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### ***Has your Conservation Reserve Program expired or will be expiring soon?***

The Conservation Reserve Program (CRP) is one of the largest conservation programs serving private lands in the USA. This program was designed to take marginal and highly erodible land out of production and into conservation practices. Farmers involved in the program receive payment to establish grasslands, shrubs, and trees. This practice can provide areas for wildlife habitat, improve water quality, lessen soil erosion and reduce the use of agrichemicals that could impact species diversity. CRP tries to create niches that could help mitigate climate change by creating carbon sinks in plant and root systems. As of September of 2017, there are over 23.4 million acres of CRP land in the USA, with an annual rental value of \$1.8 million and an average payment of \$76.78 per acre (FSA-USDA, 2017). In Mississippi, there are 10,731 farms enrolled in CRP that covers 699,502 acres with an annual rental value of \$46.4 million and average payment of \$66.38 per acre in the total CRP sign-ups (FSA-USDA, 2017).

Producers that have an expired CRP contract are always debating on what to do with the land. **Figure 1** shows the expected number of acres that will expire each year. Depending on how the land was managed under the contract and the maintenance period, CRP land might or might not be suitable for immediate transition to forage production. Renovation of CRP land may be needed to establish a productive forage system. The type and degree of renovation would depend on the intended use of the forage, the previous management and the plant species composition (proportion of grasses, legumes and weeds). If you have CRP land under an expiring contract and you are considering a transition to forage production, here are some steps that you can take to bring it into an efficient system for livestock production.

### ***Soil Test***

Conservation Reserve Program lands often make low-quality pastures during the transition period due to low fertility and weed species competition. Taking representative soil samples can provide a good understanding of what nutrients might be deficient and what considerations need to be taken to remediate such nutrient imbalances. In CRP lands, nitrogen (N) levels tend to be low due to the slow nitrogen release created by a high soil carbon-to-nitrogen ratio. Phosphorus (P) and potassium (K) are substantially reduced because these nutrients are tied up in the plant residue and therefore not readily available for uptake by the new forage crop being established after tilling up the land.

