2014 Progress Report

2014 Broadcast Herbicide Applications on Cedar Elm in Erath County

Site Locations: Erath County
Cooperators: TAMU Stephenville
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Summary
A site was established in 2014 to demonstrate the efficacy of Spike 20P for cedar elm control. Initial evaluation was conducted at 6 months after treatment with other evaluations planned for 1 and 2 years after treatment.

Objective
Cedar elm (*Ulmus crassifolia*) is one of four native elm species in Texas. Depending on age and other conditions, cedar elms can be small, shrubby trees or large trees reaching up to 70 feet tall. The shrubby growth form of this plant can be a nuisance for land managers wishing to maintain brush-free pastures. Currently, recommended chemical control measures for elm species include triclopyr applied as a stem spray, and soil applied hexazinone liquid or tebuthiuron pellets. The primary objective of this project is to demonstrate the efficacy of Spike 20 P on Cedar elm. The secondary objective is to evaluate herbaceous vegetation response to Spike 20P.

Materials and Methods
A cedar elm treatment was applied in Erath County at the TAMU Station on April 9, 2014. Only one treatment of Spike 20P was applied using a backpack blower to broadcast the pelleted herbicide across the entire area. The area to be treated was measured prior to the application and the amount of Spike was weighed prior to application to ensure application at proper rate. Table 1 gives the environmental conditions at the time and place of application while table 2 gives the herbicide, rates that were applied per plot.

### Table 1. Environmental conditions on the day of application for cedar elm ground broadcast and IPT applications established in Erath County in 2014.

<table>
<thead>
<tr>
<th>Spray Time</th>
<th>Date</th>
<th>Wind Speed/Direction</th>
<th>Soil Temp.</th>
<th>Air Temp.</th>
<th>Soil Type/Moisture</th>
<th>RH</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15-8:45</td>
<td>4/9/14</td>
<td>7 mph S</td>
<td></td>
<td>50</td>
<td>Sandy</td>
<td>61%</td>
</tr>
</tbody>
</table>
Table 2. Herbicides, rates, and application method for cedar elm ground broadcast established in Erath County in 2014.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>Herbicide</th>
<th>TSV</th>
<th>Rate product/acre</th>
<th>Material/plot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Broadcast Treatments</td>
<td>1</td>
<td>Spike 20P</td>
<td>N/A</td>
<td>15 lbs</td>
</tr>
</tbody>
</table>

Results and Discussion

Initial mortality estimates were determined for the treatment at 6 months after treatment (Table 3). The defoliation of the plot appeared to be 100% with no herbaceous vegetation growing in the treated area at the time of the evaluation. In the area where the cedar elm had created a closed canopy outside the treated area there was no herbaceous vegetation in that area as well due to the closed canopy that the cedar elm creates.

Table 3. Herbicides, rates of application and mortality results for cedar elm ground broadcast and IPT applications established in Erath County in 2014.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>Herbicide</th>
<th>Rate Product/Acre</th>
<th>Material/Plot</th>
<th>6 MAT</th>
<th>% Mortality 1 YAT</th>
<th>2 YAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Broadcast Treatments</td>
<td>1</td>
<td>Spike 20P</td>
<td>15 lbs/acre</td>
<td>1.2 lbs</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

- Ground broadcast of Spike 20P provided very high levels of cedar elm control. Producers should be aware that significant grass damage may be sustained with high rates of these products.

Acknowledgements

This project was supported by Dow AgroSciences, Erath County and the cooperating landowner.

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