

Pasture condition and trend worksheet

Use this worksheet to monitor natural rainfall or irrigated pastures. Pastures are rated based on ten critical pasture, grazing, and soil factors on a scale of 0 to 4, with 4 being the most desirable condition and 0 being least desirable. A single evaluation of the pasture gives you a snapshot at a point in time of the pasture condition. Repeated observations allow you to track the trend of a pasture and responses to your management changes. Following are the evaluation criteria for each point. Feel free to use ½ point scores if you can't decide exactly what the condition is.

- 1. Plant population.** Are most of the plants desirable species? Are they the best species for this situation? This is specific to the operation, soil conditions, and season of use for the particular pasture. Intermediate species will work and are acceptable for this site and operation. Undesirable species are those creating more problems than they solve.
- 2. Plant diversity.** Plant diversity contributes to seasonal stability of forage yield and quality as well as providing greater wildlife opportunities. Look for different species of desirable and intermediate plant species. Also look for different functional groups (i.e. cool season vs. warm season grasses; legumes vs. grasses; etc.) There is space at the top of each column for recording the species present.
- 3. Plant density.** What percent of the soil surface is covered by desirable and intermediate plant species? Estimate stand density either visually or using a point-step transect line. If visually estimating, first calibrate your eye looking at stands of known density. For the step point, take a predetermined number of steps and where your grazing stick touches the ground, record whether it touches plant material or bare ground. Calculate plant density and bare ground from the total number of hits.
- 4. Plant vigor.** How vigorous are the desirable and intermediate plants? Look at plant color and leaf size to estimate vigor. Dark green indicates vigor while yellowing indicates low vigor. Large leaves are vigorous while small leaves indicate stress. Presence of insect and disease damage indicate low vigor.
- 5. Legumes in stand.** Legumes make valuable contribution to the pasture through increasing forage yield and quality and nitrogen fixation. Too few or too many legumes can be undesirable. The optimal range is 40 to 60%. Note that legume presence less or greater than this range can receive a lower score.
- 6. Severity of use.** Has the pasture been grazed appropriately? Grasslands must be grazed to stay in a healthy condition. Undergrazing can be just as detrimental to a pasture as overgrazing, so this scale has appropriate at 4 and then the score can be discounted for either over or under use and note whether the problem was over or under use.
- 7. Uniformity of use.** Look at uniformity of grazing at two levels in the pasture. The first is localized spot grazing. Are there phase 1 and phase 3 plant growth stages side by side? Look across the entire pasture. Are there large areas of overuse and under use? This is spatial grazing distribution.
- 8. Soil resources.** Are there visible signs of soil erosion, compaction, or other degradation? Look for bare soil with rill and gully development, plant pedestaling, or hardened soil surface. This score is based on percentage of area affected by these factors.
- 9. Undesirable canopy.** How much of the potential solar panel area of the pasture is blocked by undesirable plant species? This can be anything from woody brush encroachment to low growing weeds. Annual weed cover can be seasonal but serious. Evaluate the pasture when you have a known problem.
- 10. Plant residue.** Dead plant residue on the soil surface is an important part of the pasture ecosystem. It is beneficial for enhancing water infiltration, moderating soil temperature, and forms the transition between plant organic matter and the mineral soil. Too little residue results in excess runoff and high soil temperatures. Too much residue can smother existing plants and inhibit seedling establishment. This factor is also scored with appropriate being 4 and too little or too much residue being discounted. Note whether the problem was too much or too little.