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## **FACT SHEET 2015 : VNS Crabgrass, 'Quick-N-Big®' Crabgrass, & 'Red River' Crabgrass Variety Summaries, Crabgrass Variety Seed Germination & Dormancy Characteristics , On-Farm Forage Quality, Fall Grazing Stockpiled Crabgrass , Grazing Crabgrass For High Stocker Cattle Average Daily Gains , and Broadcast Planting Quick-N-Big® Crabgrass and Red River Crabgrass in a Fertilizer Mixture.**

Dalrymple Farms has provided an annual "Management Fact Sheet" since 1994. The purpose is to provide additive management information for 'Quick-N-Big®' Crabgrass and 'Red River' Crabgrass growers producing grazing forage, hay/green chop/silage forage, and conservation planting mixtures. 2015 marks the 22<sup>nd</sup> year of these "Management Fact Sheets". This one is longer than usual, but that is necessary to cover the information desired.

Crabgrass Variety Characteristics are important . The first serious information and education about crabgrass as A REAL GRASS got started in the early 1970's by Noble Foundation personnel. Crabgrass use as a REAL GRASS has increased greatly over time to the present. Some agricultural university research and extension services , and the NRCS have all helped .

VNS Crabgrass , as is seen on seed tags , is unnamed crabgrass , and not a VARIETY. VNS is Variety Not Stated. This category is also named , or thought of , as "**Common**", "**Native**", or "**Natural**" crabgrass. It may be of interest that most botanists understand that crabgrass's are a natural plant of Africa , that was taken to Europe , and then to North America. There were no crabgrass's in America before Europeans. VNS can be anything of the naturalized crabgrasses. **About the only thing that is really necessary is that this crabgrass get large enough to harvest with usual farm equipment.** VNS can be anything from very small to moderate sized crabgrass. VNS crabgrass also contains all manner of length of green season from short , to long, and late, to early. To really know what VNS is being planted, the planter (man) would have to have grown it before , or have seen it growing themselves, up close and personal. All crabgrass's before Red River Crabgrass variety, would have to be of the VNS type, simply because Red River Crabgrass was the first world wide, ever known , researched , developed ,and released crabgrass variety. Also refer to the chart later, and realize that all crabgrass in the chart "below" Red River Crabgrass and Quick-N-Big® Crabgrass, would therefor have to be thought of as VNS Crabgrass.

All plants , and all crabgrass's, have some plant diseases. Among the crabgrass's, it is our observation that VNS crabgrass , whatever that is , is often much more prone to disease infection



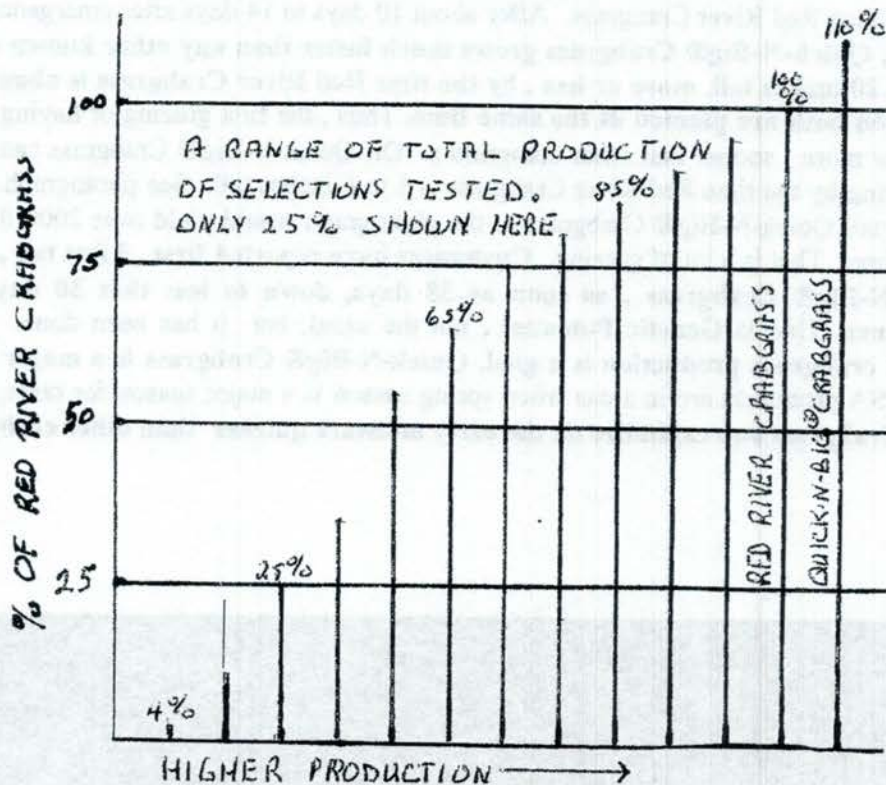
than the developed Quick-N-Big® Crabgrass and Red River Crabgrass. Neither of the varieties have had serious disease occurrence in Oklahoma in our experience.

