



Wonderleaf Millet left | Exceed BMR Dwarf Millet right

PRODUCT HIGHLIGHTS

NEW!

MILLETS

With a drier stalk, millet is one of the easier summer annuals to use for a mult-cut dry hay system, although it is also excellent in a grazing or wet hay system. When placing millets on the farm, remember that most are extremely useful in their range of adaptability – we would argue that range is even broader than sorghums or sorghum-sudans (the trade-off is a slightly reduced yield potential, however). Despite their tolerance of the hot, dry conditions of peak summer, millets can do well in wetter, more acidic soils than their sorghum counterparts can tolerate. Millets have the major advantage that they currently have no susceptibility to sugarcane aphid. They also don't produce any Prussic acid with frost as crops in the sorghum family do. Millet is easily adapted for horses, as well.

Our first encounters with dwarf millets began with the introduction of Exceed BMR hybrid

pearl millet in 2015. The shorter stature, leaf density, and high tillering and regrowth capacity gave Exceed exceptional recovery in a grazing context. This, coupled with its BMR background (the brown midrib is a visual marker of a gene mutation for lower plant lignin content), led to top-notch digestibility and quality analysis.

The greater proportion of leaves on these dwarf millets is also an advantage for more rapid drydown, as leaves dry faster than stems.

Armed with this knowledge of Exceed's background and performance, we are thrilled to introduce two new dwarf BMR millets with Exceed genetics in their parentage:

PRIME 180 BMR Hybrid Pearl Millet

A compact and leafy digestible forage hybrid for grazing. Disease resistance is excellent, along with good staygreen.

PRIME 360 BMR Hybrid Pearl Millet

Very similar to Prime 180M. Also a very leafy, digestible hybrid that will be slightly taller at maturity. Disease resistance, regrowth, and tillering are all impressive.

We expect that both of these dwarf BMR millets will both build on and be a step up from Exceed, improving on these already high-end genetics.



SORGHUMS

The KingFisher guarantee

The reputable KingFisher



brand, backed jointly by King's and Southeast AgriSeeds and Byrons Seeds has picked up two new proven BMR products – a dry stalk sorghum-sudan and a late-season dwarf forage sorghum.

KF SugarPro 55SS Sorghum Sudan

A dry stalk BMR sorghum sudan with superior yield and regrowth. Will replace Sweet Six for 2018. Very quick growing and high yielding, 1-4 cuttings may be possible. The dry stalk characteristic makes drydown more efficient, and the BMR background lowers lignin content and improves feeding quality.

KF FiberPro 70FS Forage Sorghum

A full season dwarf BMR forage sorghum. Lower lignin content with the BMR genetic background means greatly improved fiber digestibility. 110-115 days to soft dough. Will replace Silo Pro for 2018. Standability is excellent, as it will not get taller than 6-7 feet, and the short stature guarantees more leafiness for the amount of stem biomass. Inputs are 1/3 lower than corn. This hybrid needs to be planted in the late spring or early summer to reach full maturity (soft dough stage) in most regions. Be sure to wait until soils are at least 65 degrees F before planting.



SUMMER ANNUALS



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WHY SUMMER ANNUALS?

Summer annual forages produce the most biomass for their growth window. In the space of 60-90 days, summer annuals give the opportunity for 1-3 substantial cuts or grazings of high energy, often dairy-quality forage. In rotational windows where corn is a tight fit, these flexible options can set up a double or triple crop system, leaving you time to rotate into a winter annual small grain or even a late summer oats planting.

WARM SEASON GRASSES

(Non corn options)

Forage sorghum, sudangrass, sorghum-sudan, millet, teff, improved crabgrass

WARM SEASON LEGUMES

Berseem Clover, Cowpeas, Sunn Hemp (cover crop only)

BROADLEAVES AND BEYOND

Brassicas, buckwheat, grain sorghum, sunflowers, multi-species mixes

WHAT TO KNOW

Always make seeding adjustments with the weather. Temperature and moisture considerations are key. Most summer annual seeds won't germinate if soil temperatures are below 65 degrees F (corn is an exception). Avoid planting into dry soil conditions if possible. Planting into moisture is highly encouraged. Smaller seeds are harder to get into moisture since they require shallow seeding depth.

