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Fact Sheet 2003 : Applying Controlled Rotational Grazing To 'Quick-N-Big®' Crabgrass And 'Red River' Crabgrass

In the most basic sense, controlled rotational grazing is grazing (utilizing) the forage to the recommended residue height and then deferring grazing to allow recovery and re-growth. It is "controlled" because there is a plan to graze the forage properly within the grazing being done at any grazing event time. That grazing and plan are monitored--checked. And, that grazing and plan are adjusted as needed to stay within the grazing guidelines of that given grazing. Different grazings often have a different set of grazing rules to follow.

'Quick-N-Big®' Crabgrass (QNBCG)and 'Red River' Crabgrass (RRCG) has not been subjected to grazing system comparisons in detailed research. Nor has any other forage crabgrass to our knowledge. However, innumerable observations have been made in actual grazings and simulated grazing research has been done via research clipping trials. Some may argue that a clipping trial does not present the same force on the forage as livestock grazing, but it presents the basic perimeters to serve as a guide to grazing management. And , in my view , mowing to simulate grazing is harder on the plant than the cattle grazing it. The objective of this writing is to summarize some research information R. L. did while at Noble Foundation , and practical grazing observations in real pastures, and to provide some guidelines so the grazier may have information to help make proper or better grazing management decisions.

The research information presented herein is from some of R. L.'s and co-workers at Noble Foundation, Agricultural Division research and that organization is given due credit. Practical grazings have come from personal pastures, client pastures, and other pastures. The research is from a study of a good forage type of hairy crabgrass that was studied before the release of QNBCG or RRCG The principles and basic responses are the same. The soil was a silt loam. The fertilization was a total of 134-46-60 lbs/ac actual nitrogen-phosphorous-potassium. The nitrogen was applied in two applications of 67 lbs/acre. The trial contained six harvest treatments ranging from "overgrazed" to "hay harvest at seed maturity". To be more brief, for this report, treatments are re-grouped to present the yields more generally for a guide to grazing management. More detailed

study is available in the Noble Foundation report: (Crabgrass For Forage: Management from the 1990's. Pub. No.: NF-FO-99-18. Pages 29-32. Phone: 580-223-5810).

Grazing by mower (harvesting) produced the following forage yields. **Grazing often and at a one inch residue, produced 5994 lbs/ac (100% basis). Grazing often and at a three inch residue produced 6689 lbs/ac (112% basis compared to the first treatment). Grazing correctly, at a good recovery and re-growth of about eight to 10 inches and up to the green head stage and grazed at a three inch residue, produced 7930 lbs/ac (132% basis compared to the first treatment). Harvesting at the seed ripe hay stage produced 10,511 lbs/ac (175% basis compared to the first treatment).**

One can readily visualize from this data, that proper grazing can very strongly influence forage yield and animal yield per acre. **A yield increase of 12% to 32% basically translates to a likewise increase in production efficiency, i. e., a 12% to 32% better efficiency of fertilizer and fertilizer dollars, equipment dollars, land dollars, overhead dollars, etc., and animal yield per acre.** For the same expense inputs, why not manage in a manner (properly) to get the upper level yield and thus dilute the cost per grazing day or animal product yield per acre? That is the most basic of reasons for controlled rotational grazing. It is the main driving force for controlled rotational grazing at the grass roots level.

If we use the best grazing treatment , i.e., **7930 pounds** of grass used, when **grazed at early green head stage, and down to a 3 inch stubble**, then the projected stocker steer beef yield is **815 pounds per acre**. (7930 pounds of grass divided by 18 pounds of grazed intake per day per steer, times 1. 85 pounds average daily gain (ADG), equals 815 pounds per acre. The 1.85 pounds of ADG is a figure based on long term ADG record of steers on good crabgrass pasture during R.L.'s tenure at Noble Foundation)

Controlled Rotational Grazing In Practice: The numbers above can serve well to help set up the actual grazings to gain the upper level pasture yield from QNBCG and RRCG . First, the operator must have a means to manage the crabgrass pastures properly and to **remove livestock from the pasture if a crisis occurs**. There must be a good **BALANCE** of expected forage production and stocking rate. Stocking rate is dependant on all inputs, but an **initial guide for well cultured QNBCG and RRCG fertilized at 100 lbs/ac nitrogen**, is about 750 to 1200 lbs of beef per acre in Oklahoma dryland pastures above the 30 inch rainfall belt. There is extreme variation and **a record of stocking rate** will help fine tune each case. There should be **RESERVES** to use in case stocking rate is not correct for the year. These reserves may be other pastures, hay, feeding, selling, etc. These should be planned from the beginning and not at the point of need. There should be **FLEXIBILITY** in the grazing. **If the pasture gets grazed to the minimum residue height, livestock should not be there any longer. To stay and overgraze seriously reduces re-growth and recovery for that season and therefore total yield.**

It is **not best**, but crabgrass can be grazed in a continuous grazing approach. In this case stocking rate should normally be set to a level to allow the grass to be grazed down gradually over the weeks and months of summer. The grass will accumulate in early season and the stocking rate will not keep it utilized. That is the normal for a well stocked continuous grazed pasture. As summer progresses and growth is slowed, the livestock will consume the accumulation. In this case there is usually plenty of seed made for volunteer management. **At the end of the summer, the pasture can be grazed completely down to the three inch residue, or if there is excess the last of the forage can be harvested for hay.** Even in this case of continuous grazing, **if the grass gets short, the livestock should be removed.**

Controlled Rotational Grazing is **the best way to go**. This allows control of: the grazing period days, the average residue height left and the uniformity of the grazing, the recovery and re-growth, and the days needed for the recovery. Any paddock number is probably better than one. In general, paddock numbers of **four, to eight are good**, and **10 to 12 are excellent** for a one herd operation. When four paddocks are used, that means that for a one herd operation, 75% of the paddocks and total area will be under recovery or re-growth at any given time. Higher paddock numbers give more recovery time per paddock. Strip grazing of any paddock number can be done to great advantage for dairy and upper level managed beef operations. **Strip grazing at one to three day graze periods is good.**

The basic approach to grazing in rotational paddocks is to initiate grazing when the QNBCG and RRCG is well covered and four to **eight inches tall or taller**. It is wise to add a few cattle, then as the grass growth increases, add more, and so on, until the full stocking is done. The first grazing should take the grass **to about a three inch residue**. Later grazings, when growth should be taller, should take the grass down to a range of about a three to eight inch height. Leaving a ragged stubble (residue) is a good idea. One advantage of grazing QNBCG and RRCG is that they **do not lose quality nearly as much as other summer grasses if it gets a little over-grown**. As the season ends, grazings can be to the minimum recommended height of about three inches. Another advantage of grazing QNBCG and RRCG is that they can be grazed short at the end of the season with no concern to save a good root system because it is going to die at first freeze anyway. Days of recovery period are about three to four weeks under good growing conditions and longer under dry or other suppressive conditions. **Always manage recovery for seed for volunteer stands if that is part of your management, and this preferably during the late summer if possible.**

Hopefully, this information is a help in your grazing management. Practice helps. We will be pleased to visit more about your grazing management if you wish.

Also visit our web site www.redrivercrabgrass.com, and the Noble Foundation web site : www.noble.org On the Noble site, click on : “Agriculture Programs”, “Publications”, “Agriculture Publications”, search for titles with the word “ crabgrass ” and click on for more information about crabgrass forage.