**Red River Crabgrass** is next to summarize, simply because it was the world's first known selected variety for producer use. **A researched , named and released crabgrass variety, simply put, is a proven variety of known genetic potential.** Red River Crabgrass was released in 1988 by Noble Foundation of Ardmore Oklahoma from research of R. L. (of Dalrymple Farms) and co-workers. In brief, Red River Crabgrass is a selection out of nearly 50 selections (See Chart later ) collected from South Central US, lower mid-west US , far Southern US, and a few other state areas , and including one from New Zealand. **It was the most full summer length of good green season growth beginning to end , and highest overall production.** It is typical of the usual crabgrass's in that it is a fine to medium stem size, and it has the genetic ability to stand up much taller than many VNS type crabgrass's , and it can grow to three feet tall. Normally , grazing would be done at 6 to 18 inches and haying done at 18 to 24 inches. But, due to the stem size, it often lodges (weeps) if allowed to grow too tall. That is common with a lush , high quality grass which often has small to medium stem size. Red River Crabgrass is **a tall type but also a runner type** if there is space in the stand for it to exhibit that capability. Runners can allow it to spread if in a thin stand, or injured by too much treading or too short a use. Red River Crabgrass produces seed drop for volunteer from June to fall. Red River Crabgrass seed will often show a relatively high seed dormancy when tested soon after seed drop or seed harvest and up to many months later. Any seed drop from Red River Crabgrass all summer long will be mostly dormant all summer and be available for volunteer stand management next spring. **Seed of Red River Crabgrass has a rough husk and some "hair" on the seed , making it necessary to mix seed with fertilizer or other bulk material to give it "flow" for planting.** There is more about seed in the following information on seed germination and seed dormancy relationships , and planting in fertilizer mixtures. .

The chart following shows the relative total summer forage production yield of a few (not all ) of the selections involved in the development of the Red River Crabgrass variety. This chart is just to help illustrate the vast difference in natural crabgrass and why Red River Crabgrass and Quick-N-Big® Crabgrass were developed. The chart does not divide the yields into portions of summer, that is, early, middle , and late summer. The figures are presented as a relative percentage with Red River Crabgrass being 100%. The original selection numbers are not used as they are useless now. Research total summer yield of Quick-N-Big® Crabgrass relative to Red River Crabgrass is also shown at the far right, however it was developed after most of the work that made this chart. In this accumulation, Quick-N-Big® Crabgrass yielded about 10% more total summer yield than Red River Crabgrass. Both very good. **In these cases, top level total summer dry weight yield for both Quick-N-Big® Crabgrass and Red River Crabgrass are over 12,000 lbs per acre , and more in some research.** These yields being from "perfect" research growing conditions: excellent soils, excellent long season moisture, and excellent upper level soil nutrition (fertilizer). Dalrymple Farms looks at these top yields of Quick-N-Big® Crabgrass and Red River Crabgrass as the **Genetic Potential**, more or less, and not the normal for usual farms and ranches. Remember VNS??? Think about this: basically anything yielding less than the two named varieties are in reality VNS crabgrass. The lower yielding end selections in this cumulative work produced as little as 1000 lbs/acre all summer long, or about 8% , of what finally made Red River Crabgrass , and the majority producing only about 50% of the Quick-N-Big® Crabgrass and Red River Crabgrass. The reader here might be wise to re-read the