### ***Field Preparation before Pasture Establishment***

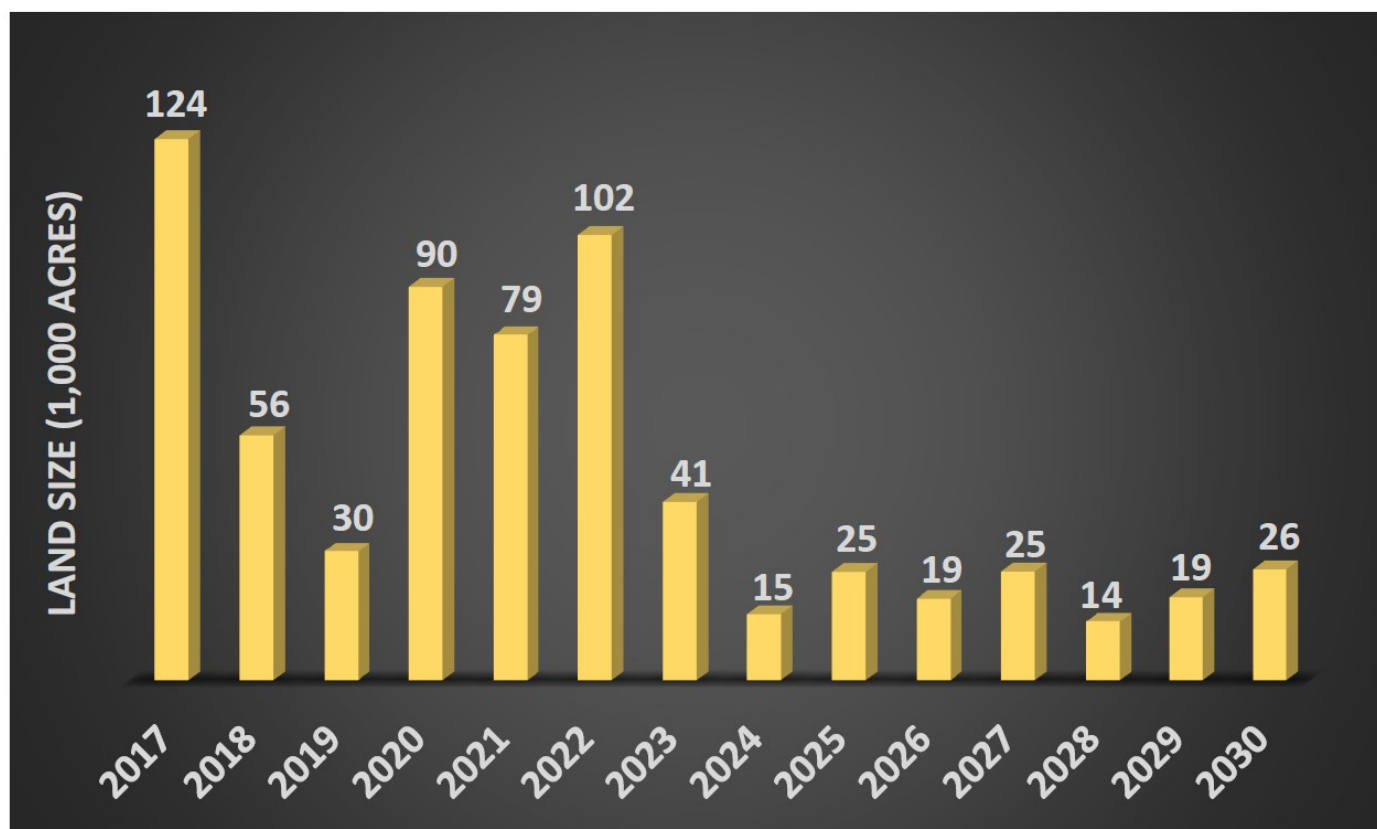
Since most CRP contracts expire in the fall, it might be a good practice to begin the transition to pasture or hay land at that time. Due to wet conditions in the spring, fall tillage is preferred followed by the establishment of a winter annual crop. Deep tillage of dry soil breaks up any excessive fragipan in the soil subsurface. Field preparation should start by removing undesirable species of trees, shrubs, and brush if needed. Depending on the level of tillage and the equipment used, excessive residue after CRP can be a challenge for establishing a good forage crop. Keep in mind that retaining some residue might be ideal to avoid soil erosion. Incorporating some of the surface residue into the soil, will build the organic matter. Work the land enough to incorporate that plant residue, build soil structure, and increase microbial populations and nutrient cycling. While plowing to renovate hay fields or pastures, you might consider leaving riparian strips in sensitive areas to reduce water, herbicide and fertilizer runoff into streams.

In other instances, land owners could reduce the amount of residue by disking and planting a cover crop for the winter. Although moldboard plowing might be the effective way to incorporate the residue, this leaves the soil surface exposed to possible erosion unless a crop is established immediately. The best option will be tilling the land with a heavy disk to ensure that some of the residue is retained in the soil surface. Another option for pasture establishment might be the

use of an aerator that can act as mini-subsoiler, can incorporate plant residue and allow the use of a no-till planter. If no-till planter is not available, then double-chisel plowing followed by disking or harrowing could help prepare the CRP land for a conventional drill.

Land that has been in CRP for a large number of years could be infested with weeds, invasive species, shrubs, brush and small trees. Cultivation alone might not provide satisfactory control of the vegetation. It is more difficult to control weeds once desirable species of grasses and weeds has been established due to herbicide limitations or selectivity. Some of the weed control methods that could be used include chemical (herbicides) and mechanical (plowing, clipping, and burning). Before developing a weed control plan, it is important to identify the weed species present in the pasture to develop a treatment strategy that is effective and cost-effective. Before using herbicides, consult your local county Extension office to determine the type and rate of herbicide to use since some of the herbicides used in forage production can have planting, haying and grazing restrictions. Always follow the label recommendations

There are other practices that can be implemented to reduce residue in CRP land without soil disturbance. The fastest and more effective way to remove some of the residue and thick biomass stands will be using prescribed burning. Only use fire when it can be handled safely and legally. Producers that are using prescribed burning as an alternative to mechanically removing excessive residue, should do so close to planting a crop due to reduce the loss of nitrogen, phosphorus, potassium and sulfur. Always pay attention to fire bands or restrictions when incorporating burning into the management practice. Mechanical vegetation control in CRP land should be followed by a vigorous weed control program the following spring and summer.



