



2024 **SORGHUM** GUIDE

Alta
seeds™
by ADVANTA

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A CUTTING-EDGE, CLIMATE-SMART SUPER CROP

Sorghum is a versatile crop that can be grown as a grain, forage or sweet crop. It was originally domesticated in Africa and has since spread throughout the globe to be one of the top five cereals in the world.

- » **The “new super grain”** Sorghum is an incredible nutrient source and is a non-GMO gluten-free cereal.
- » **Nutrition for animals** Sorghum is used in the beef, swine, dairy and poultry industries, as well as an ingredient in pet food. Due to its high nutritional value, starch and good tolerance to mycotoxins, sorghum offers a safeguard for animal nutrition.
- » **Bioenergy** Sorghum, rich in fiber, is used in the production of biofuel, biogas and ethanol.
- » **Biomaterials** Sorghum is an excellent fibrous raw material to produce industrial pulp that is used for biomass-based materials like bio-plastic and paper.

Sorghum is one the most efficient crops in conversion of solar energy and use of water, and is known as a high-energy, drought-tolerant, resource-conserving grain.



Efficient water use Thanks to its CO₂ absorption mechanism and complex root system, sorghum extracts and uses water and nutrients from the soil more efficiently than other crops. It can adapt to heat and drought, requiring 30% less water than other grains.



Limited fertilization Sorghum can use fertilizers from the soil efficiently, requiring no additional fertilization. In addition, it is rarely exposed to diseases and pests so requires little phytosanitary treatment.



Improved soil health Sorghum increases organic matter, recycles nutrients, captures and retains moisture and reduces soil erosion.



Reduced carbon footprint Sorghum no-tillage practices and nitrogen-use efficiency help to reduce the carbon footprint. Sorghum's high sequestration ability helps remove harmful carbon from the atmosphere.

HYBRIDS FOR EVERY ENVIRONMENT AND OPERATION

AT ALTA SEEDS, WE DON'T JUST
PROVIDE QUALITY HYBRIDS.
WE PROVIDE INNOVATIVE SOLUTIONS.

Our carefully developed, high-performing hybrids are designed to meet your individual challenges. From the full lineup of grain and forage sorghum to sorghum-sudangrass, sudangrass and pearl millet, our portfolio offers top-producing seeds with cutting-edge characteristics — all to enhance and streamline your operation from planting to harvest.

In the groundbreaking Global Biotechnology Center in Texas and across the world, our breeders are setting the standards for herbicide tolerance, seed treatments and aphid, drought and other stress tolerance while developing new solutions to tackle tough challenges on the farm. Our global pipeline allows us to more efficiently meet your needs, and our expansive team of sorghum experts is always at the ready to offer assistance and help you make the best choices for your acreage and environment.

With a wide range of products to suit the needs of a variety of growers, Alta Seeds can help you realize the full potential of your sorghum acres. **igrowth[®]**, the world's first commercially available herbicide-tolerant non-GMO technology specifically designed for grain sorghum, is designed to pair with the powerful companion herbicide **IMIFLEX[™]** from UPL to allow your crop to flourish. We also offer **Aphix[™]** elite sugarcane aphid tolerance, **Vertix[™]** seed treatments and a line of top-performing hybrids with the **EMPYR[™] Premiere Forages** that include the world's first herbicide-tolerant forage sorghum, **EMPYR ADV F8484IG**.

Regardless of your needs, our products offer an array of traits that give you the flexibility to choose just the variety to suit your growing environment — and make the most of your seed investment.

EVER-ADVANCING PERFORMANCE

BECAUSE AGRICULTURE
IS CONSTANTLY CHANGING,
ALTA SEEDS IS
CONSTANTLY INNOVATING.

We are always working to develop and introduce new grain hybrids with trial-topping yields, outstanding yield for maturity and excellent uniformity so you can be sure your crop will perform at the highest standard. Choose hybrids with traits ranging from drought tolerance, improved seedling vigor and enhanced standability to suit even the toughest growing conditions. And with options like **Aphix** elite sugarcane aphid tolerance, **Vertix** seed treatments and **igrowth** herbicide tolerance, you have even more opportunity to select from top seed hybrids that will give you growth, flexibility and convenience while preventing crop losses.





TAKE WEED CONTROL TO THE NEXT LEVEL

igrowth is the first commercially available non-GMO, herbicide-tolerant innovation for grain sorghum in the world. The technology allows for pre-emergent or post-emergent control of broadleaf and grass weeds without causing damage to the crop, helping growers improve crop production and achieve better returns on their investments. The **igrowth** companion herbicide from UPL called **IMIFLEX™** (imazamox) is the only imazamox herbicide registered for use with **igrowth**. In 2021, Alta Seeds introduced **EMPYR ADV F8484IG**, the first herbicide-tolerant forage commercially available in the U.S.

Advanta Seeds was the first to discover the technology in 2007, and since then, **igrowth** has been successfully introduced in Argentina, Australia and multiple other countries. Through its premium seed brand Alta Seeds, the company was the first to commercialize herbicide-tolerant sorghum in the United States.

igrowth Geography

To provide flexibility for growers, our **igrowth** hybrids are well-adapted to the the broad U.S. sorghum growing areas. While additional hybrids are in development, the grain sorghum **igrowth** varieties we currently offer provide weed control benefits that will appeal to growers of both high- and low-input acres. To determine which are best suited for your area, refer to the hybrid overviews in this guide.

Non-GMO

To ensure **igrowth** is a non-GMO product, there was no DNA insertion from other species or plants into the sorghum genome. As it is a naturally occurring tolerance that was discovered by screening many lines of germplasm, **igrowth** has earned global market acceptance without export or other restrictions.

Purchasing igrowth

Growers wanting to purchase **igrowth** seed for the upcoming growing season will need to register and sign the **igrowth** WEED CONTROL SORGHUM GROWER AGREEMENT at **AgCelerate.com**. After signing, visit **SorghumPotential.com** for guidance on purchasing **igrowth** and **IMIFLEX herbicide** for your operation. Alta Seeds will provide registered **igrowth** users with additional stewardship documents in the future.





igrowth HYBRID SUMMARY

Meet the **igrowth** lineup of non-GMO, herbicide-tolerant grain sorghum hybrids. Each hybrid offers outstanding flexibility and weed control benefits for growers. These hybrids are well-adapted to broad sorghum growing areas in the U.S., so you can rest assured you'll get the most out of your investment no matter what the growing conditions.



TRAIT RATINGS SCALE 1 = EXCELLENT 10 = POOR

CHARACTERISTIC RATINGS KEY

M/E = Medium Early
M/L = Medium Late
MED = Medium
S/O = Semi-Open
S/C = Semi-Compact

CROP USE & ADAPTATION KEY

HS = Highly Suitable
S = Suitable
X = Poor Suitability
MA = Manage Appropriately
HT = High Tolerance
MT = Medium Tolerance

| | Relative Maturity | Yield for Maturity | Grain Color | Head Type | Approx Seeds per Bag | Plant Height | Head Exertion | Plant Uniformity | Plant Color |
|--------------------|-------------------|--------------------|-------------|-----------|----------------------|--------------|---------------|------------------|-------------|
| ADV G1120IG | M/E | 2 | RED | S/C | 600K | 45-55" | 3 | 2 | RED |
| ADV G2168IG | M/E | 2 | RED | S/C | 600K | 38-44" | 1 | 2 | PPL |
| ADV G2193IG | MED | 2 | RED | S/O | 600K | 40-48" | 1 | 2 | PPL |

| Seedling Vigor | Root Lodging | Drought Tolerance | Test Weight | Threshability | Sugarcane Aphid* | Tough Dryland | High Yield Dryland | Limited Irrigation | Full Irrigation | Early Planting/ Cold Soils | Poorly Drained Soils | No-Till |
|----------------|--------------|-------------------|-------------|---------------|---------------------------|---------------|--------------------|--------------------|-----------------|-------------------------------|----------------------|---------|
| 2 | 3 | 2 | 2 | 2 | MT | HS | S | HS | S | MA | MA | HS |
| 3 | 3 | 3 | 2 | 2 | HT <small>Aphi</small> | HS | HS | HS | S | MA | MA | HS |
| 3 | 3 | 3 | 2 | 2 | HT <small>Aphi</small> | S | HS | HS | S | MA | MA | HS |



ADV

G11201G

MEDIUM-EARLY RED GRAIN SORGHUM

CHARACTERISTICS

MEDIUM-EARLY RELATIVE MATURITY
600,000 SEEDS/BAG
RED GRAIN COLOR
SEMI-COMPACT HEAD TYPE
45-55" PLANT HEIGHT
RED PLANT COLOR

- » Drought-hardy producer
- » Great head exertion for efficient harvest
- » Responds to rainfall and irrigation
- » Travels into western environments

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | |
|--------------------|---|
| YIELD FOR MATURITY | 2 |
| HEAD EXERTION | 3 |
| PLANT UNIFORMITY | 2 |
| SEEDLING VIGOR | 2 |
| ROOT LODGING | 3 |
| DROUGHT TOLERANCE | 2 |
| TEST WEIGHT | 2 |
| THRESHABILITY | 2 |

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.



FIELD POSITIONING

| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
|-------------------------------|--------------------|----------------------|-----------------|
| Hs | S | Hs | S |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID |
| Ma | Hs | Ma | Mt |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
 Ht = High Tolerance Mt = Medium Tolerance



ADV

G21931G

MEDIUM RED GRAIN SORGHUM

CHARACTERISTICS

MEDIUM
600,000
RED
SEMI-OPEN
40-48"
PURPLE

RELATIVE MATURITY
SEEDS/BAG
GRAIN COLOR
HEAD TYPE
PLANT HEIGHT
PLANT COLOR

- » Good aphid tolerance
- » Strong yield performance
- » Ideal for rainfed production
- » Strong disease ratings
- » Good uniformity
- » Aphix-level elite sugarcane aphid tolerance

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | |
|--------------------|---|
| YIELD FOR MATURITY | 2 |
| HEAD EXERTION | 1 |
| PLANT UNIFORMITY | 2 |
| SEEDLING VIGOR | 3 |
| ROOT LODGING | 3 |
| DROUGHT TOLERANCE | 3 |
| TEST WEIGHT | 2 |
| THRESHABILITY | 2 |

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.



