy strips of vegetation provide feeding areas and hiding spots for insects, fox squirrels, birds, and deer.

Over time, fields shrink unless encroaching trees and shrubs are removed. Sometimes this is as simple as mowing down the vegetation with a bush-hog. Other areas that have been neglected for a while may require removing trees and large shrubs with chainsaws or heavy equipment.

Disturbance and fallow fields

There was abundant wildlife on Spring Island before the plow ever broke the soil. Native plants can be just as beneficial (or more) to wildlife as any planted crop, and they are a whole lot cheaper to produce. Because of this, the Trust keeps some fields in native weedy species.

These fallow fields must be disturbed periodically. Disturbance functions by setting back the successional process through **burning**, **disking**, or **bush-hogging**. A disk harrow (i.e.,

a plow) is one tool that we use to stimulate the growth of desirable weeds. By lightly disturbing the soil at the right time of the year (typically in fall or winter), we often can produce natural wildlife crops that animals love.

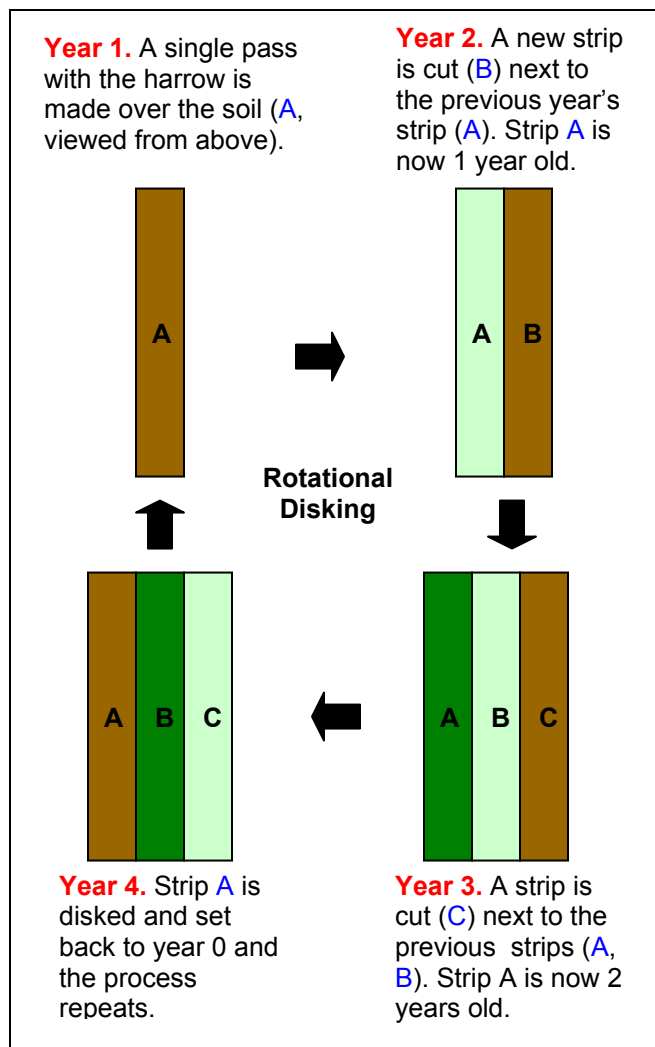
The species that comes in after the soil is disturbed depends upon several factors including: the time of year disking is done, the number of times the area is disked, the seeds in the soil, and the type of vegetation in the surrounding areas. We sometimes do not know what we will get in an area until we experiment with the plow.



A disk harrow disturbs the soil to stimulate the growth of desirable native weed species

In some of the larger fields, we use **rotational disking** to keep a variety of different-aged successional habitats in the same field. Using this technique we disk only portions of a field each year (*see figure on next page*). The end result is a diverse suite of microhabitats within the same area.

Prescribed fire is another technique that is used regularly to manage the field borders and adjacent forests. Similar to disking, fire exposes some mineral soil and helps to breakdown the buildup of thatch, which can impede the ability of upland birds to adequately move through the habitat and forage for food.



constantly being disturbed, they often are the first places that invasive species get established.



Sicklepod, an invasive field species, shows signs of stress after being sprayed with an herbicide.

Soil types and fertilizers

The soils of Spring Island are sandy and relatively infertile. They also are acidic (i.e., they have a pH less than 7). Because of this, we must apply liberal amounts of lime (to raise the pH) and fertilizer to the soil to grow crops. The Trust regularly takes a soil sample from each field and has it analyzed by Clemson University. Clemson provides a detailed report of soil chemistry and suggest how much fertilizer is needed to maximize production.

Pesticides

Pesticides include insecticides, chemicals which kill or control insect pests, and herbicides, chemicals that kill or control undesirable plants. Because Spring Island does not produce crops for commercial value, we use very little insecticides on our crops. We want insects to use our fields because they are a source of food for wildlife and contribute to the overall diversity of the island.

Occasionally, we will spray for outbreaks of insect pests (e.g., army worms) that can destroy an entire field if they are not treated. We also occasionally use herbicides to control invasive (i.e., non-native) plants and unwanted species in fields and field borders. Because fields are