**Figure 1.** Expected number of acres that will expire from CRP land programs in Mississippi between 2017 and 2030. Source: FSA– USDA, 2017.

Another way to reduce plant residue is through haying or heavy grazing. Haying could be challenging due to rough terrain and the amount of dead biomass. Be aware that woody biomass and stumps could cause damage in equipment and puncture tires when mowing and baling. Much of the hay produce in CRP land will have low quality and it is most likely that protein and energy supplementation will be required when feeding the livestock. ‘Mob grazing’ is another approach. This involves placing a large number of animals on a small area for a brief period of time. Animals will trample dead biomass into the ground and open the space for subsequent burning or mechanical cultivation. If new forage crops will not be established until the spring, then CRP land could be used as calving pasture to increase trampling and nutrient cycling.

## **Forage Selection and Utilization**

Once the land has been prepared, the next step to consider is what to plant. Although the use of annual winter cover crops is a good option during the first year of transition, you might want to consider the addition of permanent pastures. It is recommended to determine the types of soils found in the transition land to determine what species might be more suitable using parameters such as soil pH, water holding capacity, soil layers depth, etc., (Tables 1 and 2). Contact your county Extension office or the Natural Resources Conservation Services (USDA-NRCS) for information on obtaining a soil map or visit the Soil Web Survey on line at <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Keep in mind that high carbon rates in CRP land can impact nutrient availability and therefore nutrient cycling. Forage production in the first year might be low than expected and it might take several years to increase nutrient cycling and improve production.

The selection of grass and legume species is influenced by factors such as rainfall, soil drainage, soil pH level, nutrient availability, intended use of the stand (hay vs. grazing), and persistence. Other critical considerations include field preparation, seed quality, planting depth, and time of establishment. It is always good idea to select forage crops that have a good yield potential, good winter hardiness, resistance to grazing pressure and diseases. If conditions are optimum, establishing a mixture of grasses and legumes might help to reduce fertilizer needs, provide higher forage quality and improve animal performance. Mixture of two or three well-chosen forage legume or grass species with a specific purpose are more desirable than mixtures containing five or six species.

Conservation Reserve Program lands can be used for forage production such as haying or grazing. However, before grazing can be part of the forage management program, several factors needs to be taken into consideration such as water and fencing. In some cases, the cost of water establishment systems could be quite high. Adequate water should be supplied to the livestock through sloughs, dugouts, wells, tanks, or pipelines. A large number of CRP lands are often not fenced or the fences need major repairs. Fencing option might range from double strand electric fences up to five barbed or high-tensile wire. Type of fence to be used depends on land size, type livestock species and grazing management. Contact your local NRCS office for help with assessing the quality of CRP pasture, and for help with design, renovation, fencing, and incentive programs in-formation.

## **Summary**

Returning CRP land to forage production will involve some combination of tillage, weed control, fertilization and establishment of a new stand. Producers making a transition to grazing systems need to keep in mind that the CRP land will need a different management strategy coped with planning, preparation, fertilization, and work to make it sustainable. Before making the transition, it is important to look at the inputs (seed and fertilizer) and labor costs (land preparation, equipment, fencing, and water systems) to make it a productive forage system. Sometimes, it might be best to divide the CRP land into sections, than one section can be renovated each year and be a better managed during the transition period than taking all the land out of CRP and not being able to implement all the needed management practice. It might be a good idea to contact your local NRCS office with assessing the quality of the CRP land and inquiring about available incentive programs that could help with the design, renovation, fencing and water systems that can yield a sustainable forage production system. Programs such as the Environmental Quality Incentives Program (EQIP) may be available to help implement some of the conservation practices needed to implement a grazing system on the land.

## **Upcoming Events**

*November 7, 2017—Sustainability Training in Agricultural Systems (STARS), Pontotoc, MS*  
*December 8-9, 2017—Grass Fed Beed in the Southeast, Purvis, MS*

For upcoming forage related events visit: <http://forages.pss.msstate.edu/events.html>

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