information about VNS. **Why plant VNS for pasture when there are proven varieties available with known genetic potential?** This chart information is also relative for the summary of Quick-N-Big® Crabgrass that follows.



**Quick-N-Big® Crabgrass** is the second properly released variety. In summary, it got its name because: it germinates **Quick**, grows **Quick**, and gets **Big**. Both varieties are produced, processed, and provided by Dalrymple Farms as Certified Seed and sometimes as non-certified seed. Quick-N-Big® Crabgrass is a much different type of crabgrass. Compared to Red River Crabgrass, it is a very erect type of crabgrass, with slightly larger and **smooth seed**, larger, but still very pliable stems, and much wider and longer leaf, under the same growing conditions. It is a very aggressive **tillering (stooling) type crabgrass**, with up to and over 100 tillers from the crown per plant recorded. And, most individual erect tiller stems sprout one or many lateral stems off the main stem, much like the branches of a tree. The total of all the stems being in the many hundreds per plant, if the plant is allowed to grow. **Think about that—these 100's of stems from one plant that came from a small seed less than 1 millimeter wide and about 2 millimeters long.** A millimeter is less than 1/16 of an inch. **Quick-N-Big® Crabgrass grows very much like wheat does in the spring season.** That is a good comparison and both are best used by rotationally grazing, and the hay cutting procedures are very similar. Quick-N-Big® Crabgrass should be managed to re-grow long enough to allow the lateral branches to develop for better re-growth yield.

The smooth (slick) seed of Quick-N-Big® Crabgrass is a major advantage in planting. The seed alone flows well through the usual small seed (legume seed) boxes on drills. Dalrymple Farms has planted Quick-N-Big® Crabgrass directly this way many times.



Quick-N-Big® Crabgrass has been measured up to 58 inches tall , free standing. This is just to state how big it can be as Genetic Potential. However it should be utilized much before that **unless only one hay cutting is the goal**. Compared to Red River Crabgrass, Quick-N-Big® Crabgrass has a much wider seeding leaf, and the seed tends to germinate a bit sooner and more uniform than Red River Crabgrass. After about 10 days to 14 days after emergence, and in warm weather, **Quick-N-Big® Crabgrass grows much faster than any other known crabgrass and is often 20 inches tall, more or less , by the time Red River Crabgrass is about 3 to 4 inches tall, when both are planted at the same time**. Thus , the first grazing or haying can often be 2 weeks or more , sooner than other crabgrass's. Or, Quick-N-Big® Crabgrass can make an early hay cutting by the time Red River Crabgrass is 3 to 6 inches tall. See photograph following. The 20 inch tall Quick-N-Big® Crabgrass in the photograph would yield over 2000 lbs/acre of grass at this time. That is a lot of grazing. **Customers have reported first , 3 feet tall , hay cutting of Quick-N-Big® Crabgrass , as soon as 38 days, down to less than 30 days , after first emergence**. That is Genetic Potential , not the usual, but it has been done. **If getting the earliest crabgrass production is a goal, Quick-N-Big® Crabgrass is a major consideration**. Most USA producers are in areas when spring season is a major season for rains, and Quick-N-Big® Crabgrass can capitalize on the early moisture quicker than other crabgrass's.



First Growth Of Quick-N-Big® Crabgrass (left ½) And Red River Crabgrass (Right ½). Same Emergence Time. The Quick-N-Big® Crabgrass Would Yield About 2000 lbs/Ac At This Time.