FIELD POSITIONING

| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
|-------------------------------|--------------------|----------------------|------------------------|
| S | Hs | S | Hs |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID |
| Ma | Hs | Ma | aphix SCA Tolerance |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
Ht = High Tolerance Mt = Medium Tolerance

MORE SORGHUM, FEWER WEEDS



Sorghum growers now have an easy way to get the most value from their sorghum acres. IMIFLEX™ herbicide is the only IMI herbicide certified for use in the innovative, non-GMO **igrowth® sorghum production system**. Broad-spectrum and residual IMIFLEX herbicide controls even the toughest grass and broadleaf weeds in **igrowth** sorghum, helping realize the full potential of your sorghum acres. IMIFLEX herbicide is also flexible, as it can be used pre- or post-emergence in conservation and in conventional tillage production systems.

IMIFLEX Herbicide Product Benefits

- » Broad-spectrum systemic herbicide for use in sorghum containing the Alta Seeds **igrowth** tolerance technology.
- » Excellent crop safety with **igrowth** sorghum.
- » Consistent performance across geographical regions.
- » Flexible application timing can be used pre- or post-emergence.
- » Long-lasting control of hard-to-kill grassy weeds including Texas panicum, crabgrass and foxtail.
- » Compatibility with traditional sorghum herbicide programs.

GRAIN SORGHUM HYBRID SUMMARY

Alta Seeds offers several Aphix grain sorghum hybrids with high tolerance to sugarcane aphids.* These hybrids offer outstanding performance with the added confidence of proven pest tolerance. Select from hybrids with top yield potential, drought tolerance, excellent standability and seed treatment options to meet your needs.

*Sugarcane aphid tolerance rating conducted by the Agricultural Research Division of the USDA.

TRAIT RATINGS SCALE 1 = EXCELLENT 10 = POOR

CHARACTERISTIC RATINGS KEY

M/E = Medium Early
M/L = Medium Late
MED = Medium
S/O = Semi-Open
S/C = Semi-Compact
E = Early

CROP USE & ADAPTATION KEY

HS = Highly Suitable
S = Suitable
X = Poor Suitability
MA = Manage Appropriately
HT = High Tolerance
MT = Medium Tolerance

| HYBRID | Relative Maturity | Yield for Maturity | Grain Color | Head Type | Approx Seeds/Lb 1,000 | Plant Height | Head Exertion | Plant Uniformity | Plant Color | Seedling Vigor | Root Lodging | Drought Tolerance |
|---|-------------------|--------------------|-------------|-----------|-----------------------|--------------|---------------|------------------|-------------|----------------|--------------|-------------------|
| ADV G1329  | E | 1 | CRM | S/O | 14-16 | 30-36" | 2 | 1 | RED | 3 | 1 | 1 |
| AG1101 | E | 3 | BRZ | S/O | 13-15 | 28-34" | 4 | 2 | RED | 3 | 1 | 1 |
| AG1201  | E | 2 | BRZ | S/O | 13-15 | 30-36" | 4 | 2 | RED | 3 | 2 | 1 |
| AG1203  | M/E | 1 | BRZ | S/O | 12-14 | 34-40" | 3 | - | RED | 2 | 2 | 2 |
| AG1301  | M/E | 2 | CRM | S/C | 17-18 | 40-46" | 3 | 1 | RED | 1 | 1 | 1 |
| ADV G2106 | MED | 1 | RED | S/O | 12-14 | 44-48" | 1 | 2 | PPL | 1 | 2 | 2 |
| ADV G2165  | MED | 1 | RED | OPEN | 14-16 | 38-46" | 2 | 1 | PPL | 2 | 1 | 2 |
| ADV G3127 | M/L | 1 | RED | S/O | 13-15 | 38-47" | 3 | 3 | PPL | 2 | 1 | 2 |

| Test Weight | Thresholdability | Charcoal Rot | Downy Mildew Race 3 | Head Smut | MDMV | Sugarcane Aphid* SCA | Tough Dryland | High Yield Dryland | Limited Irrigation | Full Irrigation | Early Planting/Cold Soils | Poorly Drained Soils | Anthraxnose Prone Areas | Downy Mildew Area | Head Smut-Prone Area | No-Till |
|-------------|------------------|--------------|---------------------|-----------|------|----------------------|---------------|--------------------|--------------------|-----------------|---------------------------|----------------------|-------------------------|-------------------|----------------------|---------|
| 2 | 2 | - | 5 | - | - | HT | HS | HS | HS | S | S | S | S | MA | MA | HS |
| 4 | 2 | - | - | - | - | MA | HS | S | S | S | X | S | - | - | - | S |
| 4 | 2 | 4 | 6 | 4 | 5 | HT | HS | S | S | S | X | S | S | X | MA | S |
| 2 | 2 | - | - | - | - | HT | HS | HS | HS | HS | S | S | - | - | - | S |
| 3 | 3 | - | - | - | - | HT | HS | HS | HS | S | X | S | - | - | - | MA |
| 3 | 2 | 4 | 5 | 4 | 4 | MT | S | HS | HS | S | S | S | HS | - | - | S |
| 1 | 1 | - | - | - | - | HT | S | HS | HS | HS | S | MA | - | - | - | S |
| 2 | 1 | - | - | - | - | MT | MA | HS | HS | HS | S | MA | - | - | - | HS |



ADV

G1329

EARLY CREAM GRAIN SORGHUM

CHARACTERISTICS

EARLY 14-16
 CREAM SEMI-OPEN 30-36"
 RED

RELATIVE MATURITY SEEDS/LB (1,000)
 CHECK SEED BAG

GRAIN COLOR
 HEAD TYPE
 PLANT HEIGHT
 PLANT COLOR

- » Very uniform with excellent standability
- » Performs well in dryland conditions
- » Performs well in high pH soils
- » Drought tolerant
- » Sugarcane aphid tolerance

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | |
|-----------------------|---|
| YIELD FOR MATURITY | 1 |
| HEAD EXERTION | 2 |
| PLANT UNIFORMITY | 1 |
| SEEDLING VIGOR | 3 |
| ROOT LODGING | 1 |
| DROUGHT TOLERANCE | 1 |
| TEST WEIGHT | 2 |
| THRESHABILITY | 2 |
| DOWNY MILDEW (RACE 3) | 5 |



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | | | | | | | | |
|---------------|----|----------------------|----|------------------------|----|-------------------|----|------------------------------|----|-----------------|----|
| TOUGH DRYLAND | Hs | HIGH YIELD DRYLAND | Hs | LIMITED IRRIGATION | Hs | FULL IRRIGATION | S | HIGH PH SOILS IRON CHLOROSIS | Hs | EARLY PLANTING | S |
| NO-TILL | Hs | POORLY DRAINED SOILS | S | ANTHRACNOSE PRONE AREA | S | DOWNY MILDEW AREA | Ma | HEAD SMUT PRONE AREA | Ma | SUGARCANE APHID | Ht |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
 Ht = High Tolerance Mt = Medium Tolerance



AG1101

EARLIEST BRONZE GRAIN SORGHUM

CHARACTERISTICS

EARLY
13-15

BRONZE
SEMI-OPEN
28-34"
RED

RELATIVE MATURITY
SEEDS/LB (1,000)
CHECK SEED BAG

GRAIN COLOR
HEAD TYPE
PLANT HEIGHT
PLANT COLOR

- » Excellent yield for maturity
- » Very uniform
- » Strong drought tolerance
- » Excellent for areas needing early maturity or for double cropping situations
- » Intense bronze-colored grain

RATINGS



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | | | | |
|-------------------------------|----|--------------------|---|----------------------|---|------------------|----|
| TOUGH DRYLAND | Hs | HIGH YIELD DRYLAND | S | LIMITED IRRIGATION | S | FULL IRRIGATION | S |
| EARLY PLANTING/ COLD SOILS | X | NO-TILL | S | POORLY DRAINED SOILS | S | SUGARCANE APHID* | Ma |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
Ht = High Tolerance Mt = Medium Tolerance



AG1201

EARLY BRONZE GRAIN SORGHUM

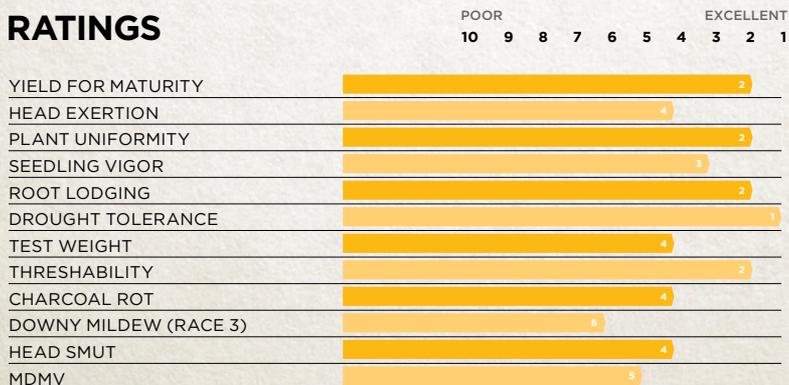
CHARACTERISTICS

EARLY 13-15
BRONZE SEMI-OPEN 30-36"
RED

RELATIVE MATURITY SEEDS/LB (1,000)
CHECK SEED BAG
GRAIN COLOR
HEAD TYPE
PLANT HEIGHT
PLANT COLOR

- » Very uniform
- » Excellent yield for maturity
- » Strong drought tolerance
- » Adaptable across a wide range of growing conditions
- » Aphix-level sugarcane aphid tolerance

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | | |
|----------------------|------------------------|----------------------------|----------------------|---------------------------|---------|
| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | EARLY PLANTING/COLD SOILS | NO-TILL |
| Hs | S | S | S | X | S |
| POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | DOWNY MILDEW (RACE 3) AREA | HEAD SMUT PRONE AREA | SUGARCANE APHID* | |
| S | S | X | Ma | Ht | |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
Ht = High Tolerance Mt = Medium Tolerance



AG1203

MEDIUM-EARLY BRONZE GRAIN SORGHUM

CHARACTERISTICS

MEDIUM-EARLY RELATIVE MATURITY
12-14 SEEDS/LB (1,000)
CHECK SEED BAG

BRONZE GRAIN COLOR
SEMI-OPEN HEAD TYPE
34-40" PLANT HEIGHT
RED PLANT COLOR

- » Outstanding yield for maturity
- » Excellent drought tolerance and dryland option
- » Widely adaptable
- » Sugarcane aphid tolerance



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

■ PRIMARY AREA OF ADAPTATION

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | | | | | | | | | | |
|--------------------|----|---|---|---|---|---|---|---|---|---|
| YIELD FOR MATURITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| HEAD EXERTION | | | | | | | | | 3 | |
| SEEDLING VIGOR | | | | | | | | | 2 | |
| ROOT LODGING | | | | | | | | | 2 | |
| DROUGHT TOLERANCE | | | | | | | | | 2 | |
| TEST WEIGHT | | | | | | | | | 2 | |
| THRESHABILITY | | | | | | | | | 2 | |

| | | | |
|-----------------------------------|---------------------------|-----------------------------|-------------------------|
| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | Hs | Hs |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID* |
| S | S | S | Ht |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
Ht = High Tolerance Mt = Medium Tolerance



AG1301

MEDIUM-EARLY CREAM GRAIN SORGHUM

CHARACTERISTICS

MEDIUM-EARLY **RELATIVE MATURITY**
 17-18 **SEEDS/LB (1,000)**
 CHECK SEED BAG

CREAM **GRAIN COLOR**
SEMI-COMPACT **HEAD TYPE**
 40-46" **PLANT HEIGHT**
 RED **PLANT COLOR**

- » Performs well in dryland conditions and responds very favorably to irrigation
- » Excellent staygreen
- » Very good plant uniformity
- » Widely adaptable
- » Elite sugarcane aphid tolerance

RATINGS

POOR EXCELLENT
 10 9 8 7 6 5 4 3 2 1

| | |
|--------------------|---|
| YIELD FOR MATURITY | 2 |
| HEAD EXERTION | 3 |
| PLANT UNIFORMITY | 1 |
| SEEDLING VIGOR | 1 |
| ROOT LODGING | 1 |
| DROUGHT TOLERANCE | 2 |
| TEST WEIGHT | 2 |
| THRESHABILITY | 2 |

Based on Alta Seeds research trials relative to other Alta Seeds products.



