



# Weed Control



**Figure 72.** Clean seed and plant parts from equipment before entering a new field.

Weeds compete with desirable forages for nutrients, water, and sunlight. They can have negative effects on grazing livestock and significantly reduce forage quality and yield. When attempting to control any weed species in forage systems, an integrated management approach should be followed when possible. This simply means utilizing various forms of pest management (weed control) techniques:

- **Preventative.** Purchase certified weed-free seed. Clean seed and plant parts from equipment prior to entering a new field.
- **Cultural.** Maintain proper forage height, soil fertility, and grazing management.
- **Mechanical.** Mow, disc, and hand weed.
- **Chemical.** Apply herbicides.

Prior to utilizing any pesticides, it is important to follow these guidelines:

- **Properly identify** the weed species. It helps to understand plant life cycles (annual or perennial), cool- or warm-season growth, and if it's a grass, broadleaf, or sedge species.
- **Understand** the specific desirable forage species you want to maintain.
- **Select proper herbicide** products based on weed species and forage type.
- **Calibrate** the spray equipment.



**Figure 73.** Calibrate spray equipment.

Herbicide products can be applied either pre-emergence (pre) or post-emergence (post) to the weed species. Pre herbicides are applied and usually incorporated into the soil prior to weed seed germination. Soil incorporation usually occurs by way of rainfall or cultivation. Post herbicides are applied after plants have emerged and work best in general when weeds are small and actively growing. Adequate soil moisture, sunlight, and optimal soil/air temperature promote herbicide uptake by roots and/or foliage.

All herbicides have federally approved labels. It is especially important to read and follow all requirements; these include use rates, application timing, tank mix partners, tolerant and sensitive crops, and susceptible weed species, as well as grazing and crop rotation restrictions.



**Figure 74.** Read and follow label instructions on herbicides..

## CONVERSIONS

- 1 acre = 43,560 sq. ft.
- 1 ha. = 2.5 acres
- 1 gal. = 4 qt. = 8 pt. = 16 c. = 128 fl. oz. = 3,785 ml
- 1 m = 39.4 in.
- 1 lb. = 16 oz. = 454 g
- 1 kg = 2.2 lb.
- 1 hr. = 3,600 sec.
- 1 mile = 5,280 ft.

Amount of product to put in the tank:

- Determine the area to be treated.
- Determine sprayer output (GPA).
- Determine tank size.
- Determine how much product per acre is needed.

Example: You want to apply 16 fluid ounces of a certain product per acre. You've calibrated your equipment and know that you are spraying 15 gallons of water per acre and have a 30-gallon tank.

$$\frac{16 \text{ fl oz}}{A} \times \frac{A}{15 \text{ gal}} \times \frac{30 \text{ gal}}{\text{tank}} \times \frac{1 \text{ gal}}{128 \text{ fl oz}} T = \frac{480}{1,920} = 0.25 \text{ gal product}$$

## TERMINOLOGY

- GPA = gallons per acre
- GPM = gallons per minute (output)
- MPH = miles per hour
- NSI = nozzle spacing in inches
- 5,940 = constant