Some customers suggest that Red River Crabgrass tends to be a bit better than Quick-N-Big® Crabgrass by the last third of summer, more or less. However, this is highly related to stubble height left in grazings and hay cuttings and continued good fertility. Using the Quick-N-Big® Crabgrass forage soon enough, and leaving a leafy stubble, plus providing good fertilization, causes better re-growth all summer long. **Quick-N-Big® Crabgrass is a "tall" forage.** And, like all tall forages, it has longer distance between stem nodes (joints) than shorter crabgrass's. This dictates that taller stubble be left at grazing and haying, so there is **leaf on the stubble at the joints**, after grazing or mowing, for good survival and quick re-growth. It is often best to leave 4 to 6 inches of stubble for good re-growth, but then **at the last summer uses, graze or mow to the shortest possible to get all the forage use for the season.** Easy to do. Dalrymple Farms does that. **Very short use greatly increases re-growth time.**

**Quick-N-Big® Crabgrass seed begins breaking dormancy very soon after seed drop** for volunteer, but in Dalrymple Farms experience, there has always been adequate dormant seed to carry over for next spring volunteer management. **Quick-N-Big® Crabgrass seed drop from June to fall will often produce an immediate volunteer stand**, with summer rains, to add to the grass already growing. **This new volunteer is "wheat pasture quality" grass and useful in the stand for grazing or hay.** There is more on this characteristic later in the information. However, **it is wise to get some seed drop the last portion of summer to be more sure there is live seed for volunteer next spring.** Refer to the seed information following later.

It is unrealistic to discuss all characteristics of these crabgrass varieties in a short summary. It is hoped this summary will be helpful to crabgrass growers. Also, check our other Fact Sheets.

**Seed Germination and Dormancy** relationships are also of interest when selecting variety choices or combinations. In general, **New Crop (fresh)** seed of Red River Crabgrass (and likely VNS), has a **relatively high seed dormancy and thus lower germination for several months**, and sometimes over a year after harvest. Conversely, **Quick-N-Big® Crabgrass usually has a quick dormancy breaking period after harvest, and thus, germination is relatively high very soon after harvest**, and seed dormancy is low. **Dalrymple Farms tries to produce and provide both "New Crop" and "Aged" seed of both varieties**, when weather permits seed yields to allow it. Many producers prefer **Aged Seed** when it is available. Aged seed of either variety tends to produce seedlings sooner and more uniform than New Crop seed. New Crop seed, with much seed dormancy, tends to produce seedlings slower and more erratically, and producing more of the stand with time and following rains. **Both types make a stand**, but the emergence pattern is usually different. It can be a management choice. Dalrymple Farms has made successful stands of both varieties with New Crop seed many times, but when we have a choice, we prefer Aged Seed.

Dalrymple Farms has done more study of these characteristics of both varieties and many different seed harvests, the last two years. A brief summary is as follows. **New Crop** seed is seed that is available the first season after harvest, at which time it is 6 to 9 months post harvest. **Aged Seed** is seed that is available the second season and later, after harvest, at which time it is about 18 months old, or older, post harvest date. Percentages are to the nearest 1%.



**Summary Of Quick-N-Big® Crabgrass And Red River Crabgrass “New Crop” And “Aged” Seed % Germination (% G ) And % Dormant (% D ) Seed**

	Quick-N-Big® Crabgrass			Red River Crabgrass		
	% G	% D	% Total	% G	% D	% Total
New Crop Seed	88	5	93	43	48	91
Aged Seed	<b>96</b>	0	96	93	0	93
Lowest New Crop Seed Test	64	26	90	7	85	92
Highest Aged Seed Test	<b>99</b>	0	99	99	0	99

Producers ask about the longevity of Quick-N-Big® Crabgrass seed in the field , for volunteer management , since the seed does break dormancy relatively soon. Dalrymple Farms did a trial whereby seed laid in the swaths from 9, 40, 44, and to 78 days, and in a good summer with good rainfall distribution. The seed was not directly on the soil surface, but still subjected to many wet periods. End of trial germination was: 9 days (52 %), 40 days (77 % ), 44 days ( 95 % ) , and 78 days ( 77 % ). All acceptable for volunteer management considerations and all treatments also contained dormant seed. Dalrymple Farms always reports % germination and % dormant seed.

