

REVIVING PASTURES FOLLOWING DROUGHT

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The 2016 drought was a huge challenge and continues to have ramifications in 2017. Pastures and hayfields across the Southeast have been weakened by both the drought and heavy grazing. Appropriate action now will be crucial to minimizing the lingering effects of the 2016 drought. Here are some recommendations on how to revive those stands and plan for 2017 and beyond.



Fig. 1. The lingering effects of drought stressed and overgrazed pastures pose a major challenge in 2017.

It May Not Be Over

Before planning major renovations or attempts to revive pastures and haylands, it is important to understand that the drought may not be over. Despite receiving near normal rainfall in December and January (as of this writing) in most of Georgia, the National Weather Service has projected drier than normal conditions and drought to persist at least through this coming spring. Their longer-term forecasts for summer and fall are not encouraging, either. Of course, forecasting weather that far out is frequently misleading, but it should give cattlemen pause before undertaking major renovation and establishment plans.

In light of this forecast, it may be wise for Georgia cattlemen to focus on taking full advantage of what little moisture we may have this spring, as it could be very dry again by June. Promote excess winter forage production, and harvest any surplus for baleage or hay. Plant summer annual forages into any perennial pastures that have been too damaged by drought and overgrazing to make good use of that land. If land is usually set aside for summer annuals, be sure that those fields are planted early and managed for optimal early growth.

Assessing Pasture Condition Score

Preliminary indications of stand survival can be obtained even in the dead of winter by examining the crown or base of the grass plant. Though the plant may look brown, it may be just dormant. Plants that are alive should have creamy white or even green tissue on the crown, which can be seen once any dried leaves or material has been scraped away. Most importantly, one should observe what emerges during green-up.

Assess the stand and condition in each pasture. In the early 2000s, Extension colleagues of mine created a pasture condition score sheet that is very helpful in putting real numbers to this process. The Pasture Condition Score Sheet, made available by USDA-NRCS (<http://bit.ly/PCScore>), allows the user to combine a stand assessment with other risk factors that can result in a Pasture Condition Score (PCS) on a 1 to 5 scale. Though more complex than the Body Condition Score (BCS) system, the idea is similar in that it allows the user to assess which pastures need to be addressed and in what ways. Having PCS scores of 4 or 5 would be desirable, but many pastures coming out of the 2016 drought are likely at or substantially below a PCS of 3.

Manage Pastures Accordingly

Once a PCS has been determined for each pasture or paddock, one should compare these condition scores so that they can begin to prioritize their efforts and investment. Any pastures with a PCS of 1 or a low 2 should be considered too damaged to be managed. Use these pastures as sacrifice areas where animals are located while resting PCS 3+ pastures, which are more manageable. If they have not already been planted to annuals, PCS 1-2 pastures should be planted to quick-covering annuals to prevent severe weed encroachment, soil erosion, and nutrient runoff. Any hay fed there should be placed as far away from waterways as is practical. More importantly, one should also avoid feeding hay or concentrating animal traffic in or near the areas where water gathers to run off the pasture. Ideally, hay fed in a sacrifice area would be done in a way that builds soil fertility and organic matter. The downside to this is that soil compaction is almost certainly going to occur in these areas. Anticipate that this compaction may need to be mechanically remedied when the pasture is reestablished at some point in the future. In a sacrifice area, it may be best to feed and run equipment in the same location each time. Though this may not add fertility over the rest of the pasture, it is better to compact a small portion of the field than the majority of it. One can never afford to add fertilizer or manure to balance the remainder of the field than to subsoil and aerate the whole pasture.

Minimizing weed encroachment and increases in the weed seed bank should be a priority, especially in these pastures with a low PCS. Eventually, whether that is 2017 or beyond, more favorable establishment conditions will occur and one will likely need to reestablish a permanent pasture species. An ounce of weed prevention during and immediately following a drought will be more effective than any herbicide's pound of active ingredient. Strategic use of quick-covering annuals, along with good grazing management and/or mowing to prevent seed head production, can help minimize weed issues. If herbicides are needed during the weeks or months prior to reseeding a permanent pasture species, be sure to choose a product whose plant-back intervals will allow for the planned plantings. Many herbicides have excellent soil residual activity, which can often affect the seedlings of desirable species during re-establishment.

Pastures that receive a 3+ PCS should be considered manageable, but they should be prioritized based on the severity of overgrazing that has occurred and the investment that is likely needed to restore them to peak performance. Those that have a moderate to good stand and vigorous growth can obviously be used, but avoid grazing these pastures before they reach recommended pre-grazing target heights (typically 10-14"). More importantly, avoid allowing them to be grazed closer than recommended residual heights (typically 3"). More aggressive grazing may risk reducing the pasture's ability to regrow and catch rainfall.

Pastures that have been overgrazed but have a manageable PCS require the most management and moderate investment. Weed prevention and control are crucial to redeveloping thick stands and increasing PCS. Consider using the pre-emergent herbicide Prowl H₂O to prevent the first flush of weed germination following drought. Timing of this pre-emergent herbicide post-drought is tricky, as it is ideally applied within at least 7 days before a 0.75"+ rain event and before the target weed seedlings germinate. At the time this article is

published, producers should be preparing to be on defense against early-germinating summer annual weeds such as crabgrass, goosegrass, and pigweed. These weeds can be prevented by applying Prowl H₂O at 1-2 qts/acre in late February or early March, though a second application may be needed in mid to late June to provide season long control.



Fig. 2. Producers need to be on defense against weed encroachment this spring.

While one is on aggressive defense against overgrazing and weed pressure, one should also address soil fertility. An argument could be made that the soil probe is the very first thing that needs to go in the ground. Soil fertility deficiencies can prevent stand redevelopment and PCS improvement. So, always soil test, and follow UGA fertilizer recommendations. Pay particular attention to soil pH, phosphorus, and potassium deficiencies, as these must be adequate for PCS improvement to occur.

Check Your Mirrors

Finally, begin making renovation plans to re-establish pastures that were too damaged to be managed. Part of that renovation decision, however, is to try to determine what caused the loss of the stand or condition. Drought is usually just the proverbial straw that broke the camel's back. Other fundamental management issues are almost always to blame. Don't be surprised if you recognize the culprit staring back at you when you check your mirrors.

For more tips on drought management and renovation recommendations, visit our website, www.georgiaforages.com. If you have additional forage management questions, visit or contact your local University of Georgia Cooperative Extension office by dialing 1-800-ASK-UGA1.