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|-----------------------------------|---------------------------|-----------------------------|-------------------------|
| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | Hs | S |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID* |
| X | S | S | Ht |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability
 Ht = High Tolerance Mt = Medium Tolerance



ADV

G2106

VIVID RED GRAIN SORGHUM

CHARACTERISTICS

MEDIUM
12-14
RED
SEMI-OPEN
44-48"
PURPLE

RELATIVE MATURITY
SEEDS/LB (1,000)
CHECK SEED BAG
GRAIN COLOR
HEAD TYPE
PLANT HEIGHT
PLANT COLOR

- » Good plant uniformity
- » Highly adaptable
- » Responds well to irrigation

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | |
|-----------------------|---|
| YIELD FOR MATURITY | 1 |
| HEAD EXERTION | 1 |
| PLANT UNIFORMITY | 2 |
| SEEDLING VIGOR | 1 |
| ROOT LODGING | 2 |
| DROUGHT TOLERANCE | 2 |
| TEST WEIGHT | 3 |
| THRESHABILITY | 2 |
| CHARCOAL ROT | 4 |
| DOWNY MILDEW (RACE 3) | 5 |
| HEAD SMUT | 4 |
| MDMV | 4 |

Based on Alta Seeds research trials relative to other Alta Seeds products.



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | |
|--------------------|-----------------------------|------------------------------|------------------------|------------------------------------|
| TOUGH DRYLAND S | HIGH YIELD IRRIGATION Hs | LIMITED IRRIGATION Hs | FULL IRRIGATION S | EARLY PLANTING/ COLD SOILS S |
| NO-TILL S | POORLY DRAINED SOILS S | ANTHRACNOSE PRONE AREA Hs | SUGARCANE APHID* Mt | |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately Ps = Poor Suitability
Ht = High Tolerance Mt = Medium Tolerance



ADV

G2165

MEDIUM RED GRAIN SORGHUM

CHARACTERISTICS

MEDIUM **RELATIVE MATURITY**
14-16 **SEEDS/LB (1,000)**
 CHECK SEED BAG

RED **GRAIN COLOR**
OPEN **HEAD TYPE**
38-46" **PLANT HEIGHT**
PURPLE **PLANT COLOR**

- » Strong agronomics blended with top-tier yield potential
- » Great disease package to handle a wide range of environments
- » Thrives in high-yield, rainfed environments

RATINGS

POOR EXCELLENT
 10 9 8 7 6 5 4 3 2 1

| | | | | | | | | | | |
|--------------------|----|---|---|---|---|---|---|---|---|---|
| YIELD FOR MATURITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| HEAD EXERTION | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| PLANT UNIFORMITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SEEDLING VIGOR | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| ROOT LODGING | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| DROUGHT TOLERANCE | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| TEST WEIGHT | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| THRESHABILITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|-----------------------------------|---------------------------|-----------------------------|-------------------------|
| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID* |
| S | S | Ma | Ht |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability
Ht = High Tolerance **Mt** = Medium Tolerance



ADV

G3127

MEDIUM-LATE RED GRAIN SORGHUM

CHARACTERISTICS

MEDIUM-LATE **RELATIVE MATURITY**
13-15 **SEEDS/LB (1,000)**
CHECK SEED BAG

RED **GRAIN COLOR**
SEMI-OPEN **HEAD TYPE**
38-47" **PLANT HEIGHT**
PURPLE **PLANT COLOR**

- » Big yield South Texas hybrid
- » Top standability and solid agronomics
- » Exceptional plant health and disease scores
- » Strong performance in highly productive, rainfed environments

RATINGS

POOR EXCELLENT
10 9 8 7 6 5 4 3 2 1

| | |
|--------------------|---|
| YIELD FOR MATURITY | 1 |
| HEAD EXERTION | 2 |
| PLANT UNIFORMITY | 3 |
| SEEDLING VIGOR | 2 |
| ROOT LODGING | 1 |
| DROUGHT TOLERANCE | 2 |
| TEST WEIGHT | 2 |
| THRESHABILITY | 1 |

Based on Alta Seeds research trials relative to other Alta Seeds products.



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|---------------------------------------|---------------------------|-----------------------------|-------------------------|
| TOUGH DRYLAND | HIGH YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Ma | Hs | Hs | Hs |
| EARLY PLANTING/ COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID* |
| S | Hs | Ma | Mt |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability
Ht = High Tolerance **Mt** = Medium Tolerance

Observed suitability and field-by-field positioning. *Tolerance confirmed in third-party testing conducted by the Agricultural Research Division of the USDA in Stillwater, OK.

Selection of grain sorghum hybrids begins with geography or field location and water resources. Growth and development is driven by heat unit accumulation; sorghum flowering shows little effect of heat up to 100 °F.

Yield potential can increase by 18–20% from early to medium and to late maturities. Planting date should be 2 weeks AFTER last average frost date IF the 5-day average soil temperatures are 60 °F at 2" depth. Check the last recommended planting date for grain sorghum in your area when determining the best maturity to fit your field and timing.

CONSIDERATIONS INCLUDE:

- » Relative maturity and days to half bloom based on your growing environment; our full line offers early maturing hybrids with mid bloom in 55 days or less to medium-late maturing with mid bloom expected at about 69 days.
- » Timing of water — peak water use is just prior to boot stage. When sharing irrigation water, consider minimizing the overlap of peak water demand for two crops.

PLANT STAND FOR SORGHUM BY SEEDS/POUND

| POPULATION SEEDS/LB | 30,000 | 40,000 | 50,000 | 60,000 | 70,000 | 80,000 |
|---------------------|--------|--------|--------|--------|--------|--------|
| 11,000 | 2.7 | 3.8 | 4.6 | 5.5 | 6.4 | 7.3 |
| 11,500 | 2.6 | 3.6 | 4.4 | 5.2 | 6.1 | 7.0 |
| 12,000 | 2.5 | 3.3 | 4.2 | 5.0 | 5.8 | 6.7 |
| 12,500 | 2.4 | 3.2 | 4.0 | 4.8 | 5.6 | 6.4 |
| 13,000 | 2.3 | 3.1 | 3.9 | 4.6 | 5.4 | 6.2 |
| 13,500 | 2.2 | 3.0 | 3.7 | 4.4 | 5.2 | 5.9 |
| 14,000 | 2.1 | 2.8 | 3.6 | 4.3 | 5.0 | 5.7 |
| 14,500 | 2.0 | 2.7 | 3.5 | 4.1 | 4.8 | 5.5 |
| 15,000 | 2.0 | 2.6 | 3.4 | 4.0 | 4.7 | 5.3 |
| 15,500 | 1.9 | 2.6 | 3.3 | 3.9 | 4.5 | 5.2 |
| 16,000 | 1.9 | 2.5 | 3.2 | 3.8 | 4.4 | 5.0 |
| 16,500 | 1.8 | 2.4 | 3.1 | 3.6 | 4.2 | 4.8 |
| 17,000 | 1.7 | 2.3 | 3.0 | 3.5 | 4.1 | 4.7 |
| 17,500 | 1.6 | 2.1 | 2.8 | 3.2 | 3.8 | 4.3 |
| 18,000 | 1.5 | 2.0 | 2.7 | 3.1 | 3.6 | 4.1 |
| 18,500 | 1.4 | 1.9 | 2.5 | 2.9 | 3.4 | 3.9 |
| 19,000 | 1.4 | 1.7 | 2.4 | 2.8 | 3.2 | 3.7 |
| 19,500 | 1.3 | 1.6 | 2.3 | 2.6 | 3.0 | 3.5 |
| 20,000 | 1.2 | 1.5 | 2.1 | 2.4 | 2.9 | 3.2 |

| 90,000 | 100,000 | 110,000 | 120,000 | 130,000 | 140,000 | 150,000 |
|--------|---------|---------|---------|---------|---------|---------|
| 8.2 | 9.1 | 10.0 | 10.9 | 11.8 | 12.7 | 13.6 |
| 7.8 | 8.7 | 9.6 | 10.4 | 11.3 | 12.2 | 13.0 |
| 7.5 | 8.3 | 9.2 | 10.0 | 10.8 | 11.7 | 12.5 |
| 7.2 | 8.0 | 8.8 | 9.6 | 10.4 | 11.2 | 12.0 |
| 6.9 | 7.7 | 8.5 | 9.3 | 10.0 | 10.8 | 11.6 |
| 6.7 | 7.4 | 8.1 | 8.9 | 9.6 | 10.3 | 11.1 |
| 6.4 | 7.1 | 7.9 | 8.6 | 9.3 | 10.0 | 10.7 |
| 6.2 | 6.9 | 7.6 | 8.3 | 9.0 | 9.7 | 10.4 |
| 6.0 | 6.7 | 7.3 | 8.0 | 8.7 | 9.3 | 10.0 |
| 5.8 | 6.5 | 7.1 | 7.8 | 8.4 | 9.1 | 9.7 |
| 5.6 | 6.3 | 6.9 | 7.5 | 8.1 | 8.8 | 9.4 |
| 5.5 | 6.1 | 6.7 | 7.3 | 7.9 | 8.5 | 9.1 |
| 5.3 | 5.9 | 6.5 | 7.1 | 7.7 | 8.3 | 8.9 |
| 4.9 | 5.5 | 6.0 | 6.5 | 7.1 | 7.6 | 8.2 |
| 4.7 | 5.2 | 5.7 | 6.2 | 6.8 | 7.3 | 7.8 |
| 4.4 | 5.0 | 5.4 | 5.9 | 6.4 | 6.9 | 7.4 |
| 4.2 | 4.7 | 5.1 | 5.6 | 6.1 | 6.5 | 7.0 |
| 3.9 | 4.4 | 4.8 | 5.3 | 5.7 | 6.2 | 6.6 |
| 3.7 | 4.2 | 4.5 | 5.0 | 5.4 | 5.8 | 6.2 |



SORGHUM FOR FORAGE

Alta Seeds offers a wide variety of forage sorghum hybrids that deliver high tonnage, digestibility and palatability. Choose from a number of traits that enhance feed qualities, from BMR-6 to brachytic dwarf to dry stalk and photoperiod sensitivity.

