

**TREE/SHRUB SITE PREPERATION**  
**for Gopher Tortoise Habitat Restoration**  
GA Practice Job Sheet-490, 645, 643

Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Farm: \_\_\_\_\_ Tract Number: \_\_\_\_\_ Date: \_\_\_\_\_



**Definition**

Treatment of areas to improve site conditions for establishing trees and/or shrubs (Longleaf Pine).

**Criteria**

For the restoration of Gopher Tortoise habitat, the control of competing hardwood trees, brush and excessive herbaceous growth, is very important for the establishment of longleaf pine. At the same time, the protection of the native ground cover is critical. The ground cover which is a mix of native grasses and forbs or weeds, is the primary food source for this species.

**NOTE:** Limit heavy equipment to within 25 ft of Tortoise burrow.

A minimum of 2.5 acres of gopher tortoise foraging habitat should be maintained around a burrow at all times and not be

permanently converted, removed, or degraded by any means (e.g. clearing, trampling, flooding). This can be best accomplished by maintaining <60BA of pine and removing all mid-story hardwoods. This will optimize native ground cover.

Clearing of gopher tortoise habitat should be minimized and restored as soon as possible when such clearing is temporary.

Georgia's Best Management Practices (BMPs) shall be followed.

**Site Preparation Methods:**

**LIGHT SITE PREPARATION:**

- Disking
- Subsoil/Ripping
- Scalping
- Mowing
- Chemical

### **Disking**

This will be used only in old crop fields or pasture. It involves the use of heavy disks or harrows to break up thick grass sods loosen the surface soil and cut small roots. **NOTE:** Limit equipment to within 25 ft of Tortoise burrow.

### **Subsoiling and Ripping**

This is used only in old crops fields or pastures. It involves the use of shanks on large tractors for ripping to a depth of 1½ to 2 feet to break up hardpans, fragipans and plowpans. Subsoiling and ripping should be limited to slopes less than 30 percent and done along slope contours to prevent surface runoff from channeling into the furrow.

Allow the subsoiled furrow to settle to eliminate air pockets before planting. Seedlings should be planted 2-3 inches to the side of the subsoil furrow to prevent settlement into the furrow and excessive planting depths. **NOTE:** Limit equipment to within 25 ft of Tortoise burrow.

### **Scalping**

This is used only in old crops fields or pastures.

Removing the first 1-2 inches of soil/sod from the soil surface. Scalping involves the use of plow disks in a fire plow configuration or sweep type plow to throw the soil/sod out from the center of the planting row to a minimum width of 24-30 inches. This reduces competition from grasses, and exposes the mineral soil for better chance of survival. This measure also reduces the need for potential multiple herbicide applications

to control early grass and weed competition. **NOTE:** Limit equipment to within 25 ft of Tortoise burrow.

### **Mowing**

This is used in old crops fields or pastures and involves any type of rotary cutting device such as a bush-hog is used to cut standing herbaceous vegetation to a height of less than 3 inches to prepare a site for tree planting.

### **Chemical**

This method best applies when treating large tracts using helicopter or with specialized ground spray equipment. This treatment is also possible when using backpack sprayers provided the competition is less than 5 feet tall.

After the leaves turn and fall, usually about six to eight weeks, the area should be burned. Herbicides can be used at or near the Gopher Tortoise burrow to remove hardwoods from shading the burrow.

For the Gopher Tortoise program, Imazapyr is the recommend herbicide. Based on recommendations from UGA, use 16-28oz of Arsenal per acre. This is based on a 4lb formulation. If trying to preserve native ground cover use the lower rates. When controlling waxy leaved hardwoods such as gall berry, add Triclopyr (Garlon) at the rate of 16-48 oz/ac, (Personal communication with Dave Moorhead, UGA Warnell School of Forestry & Natural Resources).

For sandpine control, Use 4 to 6 qts / acre for sites that will not be burned. If ground application equipment is used, use 4% to 5% Krenite and spray to wet without run-off. Always add 1/4% non ionic surfactant for better coverage and penetration of the pine needles, (Personal communication with David Ratto, DuPont field representative, now retired).

**Note:** Always read and carefully follow the herbicide label directions when selecting and using any herbicide. Herbicides currently registered for site preparation treatment in Georgia are listed in the "*Georgia Pest Control Handbook*". The handbook is available on the web at <http://www.caes.uga.edu/departments/ent/pmh/>. Contact the Cooperative Extension Service for information.

## HEAVY SITE PREPARATION

### Site Prep not allowed:

- Root Raking
- Piling
- Bedding

### Site Prep allowed:

- Chopping

### Chopping

Rolling drum choppers pulled behind tractors or skidders to knock down small diameter trees. Chopping is effective in providing short-term vegetation control while causing little soil erosion, and is a favorable choice on soils with moderate to severe erosion hazard. When working in Gopher Tortoise habitat, limit

equipment to within 25 ft of a Tortoise burrow and limit equipment to one roller and one pass. It is important to follow this practice method with prescribe burning.

### Bedding

Since more soils were added to the program, bedding will not be permitted in the WLFW program.

### Prescribed Burning

Fire can be used to increase the effectiveness of heavy or light site preparation methods and also the establishment of native herbaceous ground cover. Use fire following the treatment with herbicides in early spring or summer with a late to mid-summer burn. This will substantially reduce competition and prepare for fall planting.

## OPERATION AND MAINTENANCE

Once longleaf pine is established, it is important to maintain a prescribe burn program on a 2 year rotation with an occasional 3 year burn due to weather limitations. This will maintain hardwoods as a minor component of the ecosystem. If burning is used on a longer rotation, it is very likely that the hardwood component will again shade out the native ground cover. If burning within the wire grass range, an occasional growing season burn will encourage wire grass reproduction

### **Summary**

Proper site preparation is essential for the successful regeneration of longleaf pine but at the same time, protects the seed bed and root mat which provides food for Gopher Tortoise.



**Certification Job Sheet:**

Prepared by: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**Installation:**

Answer: YES or NO to the following:

Was site preparation utilized correctly to regenerate a forest stand?

Does site preparation meet NRCS standards and specifications?

Certification by: \_\_\_\_\_

Date: \_\_\_\_\_

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