TO SPRAY OR NOT TO SPRAY

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Every year as spring approaches, ranchers and land managers across much of New Mexico begin to think about mesquite control. Aerial spraying of mesquite is as much an art as a science. That is because determining the proper timing to foliar spray mesquite varies each year according to specific weather conditions both before and during spraying. The amount of winter and spring moisture before spraying is particularly important in deciding when or if to treat. In eastern New Mexico, a minimum of 3 inches of precipitation between January 1 and June 1 is recommended for best results. In western New Mexico, a minimum of 2 inches of moisture is recommended.

The typical time to spray mesquite is 45-90 days after bud break. This timing will usually bring treatments in June-July. However, timing varies every year depending upon the last hard freeze. In 2012, mesquite in some areas of southern New Mexico leafed out the last week of March. This means spraying could begin as early as late May. Soil temperature at a 12-18 inch depth should be between 80-86 degrees F for best results. Soil texture and depth will affect how quickly the soil temperature reaches optimum level.

The phenological stage of mesquite is critical in determining when or if to foliar treat mesquite. For best results, mesquite pods should be elongated but not filled or swollen. Twig elongation should have stopped and the foliage should have changed from a light pea-green to dark green. Do not spray if the mesquite is stressed because of factors such as hail or insect damage, drought, late freeze or a rainfall which stimulates new growth.

A number of herbicides may be used to foliar treat mesquite. A complete list may be found in NMSU Circular 597-“Chemical Weed and Brush control for New Mexico Rangelands.” The most common or “standard” for spraying mesquite is a tank mix of triclopyr + clopyralid applied at 1/4+1/4 lb active ingredient per acre. But, rates may vary according to the label. Typically, the herbicides are applied in a total volume of 3-5 gallons per acre.

This year a new herbicide name will be available for limited applications. This new herbicide, Sendero, is a pre-mix of clopyralid and aminopyralid. NMSU does not currently recommend Sendero as a mesquite control tool because of the lack of scientific data. Scientific foliar application trails are planned by NMSU range scientists for 2012. Results should be available in 1-2 years. And, some limited “test” applications are planned for the 2012 application season by the NRCS.

The following table is a checklist to help determine mesquite condition for effective control.
Checklist to Determine Mesquite Condition for Effective Herbicide Control

Ranch___________________ Date____________________
Range Site_______________ Pasture #________________

MESQUITE CONDITIONS

1. Current foliage volume as a percentage of “normal”_______% <75%.
   “RED FLAG” Foliage has been damaged, removed, or reduced by_________% (Circle appropriate agents that have caused damaged, removed, or reduced foliage volume):
   a. INSECT and ANIMAL DAMAGE. Symptoms include: leaflets removed, leaves tied together by webs, insect frass on soil surface, and larvae under loose debris. Lower bark on branches and stems gnawed or removed.
   b. HAIL DAMAGE. Symptoms include: leaves on soil surface, foliage "ragged".
   c. FREEZE DAMAGE. Symptoms include: yellowing or chlorosis of leaflets and leaf drop.
   d. DISEASE. Symptoms include: leaf chlorosis, orange dots on lower leaf surfaces and leaf drop.
   d. DROUGHT. Symptoms include: necrosis of leaf tips and margins, chlorotic leaves, pale green leaf color, or leaf drop.

2. General foliage color. (Circle appropriate color)
   a. Dark green
   b. Pea green "RED FLAG"
   c. Intermediate green (Between dark green and pea green)

3. Is there light or pea green foliage in upper tree canopies and on twig tips? (Circle appropriate response.) YES NO
   YES = “RED FLAG"

4. Flower color if present. (Circle appropriate answer)
   a. Yellow
   b. White "FLAG"
   c. None

5. Pod (bean) growth stage. (Circle appropriate answer)
   a. Not present
   b. Green and less than fully elongated "RED FLAG"
   c. Green but fully elongated
   d. Ripe
   e. Ripe and fallen

6. Notes: Record observations such as the percentage of the trees that appear "normal" and likely susceptible to broadcast sprays, and where these trees occurred (in draws, along roads, in low-density mesquite areas, etc.)

   Soil temperature at 18 inches _____________ F°
   Estimated rainfall within previous week ________ inches
   Estimated rainfall within previous month ________ inches

"RED FLAG”= CONDITION FOR POOR SUSCEPTIBILITY TO BROADCAST SPRAYS

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