Our forage sorghum hybrids also offer a cost-effective alternative to corn silage. With lower overall input costs and the ability to thrive in dry climates with no irrigation, these hybrids are the ideal and economical way to replace corn silage in your operation.

Alta Seeds offers a world-class lineup of forages that consistently outperform their peers. EMPYR Premier Forages are our top-of-the-line hybrids that offer the best feed qualities along with excellent standability and climate versatility. Choose from this exclusive product line to see the best possible results both in your field and in feed.

FORAGE SORGHUM

Forage sorghums are generally taller, produce more leaves and are later maturing than typical grain sorghum hybrids. Their high biomass yields and limited regrowth potential make forage sorghums excellent choices for single-cut silage and standing green-chop production. For optimum forage with grain, harvest should begin when 80% or more of heading has occurred and 50% of the grain reaches the soft dough stage.

In addition to their production advantages, forage sorghums also function as an excellent alternative to corn silage. They perform even in dry climates with little to no irrigation, require lower input costs and provide comparable nutrition to corn, making forages a highly cost-effective silage.

SORGHUM-SUDANGRASS

Sorghum-sudangrass hybrids characteristically have smaller stalks than forage sorghum and strong tillering, and produce more tonnage than sudangrass. They have excellent regrowth potential, but less than sudangrass. The regrowth ability of sorghum-sudangrass hybrids make them well-suited for multiple harvest systems.

SUDANGRASS

Sudangrass has finer stalks and produces more leaves and tillers than typical forage sorghum. It possesses excellent regrowth, plus quick recovery following cutting or grazing. Total biomass tonnage for a single harvest is typically less than yields of forage sorghum, making sudgrass ideal for grazing and hay production, in addition to serving as an excellent cover crop.

For the best quality and yield under a multicut program (including sorghum sudangrass), harvest at 40 days or when it reaches 40" of growth. Mechanical harvesters should be set to leave two nodes and 4" for brachytic or 6" of stubble for non-brachytic, whichever is higher. Harvesting at this height will promote more rapid regrowth. At the latest, harvest when 50% of the plants have reached the flag-leaf stage for a one-cut program. Under a one-cut program, cutting height can be lowered to maximize yields. Opening the swather for a wide windrow promotes drying. When using sudgrass for grazing, cattle should be turned in at approximately 24" of growth. To promote rapid and adequate regrowth, grazing should be stopped when its height is reduced to 6".

SORGHUM FOR FORAGE

FORAGE CHARACTERISTICS



BRACHYTIC DWARF

Four dwarfing genes in sorghum control height. These brachytic dwarfism genes reduce the length of the internodes without affecting other plant characteristics such as leaf number, leaf size, maturity or yield/biomass production. Brachytic dwarf sorghums have very high leaf-to-stalk ratios, prolific tillering, superior standability and comparable tonnage to normal height sorghums.

For the best quality and yield under a one-cut program, cutting height can be lowered to maximize yields. Opening the swather for a wide windrow promotes drying.

Under a multicut program, harvest sorghum-sudangrass or sudangrass at 40 days or 40" of growth. Due to the compressed internode lengths, mechanical harvesters should be set to leave two nodes or 4" of stubble, whichever is higher. Harvesting at this height will promote more rapid regrowth. At the latest, harvest when 50% of the plants have reached the flag-leaf stage for a one-cut program.

Begin grazing brachytic dwarf sorghum-sudangrass and sudangrass at about 18" of growth, and stop when height is reduced to 4" to promote regrowth.

BMR-6

BMR-6 sorghums have less lignin than conventional sorghums and are extremely palatable. The high digestibility rivals corn silage as the choice for improved animal performance.

DRY STALK

Dry stalk hybrids allow growers to ensile or bale at reduced moisture levels with less opportunity for spoilage. When harvested at the soft dough stage, dry stalk forage sorghums have approximately 8% to 10% less moisture at harvest. Dry stalk sudangrass hybrids can be stored much sooner as baleage or haylage than non-dry stalk types and can be harvested as dry hay.

PHOTOPERIOD SENSITIVE (PS)

PS sorghums have a wide window for harvest. The PS sorghums initiate flowering in response to day length and will remain vegetative from mid-March through September, adding new leaves and maintaining very high-quality forage. The flexible harvest window of PS sorghum helps growers manage weather or custom harvest scheduling.



WORLD-CLASS FORAGE SORGHUM LINEUP

Not all forage sorghum seeds are equal in their performance. But with EMPYR Premier Forages from Alta Seeds, you can have confidence that your choice of forage will deliver excellent results year after year.

EMPYR Premier Forages are our top-of-the-line, carefully selected hybrids that consistently outperform and outproduce others in both feed and the field. Our team continually evaluates the performance of these products against others in our global pipeline to ensure that only the best of the best are included in the EMPYR group. These forages offer high yield, excellent standability and strong performance even in extreme environments.



WORLD-CLASS GENETICS AND INNOVATION



OUTPERFORMS IN FIELD AND IN FEED



EXCELLENT QUALITY AND TONNAGE

The EMPYR line is built on a wide variety of hybrid types that provide solutions for specific grazing or silage needs:

Aphix™ SCA Tolerance, the best-in-class option for combating pressure from sugarcane aphids

BMR-6 for increased palatability and digestibility, supporting more weight gain and milk production

Brachytic Dwarf for superior standability and high leaf-to-stalk ratios

Photoperiod Sensitivity (PS) for a wide harvest window

Dry Stalk for reduced moisture levels, earlier baling and storage

ADV F8484IG MID-SEASON BRACHYTIC DWARF SILAGE WITH GRAIN



Ideal selection for producers looking for next-generation technology and superior yield potential. Conventional midrib with brachytic dwarf characteristic brings great standability and harvest performance for those looking to feed silage. **igrowth** herbicide-tolerant technology allows for a clean stand establishment for maximum early season growth and weed suppression.

ADV F8322 MID-SEASON APHIX FORAGE SORGHUM



An excellent forage sorghum with Aphix-level, elite sugarcane aphid tolerance and a high degree of versatility in various climates.

ADV F7103 EARLY-SEASON BMR-6 FORAGE SORGHUM

Fast, efficient and innovative. Early maturity combined with dry-stalk technology provides an option for short-season regions. Available in BMR-6, so no sacrificing on late plantings or double crop situations.

ADV F7232 MID-SEASON BMR-6 BRACHYTIC DWARF FORAGE SORGHUM

An earlier option BMR-6 brachytic dwarf with excellent nutritional value and palatability; matures quickly while still maintaining quality and yield; suitable for irrigated and dryland areas.

ADV F7424 FULL-SEASON BMR-6 WITH SCA TOLERANCE



ADV F7424 brings a jump in yield potential while maintaining everything we loved about its predecessor, AF7401. Excellent standability, top-notch quality feed, and now featuring our Aphix™ SCA tolerance. This is the benchmark of all high-yielding forage sorghum products in the lineup.

ADV S6404 FULL-SEASON BRACHYTIC DWARF BMR-6 SORGHUM-SUDANGRASS

High-powered and compact sorghum-sudangrass with brachytic dwarf. Next-level tonnage, great feed quality and strong standability. Top performer in multicut scenarios, silage, hay or grazing. Cattle producers' best friend for versatility and production.

ADV S6520 FULL-SEASON BMR-6 SORGHUM-SUDANGRASS



Game-changing combination of agronomics and yield. High digestibility, great palatability, and strong disease package for overall good producibility. First-in-class sugarcane aphid tolerance. Agronomics and maturity make it a strong hybrid for an extended harvest window for silage, hay production and grazing.

ADV S6525 PHOTOPERIOD SENSITIVE BMR-6 SORGHUM-SUDANGRASS



Game-changing combination of agronomics and yield. High digestibility, great palatability, and strong disease package for overall good producibility. First-in-class sugarcane aphid tolerance. Agronomics and maturity make it a strong hybrid for an extended harvest window for silage, hay production and grazing.

AS9301 MID-SEASON BMR-6 DRY STALK SUDANGRASS

Exceptional palatability and digestibility, dry stalk for quick dry-down and fast recovery after cutting with rapid regrowth; performs well in a wide range of challenging growing conditions.

AS9302 BRACHYTIC DWARF BMR-6 DRY STALK SUDANGRASS

The first BMR-6 brachytic dwarf hybrid sudangrass, with tremendous regrowth, dry stalk for quick dry-down, high palatability and digestibility and adaptability to various climates; risk mitigation due to superior standability.



FORAGE SELECTION GUIDE

EMPYR Premier Forages hybrids offer versatility to fit your needs and provide a quality feed option equal to or better than corn silage. With a variety of types, characteristics and harvest times, you can choose the seed that best suits your environment and planting.