Summer annuals perform well in the drier hot season. As break crops, they can disrupt disease and insect cycles, in preparation for lower cost "conventional crops" to follow.

Many of these crops are high in sugar and

other nutrients and very effective at growing rumen bug populations, are in the mid protein range, and can produce milk and ADG in young stock or beef cattle.

Harvest timing is critical. Depending on species and use (cover crop or forage for various classes of livestock), most are taken fairly early in their growth, prior to the reproductive stage. An exception is forage sorghum, which is often direct cut after starch begins to form in the soft dough stage.

Grazing: Summer annuals help boost pasture productivity during the period of cool season grass slump. Rotational or strip grazing is the most cost-effective way to manage summer annual forage. Sudangrass and millet have the best regrowth, but sorghum-sudan and even forage sorghums can be grazed. Crabgrass is also an excellent summer pasture crop that readily reseeds itself and volunteers the following year. Many summer cover crops like Ray's Crazy Mix or Summer Feast are also popular for grazing.

Select appropriate species to grow for your needed outcome. Each farm, each year, this might be different, whether this means a forage, cover/smother crop, high energy, low starch corn silage replacement, hay crop silage extender/replacement, etc.

Correct seeding depth for seed size can make or break the crop. Improper seed depth is a common mistake!

- Tiny seeds like brassica and teff should be seeded practically on the soil surface, 0-.25"
- Forage sorghum – 1.5" deep
- Millets and sudangrass – only 0.5 – 0.75" deep

When to seed: Soil should be 65 degrees at 1.5 inches deep at 7 AM, with a continued warming trend forecasted. Seed into moisture. Many of these are like soybeans – if they get

enough moisture to swell but not to germinate, they will die. Do not wait too long to plant so it will have the heat units needed to mature.

Concerns: Prussic acid is a concern with sorghum and sudangrass products (but not millets). Never harvest and feed immediately after a frost or big rain event following a droughty period. 18 inches of growth is the preferred minimum height for grazing. If you harvest for ensilage immediately after a frost, allow 30 days for a full fermentation process and for cyanide to "gas off" before feeding.

Many of these are 30-50% more efficient in water use than corn, and the fertility requirements are also less. Forage sorghum will only need about 100-125 units of N; sudangrass takes 30-50 units per harvest. Soil testing and providing a balance of fertilizer based on the tests is recommended. Micronutrients can also be tested for and applied as necessary. Test the resulting forage and consult your nutritionist for the best results in feeding any of the products.



THE IMPORTANCE OF BMR

BMR is a gene mutation that reduces lignin content and improves whole plant fiber digestibility.

Conventionally bred into summer annuals – corn, pearl millets, sorghum products.

BMRs do have some drawbacks, but these have

been managed with better genetics and handling in the field. Lignin content can mean reduced standability, which has been addressed by breeding for dwarf structure.

Brachytic dwarf plants are shorter and leafier, so they have more leaf material in proportion to stalk tissue – a bonus for both field performance and fiber digestibility. Plus, with more plant material per inch of height, they can rival traditional taller sorghums for yield. (Lowering nitrogen applications and seeding rates can also help alleviate standability issues).

Yield drag is another concern that sometimes afflicts BMR products. Our trials generally show slightly higher yields for non-BMR forage sorghums and sorghum-sudans, as well as superior and rapid regrowth. But looking closer at the nutritional data makes us question the edge these standard products truly provide. NDFd and TTNDFD are often several points higher for the BMR products, and each percentage point increase in NDFd is linked to an average 0.55 lb increase in milk production per cow/day. It's also linked to a 0.37 lb increase in feed intake/cow/day.

BMR sorghum products and millets can also fit nicely into a rotation where corn would struggle. Since they need to be planted later, in warmer soil temperature, the timeline for harvesting a double crop small grain is more generous. The bonus is that the sorghums handle hotter, drier conditions that might knock corn yield back.

With their lower lignin content, BMR products also generally have improved palatability, so cows eat more of the stem and leave less leaf litter on the ground.

BMR is a good indicator but not a guarantee of better quality. The nutritional advantage still varies by variety, and is of course heavily dependent on proper management.