**All Crabgrass’s Are Relatively High Quality Summer Grasses** and this includes Quick-N-Big® Crabgrass and Red River Crabgrass. “High Quality” basically means it is of good nutrient content and palatable (very tasty ). Nutrients cover a wide span, but generally are % Crude Protein (CP), and % Total Digestible Nutrients (TDN). **Remember---% CP is “nothing” but dilution of nitrogen (N) supply, to over simplify a bit, but that is usually the case.** Dalrymple Farms always has forage testing done, and the 2014 results may be of interest and helpful.

All dryland fields received 55 lbs/ac. actual nitrogen in the early season. Our area rainfall is usually good enough to warrant much higher N rates, up to 150 lbs N / ac., but that was our amount for this season. The irrigated fields received 88 lbs/ac. actual N and under high production management, up to about 200 lbs of actual N could be used. In this information, Quick-N-Big® Crabgrass and Red River Crabgrass samples were averaged together. The samples were taken from and grouped into different situations which are explained below.

**Crabgrass during summer grazing averaged 17.6 % CP and 60.4 % TDN**, with a range of 12.1 % CP to 25.6 % CP, and 57.0 % TDN to 75.2 % TDN. That range includes the lush stages to the near mature stages.

**Almost all hay comes from behind the combine** in our seed harvest fields. No doubt , some leaf quality is lost , but the hay is still very good, highly palatable, and very popular and in high demand, with regional cattle producers and horse owners. This hay averaged 14.2 % CP and 56.7% TDN, with a range of 8.1 % CP to 18.8 % CP , and a range of 52.5 % TDN to 63.1 % TDN. No doubt , this hay behind the combine is lower in TDN than it would be as virgin cut, but livestock eat it extremely well and there are no feeding problems.

**Hay from irrigated Quick-N-Big ®Crabgrass was harvested directly for hay**, because it had some annual grasses invade that limited its use for farm seed production. This hay was **very lush**, high visual quality hay that was **24.8 % CP and 70.9 % TDN**. This hay is much more typical of the quality possible from well managed crabgrass hays harvested only for hay.



Fields of second growth (re-growth) crabgrass, adding to leftover stubble, and without additional N fertilizer application were used as **stockpiled Crabgrass** for **back-grounding stocker cattle for fall wheat pasture grazing**. Early grazing during late summer contained much green leaf, but grazing in October to early November was basically dry, brown stockpile. This stockpile forage averaged 10.1 % CP and 54.7 % TDN, with a range of 7.2 % CP to 14.7 % CP, and a range of 52.3 % TDN to 57.1 % TDN. This was an excellent use of the crabgrass fall stockpile and it being adequate for backgrounding calves to go to wheat pasture later. Some supplemental feeding was done near the end of this grazing.

It was mentioned before that **Quick-N-Big® Crabgrass early volunteer** from June to fall can contribute to the forage yield and quality. This volunteer averaged 16.9 % CP and 60.2 % TDN, with a range of 7.6 % CP to 23.9 % CP, and a range of 45.3 % TDN to 76.3 % TDN. Overall, a very good graze for midsummer to fall, and an excellent addition for grazing calves to fall wheat pasture in November.

**Managing Stocker Cattle For Upper Level Gains** on Quick-N-Big® Crabgrass and Red River Crabgrass is **basically a matter of providing unlimited pasture amounts of high quality pasture**. Unlimited means basically pasture that is essentially as thick as very good wheat pasture, or something comparable, and from a minimum of 3 to 6 inches tall and up to about 18 inches tall in a rotation grazing system.