BD = Brachytic Dwarf
 DS = Dry Stalk
 FS = Full-Season



= Highest tolerance rating to sugarcane aphid



= Non-GMO herbicide-tolerant technology that allows you to apply companion herbicide IMIFLEX[®] for pre- or post-emergence control

NITROGEN FERTILIZATION RECOMMENDATION: 1 TO 1.25 LBS N PER GROWING DAY

| HYBRID | TYPE | BMR-6 | TRAITS | EARLY SEASON SILAGE | MID-SEASON SILAGE | FULL-SEASON SILAGE | SINGLE CUT, GRAZE REGROWTH | DOUBLE CROP | MULTIPLE CUTS | SINGLE CUT, HIGH YIELD | MULTIPLE CUT, RAPID DRY-DOWN |
|-------------|--------------------|-------|--------------------------|---------------------|-------------------|--------------------|----------------------------|-------------|---------------|------------------------|------------------------------|
| ADV F84841G | Forage Sorghum | | BD & igrowth | | ● | | | | | ● | |
| ADV F8322 | Forage Sorghum | | aphix SCA Tolerance | | ● | | | | | ● | |
| ADV F7103 | Forage Sorghum | ● | DS | ● | | | | ● | | ● | |
| ADV F7232 | Forage Sorghum | ● | BD | | ● | | | | | ● | |
| ADV F7424 | Forage Sorghum | ● | BD & aphix SCA Tolerance | | | ● | | | | ● | |
| ADV S6404 | Sorghum-Sudangrass | ● | BD | | | | ● | | ● | | ● |
| ADV S6520 | Sorghum-Sudangrass | ● | FS & aphix SCA Tolerance | | | ● | ● | | ● | ● | ● |
| ADV S6525 | Sorghum-Sudangrass | ● | PS & aphix SCA Tolerance | | | ● | ● | | ● | ● | ● |
| AS9301 | Sudangrass | ● | DS | | | | ● | ● | ● | | ● |
| AS9302 | Sudangrass | ● | BD & DS | | | | ● | ● | ● | | ● |



ADV

MEDIUM-LATE 110 DAYS NON-BMR CONVENTIONAL BRACHYTIC DWARF 13-15
RELATIVE MATURITY TO SOFT DOUGH STAGE MID RIB
SEEDS/LB (1,000) CHECK SEED BAG

F84841G

MEDIUM-LATE SEASON SILAGE WITH GRAIN



Ideal selection for producers looking for next-generation technology and superior yield potential. Conventional midrib with brachytic dwarf characteristic brings great standability and harvest performance for those looking to feed silage. **igrowth** herbicide-tolerant technology allows for a clean stand establishment for maximum early season growth and weed suppression.

- » Strong-yielding hybrid with excellent season-long standability
- » **igrowth** herbicide tolerance provides first-ever grass weed control
- » Strong agronomics for those looking to push production with new technology

RATINGS

| | POOR | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | EXCELLENT |
|--------------------------|------|----|---|---|---|---|---|---|---|---|---|-----------|
| YIELD FOR MATURITY | | | | | | | | | | | | 1 |
| FORAGE QUALITY POTENTIAL | | | | | | | | | | | | 2 |
| PALATABILITY | | | | | | | | | | | | 2 |
| DIGESTIBILITY | | | | | | | | | | | | 2 |
| SEEDLING VIGOR | | | | | | | | | | | | 1 |
| RECOVERY AFTER CUTTING | | | | | | | | | | | | 3 |
| PLANT UNIFORMITY | | | | | | | | | | | | 1 |
| STANDABILITY | | | | | | | | | | | | 1 |
| DOWNY MILDEW | | | | | | | | | | | | 3 |
| ANTHRACNOSE | | | | | | | | | | | | 2 |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



CONTINUOUS
GRAZING



ROTATIONAL
GRAZING

1

DIRECT CHOP

N/A

N/A

N/A



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
|---------------------------|--------------------|----------------------|------------------------|---------------------|
| S | Hs | Hs | Hs | |
| EARLY PLANTING COLD SOILS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | Hs | Ma | Hs | S |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance



ADV

F8322

MEDIUM
105 DAYS
STANDARD NON-BMR-6
12-14

RELATIVE MATURITY
 TO SOFT DOUGH STAGE
 MIDRIB
 SEEDS/LB (1,000)
 CHECK SEED BAG

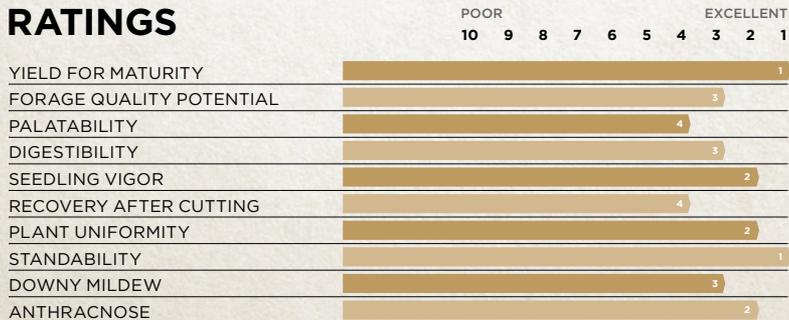
MEDIUM SEASON SILAGE WITH GRAIN



ADV F8322 was the first forage sorghum with Aphix-level sugarcane aphid tolerance. It provides excellent seedling vigor and plant uniformity. The hybrid also offers excellent standability and is an exceptional producer in a wide range of growing conditions, consistently outyielding competitors in the same class by up to 20%.

- » High sugarcane aphid tolerance
- » Excellent yield, standability and silage choice
- » 105 days to harvest

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

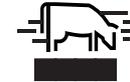
CROP USE



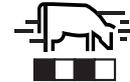
SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
 GRAZING**



**ROTATIONAL
 GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | | |
|---|---------------------------|-----------------------------|-------------------------------|-------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
| Hs | Hs | Hs | Hs | |
| HIGH PH SOILS IRON CHLOROSIS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | SUGARCANE APHID* |
| S | Hs | Ma | Hs | Ht |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance

*Tolerance confirmed in third-party testing conducted by the Agricultural Research Division of the USDA in Stillwater, OK. 55



ADV

F7103

EARLY
85-90 DAYS
BMR-6
14-16

RELATIVE MATURITY
TO SOFT DOUGH STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

EARLY-SEASON FORAGE SORGHUM

A faster maturity allows for placement in many different cropping systems, including double cropping, late planting and short growing seasons. **ADV F7103** will excel in northern climates when planted at appropriate times, providing a reliable silage crop without concerns about early freezes. As a conventional height, **ADV F7103** has good standability and harvestability. Overall grain yield on this hybrid provides excellent starch production and adds to the solid nutritional value.

- » Earliest forage sorghum in the EMPYR lineup
- » Dry stalk provides a desirable moisture level for ideal harvest conditions
- » Great nutritional performance with BMR-6
- » Maturity is ideal for double cropping or short season conditions

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|-----------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| FORAGE QUALITY POTENTIAL | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| PALATABILITY | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| DIGESTIBILITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| SEEDLING VIGOR | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| RECOVERY AFTER CUTTING | [Progress bar from 10 to 3] | | | | | | | | | | 3 | |
| PLANT UNIFORMITY | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| STANDABILITY | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| DOWNY MILDEW | [Progress bar from 10 to 3] | | | | | | | | | | 3 | |
| ANTHRACNOSE | [Progress bar from 10 to 3] | | | | | | | | | | 3 | |
| FUSARIUM WILT | [Progress bar from 10 to 3] | | | | | | | | | | 3 | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



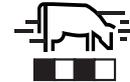
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | S | S |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | S | S |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



ADV

F7232

MEDIUM
105-110 DAYS RELATIVE MATURITY
BMR-6 TO SOFT DOUGH STAGE
14-18 MIDRIB
 SEEDS/LB (1,000)
 CHECK SEED BAG

MEDIUM BRACHYTIC DWARF

ADV F7232 is a medium season forage sorghum with excellent yield for maturity and superior forage quality potential. This BMR-6 forage sorghum provides exceptional nutritional value, while its brachytic dwarf trait adds a much tighter distance between internodes and allows for better standability. **ADV F7232** is adaptable and well-suited for full or limited irrigation or high-yield dryland.

- » Brachytic dwarf genetics provide stout stalks for excellent standability
- » Exceptional digestibility from BMR-6
- » Great yield for maturity
- » Excellent silage choice

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|------|---|---|---|---|---|---|---|---|---|---|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | | | | | | | | | | | 1 | |
| FORAGE QUALITY POTENTIAL | | | | | | | | | | | 1 | |
| PALATABILITY | | | | | | | | | | | 1 | |
| DIGESTIBILITY | | | | | | | | | | | 1 | |
| SEEDLING VIGOR | | | | | | | | | | 2 | | |
| RECOVERY AFTER CUTTING | | | | | | | | | 3 | | | |
| PLANT UNIFORMITY | | | | | | | | | 3 | | | |
| STANDABILITY | | | | | | | | | | | 1 | |
| DOWNY MILDEW | | | | | | | | | | 4 | | |
| ANTHRACNOSE | | | | | | | | | | 2 | | |
| FUSARIUM WILT | | | | | | | | | | | 1 | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



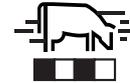
SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
 GRAZING**



**ROTATIONAL
 GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Ma | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | Hs | S |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



ADV

F7424

LATE
120 DAYS
BMR-6
18-20

RELATIVE MATURITY
TO SOFT DOUGH STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

FULL-SEASON BMR-6 WITH SCA TOLERANCE



An improvement on the legendary AF7401, **ADV F7424** brings a jump in yield potential while maintaining everything we loved about its predecessor. Excellent standability, top-notch quality feed, and now featuring our Aphix™ SCA tolerance. This is the benchmark of all high-yielding forage sorghum products in the lineup. If you need a product to push the limits of yield and provide superb agronomics, this is the one to try.

- » The top-yielding hybrid in high quality classification
- » Combines BMR-6 and Aphix™ for game-changing management options
- » Brachytic dwarf to maximize standability

RATINGS

POOR 10 9 8 7 6 5 4 3 2 1 EXCELLENT

| | | | | | | | | | | |
|--------------------------|----|---|---|---|---|---|---|---|---|---|
| YIELD FOR MATURITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| FORAGE QUALITY POTENTIAL | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| PALATABILITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| DIGESTIBILITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SEEDLING VIGOR | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| RECOVERY AFTER CUTTING | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| PLANT UNIFORMITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| STANDABILITY | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| DOWNY MILDEW | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| ANTHRACNOSE | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

CROP USE



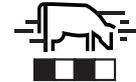
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



CONTINUOUS
GRAZING



ROTATIONAL
GRAZING

1

DIRECT CHOP

N/A

N/A

N/A



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | | |
|---------------------------|--------------------|----------------------|------------------------|---------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
| S | S | Hs | Hs | |
| EARLY PLANTING COLD SOILS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | Hs | Ma | Hs | S |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance



ADV

S6404

MEDIUM-LATE
70 DAYS
BMR-6
14-16

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

MEDIUM-LATE SORGHUM-SUDANGRASS

ADV S6404 is a high-level sorghum-sudangrass with brachytic dwarf that provides versatility to a producer's forage operation. It has the ability to fill a bunk or a hay bale to meet feed requirements with fewer inputs. A high-quality plant with improved palatability, this elite multicut hybrid will make excellent dry hay.

