



## **FUEL-REDUCTION TREATMENTS WITH A GYROTRAC GT-25**

*Fire: forest protection*

*June 2005*

[www.forestresources.org/members/serpub/05-r-16.html](http://www.forestresources.org/members/serpub/05-r-16.html)

**INTRODUCTION:** Land managers in urban areas are turning to mulching equipment as a tool for managing their timberlands. Prescribed burning to reduce fire risk may not be an option, due to smoke management concerns and the level of current fuel loading.

On a wet, rainy day in December, 2004, the U.S. Forest Service, Southern Research Station, Forest Operations Research Unit held a demonstration of the GyroTrac GT-25 in Auburn, Alabama. Dick Martin, Alabama Agriculture Experiment Station Forester, offered a high risk area of the Auburn University campus for demonstrating this mulching equipment. The selected site is a popular tailgating location near Jordan-Hare Stadium and directly adjacent to buildings and a



*Fig. 1: The GyroTrac GT-25 mulches vegetation in an urban area to reduce the risk of wildfire.*

heavily traveled roadway; for those reasons, prescribed burning is not an option. Jon Flournoy (Sales Manager) and Steve Shavers (Sales Representative) of GyroTrac delivered and operated the GT-25 model used for the demonstration.

Many types of mulching machines are commercially available today. It is important for land managers to have information about these machines to make informed decisions when matching machines to specific applications and site conditions.



*Fig. 2: Mulching equipment is effective in removing unwanted vegetation like this.*

**GENERAL FEATURES:** The GyroTrac GT-25 is a purpose-built machine. GyroTrac holds the patents on the track system and on the cutting head. The heated and cooled pressurized cab has an air filtering system for operator comfort.

The 8.5-foot wide cutting head mulches a 7.75-foot swath. There are 36 individual fixed teeth. These self-sharpening planer-style teeth not only grind material but can till the mulch into the ground. A bar attached to the cutting head pushes stems over while severing them at the base. The cutting head can be raised or lowered as needed. This machine is easily capable of severing and mulching 10-inch dbh trees.

The flexible suspension allows the tracks to maintain greater ground contact than conventional tracked systems. This rubber-track with metal cleat system is designed to allow this machine to work on wet days and in a variety of environments. The 21,500-pound machine has nine feet of track in contact with the ground, which equates to approximately 3.6 psi. Each track is approximately 28 inches wide.

**APPLICATION:** GyroTrac machines have been used for a variety of land management treatments including: controlling invasive species, improving wildlife habitat, clearing salvage areas, pre-commercial thinning, controlling insect infestations, and clearing fire lines for wildlife suppression and prescribed burning. A global positioning system (GPS) can be mounted in this equipment to guide the operator to specified treatment areas.



*Fig. 3: Post-treatment appearance.*

**SPECIFICATIONS AND COSTS:** The GyroTrac GT-25 has a 225-horsepower six-cylinder Cummins Turbo Diesel engine. Four hydraulic pumps provide 4,800 psi with a hydraulic flow rate of 38 gallons per minute.

The list price of the GyroTrac GT-25 as demonstrated is \$350,000<sup>1</sup>. Individual teeth can be replaced as they break or wear. A set of replacement teeth currently costs \$1,600<sup>1</sup>.



*Fig. 4: GyroTrac GT-25 tooth design.*

**COMMENTS:** The newest version of this model is eight feet wide to avoid wide load permits in some states. Smaller and larger models are available, with a range of engine sizes and a variety of head/teeth designs. Additional information regarding this and other models is available from the manufacturer's internet site at [www.gyrotrac.net](http://www.gyrotrac.net) or by phone at 866/800-3900.

Fuel-reduction through mechanical treatments is an area of current interest for the Forest Operations Research Unit. Further

information concerning this cutting system, or other mechanical treatments, may be obtained from the authors.

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<sup>1</sup> Prices subject to change without notice.