This is mindful of a grazing demonstration at Noble Foundation during R. L.'s days there in the 1990's. The pasture was excellent Red River Crabgrass, but variety is not important here **as is technique**. It was a **4-Paddock system, with two herds**: **First Grazers** were crossbred steers managed for top gain, and **Second grazers** were replacement heifers managed to eat leftovers from the First Grazers. **First Grazers got the first and best of all the crabgrass**. The grass volume was managed much as outlined in the above paragraph. There was abundant grass for the First Grazers and **up to belly deep** on the steers at start of First Grazer grazing. First grazers grazed the high quality abundant crabgrass down to about a 6 to 8 inch stubble, a little more or a little less. Then the Second Grazers followed and completed the utilization to leave a stubble of about 3 inches, more or less. This was continued for near 3 months. **Overall average daily gain (ADG) from the First Grazer steers was 2.75 lbs/day**. That is not a misprint. One really good crossbred steer had a 3.57 lb ADG. We nick named him "Hero". The replacement heifers gain was 0.77 ADG. Perhaps a little low, but still acceptable for the heifers purpose. They could have been supplemented. there are other ways to use the Second Grazer leftover crabgrass.

**Planting Quick-N-Big® Crabgrass and Red River Crabgrass in a broadcast fertilizer mixture** is a real option for nearly everyone. Mistakes and failures occur. Dalrymple Farms has done this many times with very good success. Following is the farms procedure and it is provided in the hope that it will help others. First, always plant on the best seedbed that the land and the producer can make. **A clean, fine, smooth, and freshly finished seedbed** is best, but do the best possible with the land at hand. However, the technique is useful in over seeding for forage mixtures and double-cropping, too. **Dalrymple Farms mixes the seed to be planted per acre into 150 pounds of bulk weight fertilizer using fertilizer the land and crop need per acre basis for a 40 foot swath pattern**. Dalrymple Farms plants 3 to 5 lbs seed per acre. Some fertilizer suppliers will mix the seed with fertilizer in the mixer "tub". This is best. Other dealers refuse. Others will allow Dalrymple Farms to dribble the seed onto the fertilizer on the conveyor belt as the fertilizer goes into the spreader hopper. The seed is always totally ready at the conveyor location, sack open or seed in



5 gallon buckets and ready to pour onto the fertilizer on the conveyer belt. This is really a 3 man operation. One understanding and cooperative man at the fertilizer supply equipment , one man helping keep the seed supply ready and to the third man , and one man carefully and gauging and pouring the seed onto the conveyer belt on top on the fertilizer. In this method, the seed mixes going onto the fertilizer on the conveyer, it mixes as it dumps into the spreader hopper, and it mixes as it goes out the fertilizer spreader . We get very uniform stands. **This is very important: With the mix as above, Dalrymple Farms sets the spreader on 75 lbs/ac basis and drives to take a 20 foot pattern.** In that way, the seed spread covers very uniform, the fertilizer is double spread because of the 20 foot pattern , and not the usual 40 foot pattern. That setting, and method gets the 150 lbs / ac fertilizer rate. After broadcasting the seed-fertilizer mixture, the field is then rolled or packed with a homemade roller or a real cultipacker with out the teeth down. Without the roller tools, the field should be left alone for the rains and maybe livestock to help finish the planting. Commercial dealers can do this, too, but it is very difficult to get them to take a 20 foot pattern in our efforts. **The 20 foot pattern is crucial.** With anything over a 20 foot pattern, there will be bare strips. Good luck!

In summary, R. L.'s ( of Dalrymple Farms) right hand selected the first seed off the Mother Plants that made both Red River Crabgrass and Quick-N-Big® Crabgrass. No brag—just the way it was. Both varieties are very good crabgrass's, with different characteristics. It is Dalrymple Farms hope that this information summary will be helpful in choosing and managing these crabgrass's. It is our hope that everyone who reads this Fact Sheet, will get at least 1 good thing from it.