- » High-yielding multicut sorghum-sudangrass
- » Strong nutritional value for feed quality
- » Broad adaptability for more uniform acres
- » Responds to increased resources
- » Brachytic dwarf trait provides stout stalks for excellent standability

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|------|---|---|---|---|---|---|---|---|---|---|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | | | | | | | | | | | 1 | |
| FORAGE QUALITY POTENTIAL | | | | | | | | | | | 1 | |
| PALATABILITY | | | | | | | | | | | 1 | |
| DIGESTIBILITY | | | | | | | | | | | 1 | |
| SEEDLING VIGOR | | | | | | | | | | | 1 | |
| RECOVERY AFTER CUTTING | | | | | | | | | | | 1 | |
| PLANT UNIFORMITY | | | | | | | | | | 2 | | |
| STANDABILITY | | | | | | | | | | 2 | | |
| DOWNY MILDEW | | | | | | | | | | 3 | | |
| ANTHRACNOSE | | | | | | | | | | | 1 | |
| FUSARIUM WILT | | | | | | | | | | | 3 | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

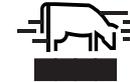
CROP USE



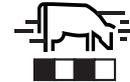
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

HAYLAGE/BALEAGE

1

3

**BEGIN 24"
STOP 6"**

1

**BEGIN 24"
STOP 6"**



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | S |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | Hs | S |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



ADV

S6520

LATE
VARIED DAYS
BMR-6
14-16

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

FULL-SEASON SORGHUM-SUDANGRASS



ADV S6520 is an all-around elite hybrid. Place this hybrid in high-production environments. In systems that focus on single-cut management, this product is an excellent tonnage producer and can provide some flexibility in harvest timing. Areas with previous SCA pressure will benefit from elite tolerance levels.

- » Industry-leading Aphix™ sugarcane aphid tolerance
- » BMR-6 for top-end nutrition
- » Quick regrowth for multiple cuttings

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|-----------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| FORAGE QUALITY POTENTIAL | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| PALATABILITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| DIGESTIBILITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| SEEDLING VIGOR | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| RECOVERY AFTER CUTTING | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| PLANT UNIFORMITY | [Progress bar from 10 to 1] | | | | | | | | | | 1 | |
| STANDABILITY | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| DOWNY MILDEW | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| ANTHRACNOSE | [Progress bar from 10 to 2] | | | | | | | | | | 2 | |
| FUSARIUM WILT | [Progress bar from 10 to 3] | | | | | | | | | | 3 | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

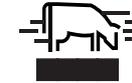
CROP USE



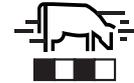
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



CONTINUOUS
GRAZING



ROTATIONAL
GRAZING

1

HAYLAGE/BALEAGE

1

3

BEGIN 24"
STOP 6"

1

BEGIN 24"
STOP 6"



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|---------------|----------------------|------------------------|---------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | S | Hs |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



ADV

S6525

PHOTOPERIOD SENSITIVE REL. MATURITY
VARIED DAYS TO BOOT STAGE
BMR-6 MIDRIB
14-16 SEEDS/LB (1,000)
 CHECK SEED BAG

PHOTOPERIOD SENSITIVE SORGHUM-SUDANGRASS



ADV S6525 is an all-around elite hybrid. Place this hybrid in high-production environments. The photoperiod sensitive maturity allows for excellent multicut management without the risk of having grain production.

In systems that focus on single-cut management, this product is an excellent tonnage producer and can provide some flexibility in harvest timing. Areas with previous SCA pressure will benefit from elite tolerance levels.

- » Industry-leading Aphix™ sugarcane aphid tolerance
- » BMR-6 for top-end nutrition
- » Quick regrowth for multiple cuttings
- » Photoperiod sensitive maturity for maximum harvest flexibility

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|------|---|---|---|---|---|---|---|---|---|--|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | 1 | | | | | | | | | | | |
| FORAGE QUALITY POTENTIAL | 1 | | | | | | | | | | | |
| PALATABILITY | 1 | | | | | | | | | | | |
| DIGESTIBILITY | 1 | | | | | | | | | | | |
| SEEDLING VIGOR | 2 | | | | | | | | | | | |
| RECOVERY AFTER CUTTING | 2 | | | | | | | | | | | |
| PLANT UNIFORMITY | 1 | | | | | | | | | | | |
| STANDABILITY | 2 | | | | | | | | | | | |
| DOWNY MILDEW | 2 | | | | | | | | | | | |
| ANTHRACNOSE | 2 | | | | | | | | | | | |
| FUSARIUM WILT | 3 | | | | | | | | | | | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

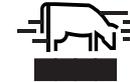
CROP USE



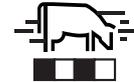
SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



CONTINUOUS GRAZING



ROTATIONAL GRAZING

1

HAYLAGE/BALEAGE

1

3

**BEGIN 24"
 STOP 6"**

1

**BEGIN 24"
 STOP 6"**



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | S | Hs |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



AS9301

MEDIUM
60 DAYS
BMR-6
21-24

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

MEDIUM MATURITY SUDANGRASS

AS9301 is a BMR-6 hybrid sudangrass. The BMR-6 characteristic adds high quality to a plant that has fine stems and quick regrowth. This hybrid will dry down fast so it can be used in areas where putting up dry sudangrass hay is difficult.

- » Dry stalk for quick dry-down
- » Excellent regrowth after harvest
- » Exceptional drought tolerance
- » BMR-6 for high digestibility

RATINGS

| | POOR | EXCELLENT | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | 10 9 8 7 6 5 4 3 2 1 | 10 9 8 7 6 5 4 3 2 1 | | | | | | | | | | | | | | | | | |
| YIELD FOR MATURITY | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| FORAGE QUALITY POTENTIAL | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| PALATABILITY | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| DIGESTIBILITY | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| SEEDLING VIGOR | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| RECOVERY AFTER CUTTING | [Progress bar filled to 10] | | | | | | | | | | | | | | | | | | |
| PLANT UNIFORMITY | [Progress bar filled to 8] | | | | | | | | | | | | | | | | | | |
| STANDABILITY | [Progress bar filled to 3] | | | | | | | | | | | | | | | | | | |
| DOWNY MILDEW | [Progress bar filled to 3] | | | | | | | | | | | | | | | | | | |
| ANTHRACNOSE | [Progress bar filled to 3] | | | | | | | | | | | | | | | | | | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE

2
HAYLAGE/BALEAGE



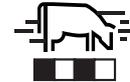
DRY HAY

1



**CONTINUOUS
GRAZING**

2
BEGIN 24"
STOP 6"



**ROTATIONAL
GRAZING**

1
BEGIN 24"
STOP 6"



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | S | X |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability



AS9302

MEDIUM
55-65 DAYS
BMR-6
22-25

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

MEDIUM MATURITY SUDANGRASS

AS9302 is the first BMR-6, brachytic dwarf hybrid sudangrass to hit the market. The BMR-6 gene adds high digestibility to a plant that has very fine stems and tremendous regrowth. The brachytic dwarf trait adds a much tighter distance between internodes, allowing for a lower cutting/grazing height and better standability. The dry stalk trait allows for quick dry-down, making this one of the most versatile forage products on the market.

- » Brachytic dwarf trait provides stout stalks for excellent standability
- » Excellent for dry hay and rotational grazing
- » Dry stalk for quick dry-down
- » Exceptional regrowth and BMR-6 for high digestibility

RATINGS

| | POOR | EXCELLENT | | | | | | | |
|--------------------------|----------------------|-----------|--|--|--|--|--|--|--|
| | 10 9 8 7 6 5 4 3 2 1 | | | | | | | | |
| YIELD FOR MATURITY | [Progress bar to 1] | | | | | | | | |
| FORAGE QUALITY POTENTIAL | [Progress bar to 1] | | | | | | | | |
| PALATABILITY | [Progress bar to 1] | | | | | | | | |
| DIGESTIBILITY | [Progress bar to 1] | | | | | | | | |
| SEEDLING VIGOR | [Progress bar to 2] | | | | | | | | |
| RECOVERY AFTER CUTTING | [Progress bar to 1] | | | | | | | | |
| PLANT UNIFORMITY | [Progress bar to 1] | | | | | | | | |
| STANDABILITY | [Progress bar to 1] | | | | | | | | |
| DOWNY MILDEW | [Progress bar to 4] | | | | | | | | |
| ANTHRACNOSE | [Progress bar to 4] | | | | | | | | |
| WET SOIL TOLERANCE | [Progress bar to 5] | | | | | | | | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



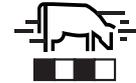
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

2

HAYLAGE/BALEAGE

1

3

**BEGIN 24"
STOP 6"**

1

**BEGIN 24"
STOP 6"**



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | S | X |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



FORAGE SELECTION GUIDE

Alta Seeds hybrids offer versatility to fit your needs and provide a quality feed option equal to or better than corn silage. With a variety of types, characteristics and harvest times, you can choose the seed that best suits your environment and planting processes. Our forage selection includes forage sorghum, sorghum-sudangrass and pearl millet — all offering superior quality and tonnage so you can lower input costs and exceed production goals.

BD = Brachytic Dwarf

DS = Dry Stalk

PS = Photoperiod Sensitive

MS = Male Sterile

Nitrogen Fertilization Recommendation:

1 to 1.25 Lbs N per Growing Day

| HYBRID | TYPE | BMR-6 | TRAITS | EARLY SEASON SILAGE | MID-SEASON SILAGE | FULL-SEASON SILAGE | SINGLE CUT, GRAZE REGROWTH | DOUBLE CROP | MULTIPLE CUTS | SINGLE CUT, HIGH YIELD | MULTIPLE CUT, RAPID DRY-DOWN |
|-------------|--------------------|-------|------------|---------------------|-------------------|--------------------|----------------------------|-------------|---------------|------------------------|------------------------------|
| AF8301 | Forage Sorghum | | | | ● | | | | | ● | |
| AF7102 | Forage Sorghum | ● | | ● | | | | ● | | ● | |
| AF7401 | Forage Sorghum | ● | BD | | | ● | | | | ● | |
| AF7301 | Forage Sorghum | ● | MS | | ● | | | | | | |
| ADV F8330 | Forage Sorghum | | MS | | | | | | | ● | |
| GREEN GRAZE | Sorghum-Sudangrass | | MS, BMR-12 | | | | ● | ● | ● | ● | |
| ADV S5501 | Sorghum-Sudangrass | | PS | | | | | | ● | | |
| ADV S6218 | Sorghum-Sudangrass | ● | DS | | ● | | ● | ● | ● | ● | ● |
| AS6401 | Sorghum-Sudangrass | ● | | | | | ● | ● | ● | ● | |
| AS6501 | Sorghum-Sudangrass | ● | | | | | | | ● | | |
| AS6504 | Sorghum-Sudangrass | ● | PS | | | ● | ● | | ● | ● | |
| Wonderleaf | Pearl Millet | | | | | | ● | ● | ● | | ● |



AF8301

MEDIUM
100 DAYS
STANDARD NON-BMR-6
14-16

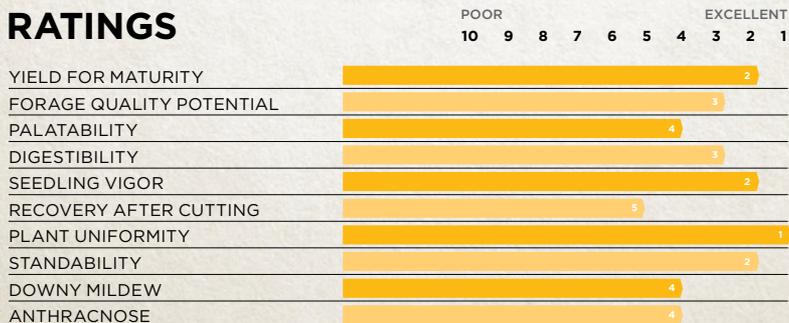
RELATIVE MATURITY
TO SOFT DOUGH STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

MEDIUM NON-BMR SILAGE WITH GRAIN

AF8301 is a non-BMR hybrid with outstanding yield potential. This hybrid has a short plant structure for good standability and ranges from 72" to 84" in plant height. This hybrid is drought tolerant and great for dryland conditions. **AF8301** features good nutritional quality for a standard midrib hybrid and will produce a white grain head with high grain yields.

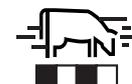
- » Harvest 100 days after emergence
- » Tremendous drought tolerance and yield potential
- » Good nutritional quality for standard midrib hybrid
- » Excellent plant uniformity

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE

DRY HAY

**CONTINUOUS
GRAZING**

**ROTATIONAL
GRAZING**

1

7

**DO NOT
GRAZE**

**DO NOT
GRAZE**



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | Hs | Hs |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



AF7102

EARLY
85-89 DAYS
BMR-6
17-19

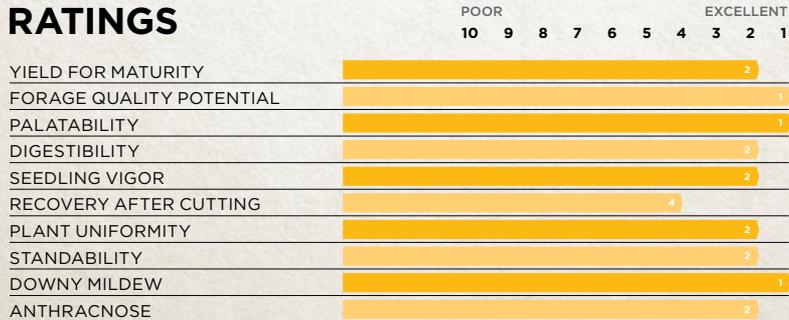
RELATIVE MATURITY
TO SOFT DOUGH
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

EARLY MATURITY FORAGE SORGHUM

AF7102 is an early BMR-6 forage sorghum with great standability. Northern producers are able to reach high yield potential with tremendous forage quality of a BMR-6 without the issues of lodging. This hybrid works best in areas north of I-70 where humidity and the shorter growing season tend to be a challenge. **AF7102** can be used in southern states for late planting or early harvest situations. The tillering capabilities of this hybrid are unsurpassed, allowing for increased yields and ground cover.

- » Harvest 85-89 days after emergence
- » Short stature genetics provide stout stalks for excellent standability
- » Excellent for silage
- » Double crop silage option

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



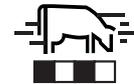
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | Ma | S | N/A |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



AF7401

LATE
115 DAYS
BMR-6
15-20

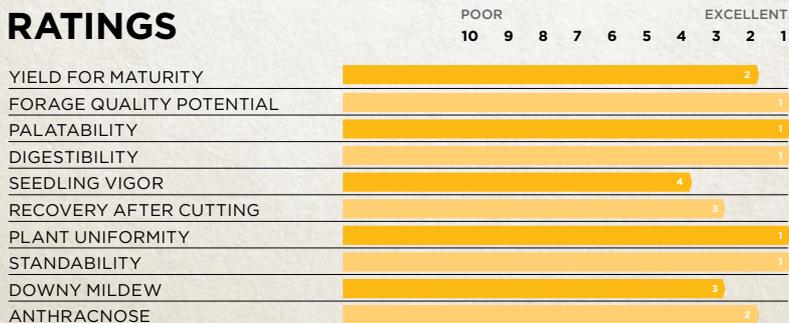
RELATIVE MATURITY
TO SOFT DOUGH STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

ALL-STAR FULL SEASON SILAGE WITH GRAIN

AF7401 features a genetic combination of BMR-6 and brachytic dwarf that enhances both productivity and efficiency. **AF7401** has a reduced internode length that creates a compact, leafy and prolific plant. However, it yields with taller sorghums due to the standability and tillering attributes of the brachytic dwarf characteristic. Producers get the best of both worlds: excellent forage qualities and a dependable high-yielding feedstock.

- » High-yielding performance
- » BMR-6 for superior forage quality
- » Brachytic dwarf genetics provide stout stalks for excellent standability
- » Economical performance and efficiency

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Ma | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | Hs | Hs |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



AF7301

MEDIUM
100 DAYS
BMR-6
12-14

RELATIVE MATURITY
TO SOFT DOUGH STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

HYBRID WITH NUTRITIONAL BENEFITS OF THE BMR-6

AF7301 is a male sterile hybrid with the nutritional benefits of the BMR-6 characteristic. It will not produce grain unless a foreign pollen source is available. Male sterile sorghums such as **AF7301** have high levels of sugar and protein due to a lack of grain development. This hybrid offers excellent digestibility and high yield potential.

- » High energy feed source
- » Strong agronomics
- » BMR-6 for superior nutrition

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | |
|--|---------------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
| Ma | S | Hs | Hs | |
| HIGH PH SOILS/ IRON CHLOROSIS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Ma | Hs | Ma | Ma | Ma |
| <p>Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability</p> | | | | |



ADV

F8330

MEDIUM
95-100 DAYS
CONVENTIONAL
12-14

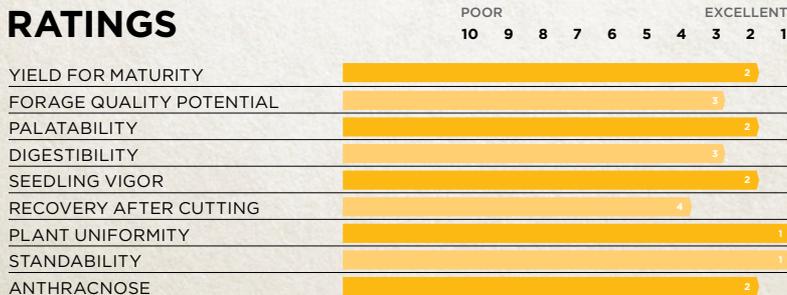
RELATIVE MATURITY
TO HEADING
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

MALE STERILE HYBRID

F8330 is a male sterile hybrid. It will not produce grain unless a foreign pollen source is available. Male sterile sorghums such as **F8330** have high levels of sugar and protein due to a lack of grain development. This hybrid offers excellent digestibility and high yield potential.

- » Economic workhorse
- » Male sterile for improved sugar content
- » No pollen flow for seed production regions

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

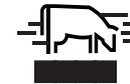
CROP USE



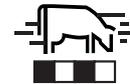
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

1

DIRECT CHOP

N/A

N/A

N/A



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | | | | |
|--|-----------|---------------------------|-----------|-----------------------------|-----------|-------------------------------|-----------|
| TOUGH DRYLAND | Hs | HIGH-YIELD DRYLAND | Hs | LIMITED IRRIGATION | Hs | FULL IRRIGATION | Hs |
| HIGH PH SOILS/ IRON CHLOROSIS | Ma | NO-TILL | S | POORLY DRAINED SOILS | Ma | ANTHRACNOSE PRONE AREA | Ma |
| <p>Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability</p> | | | | | | | |



MEDIUM
N 65 / S 100 DAYS
BMR-12
14-16

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

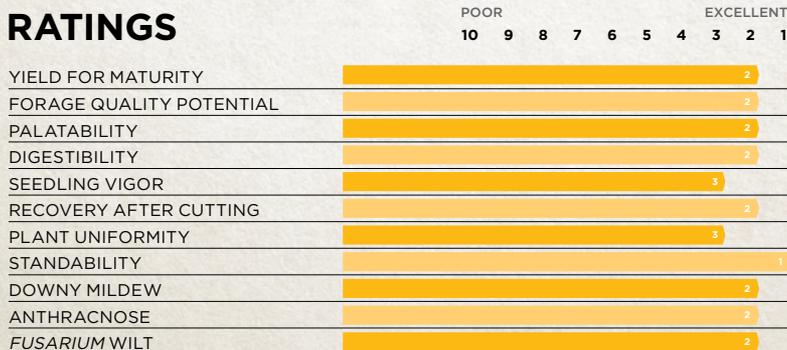
GREEN GRAZE

MEDIUM MATURITY SORGHUM-SUDANGRASS

Green Graze is a sorghum-sudangrass hybrid with excellent yield potential and good medium-season seedling vigor. This hybrid can be grown throughout the United States and will be ready for harvest at 40 days or 40 inches, whichever comes first. It has good drought tolerance and heat stress resistance to weather's hot, dry conditions. **Green Graze** has a very uniform stand. This hybrid features BMR-12 genetics for excellent digestibility and palatability, in addition to a solid disease resistance profile. **Green Graze** is an excellent economic choice for producers wanting a good quality feed.

- » Excellent yield potential
- » Good early seedling vigor
- » BMR-12 for excellent digestibility
- » Good drought tolerance and heat stress resistance

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE

2
HAYLAGE/BALEAGE



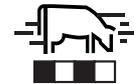
DRY HAY

1



CONTINUOUS GRAZING

1
BEGIN 24"
STOP 6"



ROTATIONAL GRAZING

3
BEGIN 24"
STOP 6"



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|------------------------------------|---------------------------|-----------------------------|-------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | S | S | S |
| EARLY PLANTING / COLD SOILS | NO-TILL | POORLY DRAINED SOILS | SUGARCANE APHID* |
| S | S | Ma | X |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance



ADV

S5501

PHOTOPERIOD SENSITIVE
VARIABLE STANDARD NON-BMR-6
 15-17

RELATIVE MATURITY TO BOOT STAGE
MIDRIB
 SEEDS/LB (1,000)
 CHECK SEED BAG

MEDIUM-EARLY MATURITY SORGHUM-SUDANGRASS

ADV S5501 is our highest yielding photoperiod sensitive sorghum-sudangrass. This increases the harvest window, allowing quality to remain unchanged for a longer period of time. It also adds to its drought tolerance and total yield potential.

- » Significant increase in drought tolerance
- » Significant increase in yield
- » Photoperiod sensitive
- » Wide harvest window

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



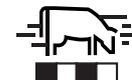
SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



CONTINUOUS GRAZING



ROTATIONAL GRAZING

1

HAYLAGE/BALEAGE

1

2

1



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

■ PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | | |
|------------------------------------|---------------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
| S | Hs | Hs | S | |
| EARLY PLANTING / COLD SOILS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | Ma | Hs | Ma |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance

S6218

MEDIUM-EARLY RELATIVE MATURITY
65 DAYS TO BOOT STAGE
BMR-6 MIDRIB
15-17 SEEDS/LB (1,000)
 CHECK SEED BAG

MEDIUM-EARLY MATURITY SORGHUM-SUDANGRASS

ADV S6218 brings a new approach to the sorghum-sudangrass lineup, with dry stalk for less moisture, a shorter maturity to help shorten the season and the yield potential to fit every geography. Southern environments will benefit from the advantages of dry stalk and the versatility of a grazing option as well as dry hay production. Northern and short season scenarios will find an advantage as a haylage and baleage option for high-quality, high-moisture feed.

- » Dry stalk for less moisture and spoilage
- » Game-changing blend of maturity and yield advantages
- » Excellent multicut regrowth potential
- » Season-long high tonnage production

RATINGS

| | POOR | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | EXCELLENT |
|--------------------------|------------------------------|----|---|---|---|---|---|---|---|---|---|-----------|
| YIELD FOR MATURITY | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| FORAGE QUALITY POTENTIAL | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| PALATABILITY | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| DIGESTIBILITY | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| SEEDLING VIGOR | [Bar chart showing rating 2] | | | | | | | | | | | 2 |
| RECOVERY AFTER CUTTING | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| PLANT UNIFORMITY | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| STANDABILITY | [Bar chart showing rating 1] | | | | | | | | | | | 1 |
| DOWNY MILDEW | [Bar chart showing rating 2] | | | | | | | | | | | 2 |
| ANTHRACNOSE | [Bar chart showing rating 2] | | | | | | | | | | | 2 |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE

2

HAYLAGE/BALEAGE



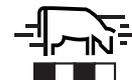
DRY HAY

1



**CONTINUOUS
 GRAZING**

1



**ROTATIONAL
 GRAZING**

2



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | | |
|------------------------------------|---------------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION | |
| S | Hs | Hs | S | |
| EARLY PLANTING / COLD SOILS | NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | Ma | Hs | Ma |

Hs = Highly Suitable S = Suitable Ma = Manage Appropriately X = Poor Suitability Ht = High Tolerance



AS6401

MEDIUM-LATE RELATIVE MATURITY
N 65 / S 100 DAYS TO BOOT STAGE
BMR-6 MIDRIB
14-16 SEEDS/LB (1,000)
 CHECK SEED BAG

MEDIUM-LATE MATURITY SORGHUM-SUDANGRASS

AS6401 has a long season in the South (100 days to bloom). This extends the harvest window and allows **AS6401** to be used where photoperiod sensitive hybrids are not effective. In northern regions, **AS6401** will bloom at approximately 65 days. Due to its tropical genetics, **AS6401** has better regrowth in wet or humid conditions.

- » Versatile hybrid for hay, silage or grazing
- » Highly disease resistant
- » Superior forage quality with high palatability and forage fiber digestibility

RATINGS

| | POOR | | | | | | | | | | | EXCELLENT |
|--------------------------|---------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| YIELD FOR MATURITY | [Bar chart showing 10 segments] | | | | | | | | | | 1 | |
| FORAGE QUALITY POTENTIAL | [Bar chart showing 10 segments] | | | | | | | | | | 1 | |
| PALATABILITY | [Bar chart showing 10 segments] | | | | | | | | | | 1 | |
| DIGESTIBILITY | [Bar chart showing 10 segments] | | | | | | | | | | 1 | |
| SEEDLING VIGOR | [Bar chart showing 3 segments] | | | | | | | | | | 3 | |
| RECOVERY AFTER CUTTING | [Bar chart showing 10 segments] | | | | | | | | | | 1 | |
| PLANT UNIFORMITY | [Bar chart showing 3 segments] | | | | | | | | | | 3 | |
| STANDABILITY | [Bar chart showing 3 segments] | | | | | | | | | | 3 | |
| DOWNY MILDEW | [Bar chart showing 2 segments] | | | | | | | | | | 2 | |
| ANTHRACNOSE | [Bar chart showing 2 segments] | | | | | | | | | | 2 | |
| FUSARIUM WILT | [Bar chart showing 2 segments] | | | | | | | | | | 2 | |

Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
 DIRECT CHOP / HAYLAGE / BALEAGE

1
 HAYLAGE/BALEAGE



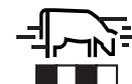
DRY HAY

1



**CONTINUOUS
 GRAZING**

4
 BEGIN 24"
 STOP 6"



**ROTATIONAL
 GRAZING**

1
 BEGIN 24"
 STOP 6"



PRIMARY AREA OF ADAPTATION

RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Ma | S | S | S |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | Hs | Hs |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



AS6501

LATE
VARIED DAYS
BMR-6
13-15

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

LATE MATURITY SORGHUM-SUDANGRASS

AS6501 is an excellent choice for tough and high-yield dryland conditions. This hybrid has outstanding recovery after cutting and is a great option for rotational grazing. The BMR-6 characteristic of **AS6501** increases feedstock utilization and efficiency.

- » Excellent regrowth after harvest
- » Exceptional drought tolerance
- » BMR-6 provides high-quality nutrition

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



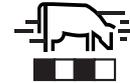
SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE



DRY HAY



**CONTINUOUS
GRAZING**



**ROTATIONAL
GRAZING**

2

HAYLAGE/BALEAGE

1

2

**BEGIN 24"
STOP 6"**

1

**BEGIN 24"
STOP 6"**



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | S | S |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | Hs | S |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



ADV

S6504

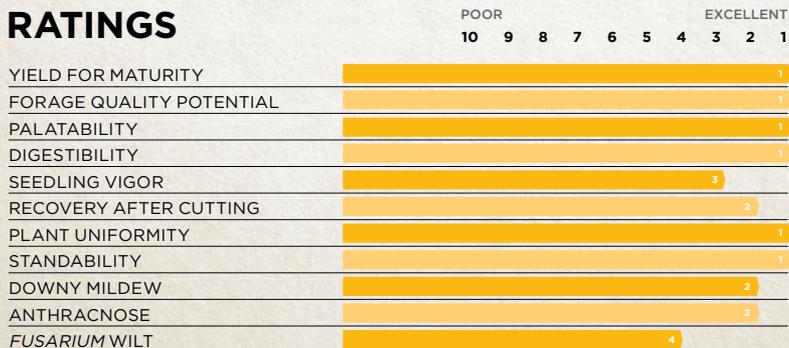
PHOTOPERIOD SENSITIVE REL. MATURITY
VARIED DAYS TO BOOT STAGE
BMR-6 MIDRIB
13-15 SEEDS/LB (1,000)
CHECK SEED BAG

PHOTOPERIOD SENSITIVE SORGHUM-SUDANGRASS

ADV S6504 has excellent yield for maturity and standability. The BMR-6 characteristic offers exceptional nutrition for high-quality forage that is also highly digestible. The photoperiod sensitive characteristic provides an extended window of harvest and consistent quality in the growing season. Plus, outstanding regrowth makes this hybrid a top selection for rotational grazing.

- » Exceptional regrowth after harvest
- » Superb yield potential
- » Extended harvest window
- » BMR-6 provides high-quality nutrition
- » High sugar content

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE

3



DRY HAY

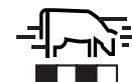
1



**CONTINUOUS
 GRAZING**

3

**BEGIN 24"
 STOP 6"**



**ROTATIONAL
 GRAZING**

1

**BEGIN 24"
 STOP 6"**



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| S | Hs | Hs | Hs |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| Hs | S | Hs | S |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability



EARLY
62 DAYS
DRY
80-110

RELATIVE MATURITY
TO BOOT STAGE
MIDRIB
SEEDS/LB (1,000)
CHECK SEED BAG

WONDERLEAF

HYBRID PEARL MILLET

Wonderleaf is a bush-type hybrid pearl millet with high yield potential. It grows quickly, reaching the boot stage in 62 days. **Wonderleaf** has a high level of tolerance to many pathogens and high humidity, but cannot tolerate standing surface water. **Wonderleaf** can be grown on as little as 16" of water; however, greater tonnage will be produced with greater water availability.

- » Bush-type hybrid with high yield potential
- » Tall, upright and heavy tillering
- » Excellent for warm-season pasture or hay
- » Widely adapted to many diverse geographic regions
- » No prussic acid concerns

RATINGS



Based on Alta Seeds research trials relative to other Alta Seeds products.

CROP USE



SILAGE
DIRECT CHOP / HAYLAGE / BALEAGE

2



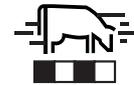
DRY HAY

1



**CONTINUOUS
GRAZING**

N/A



**ROTATIONAL
GRAZING**

1



RECOMMENDED SEEDING RATES

Seeding rates may vary depending on local growing conditions. Please see your Alta Seeds retailer for local recommendations.

■ PRIMARY AREA OF ADAPTATION

FIELD POSITIONING

| | | | |
|----------------------|-----------------------------|-------------------------------|----------------------------|
| TOUGH DRYLAND | HIGH-YIELD DRYLAND | LIMITED IRRIGATION | FULL IRRIGATION |
| Hs | Hs | S | S |
| NO-TILL | POORLY DRAINED SOILS | ANTHRACNOSE PRONE AREA | FUSARIUM PRONE AREA |
| S | S | N/A | N/A |

Hs = Highly Suitable **S** = Suitable **Ma** = Manage Appropriately **X** = Poor Suitability

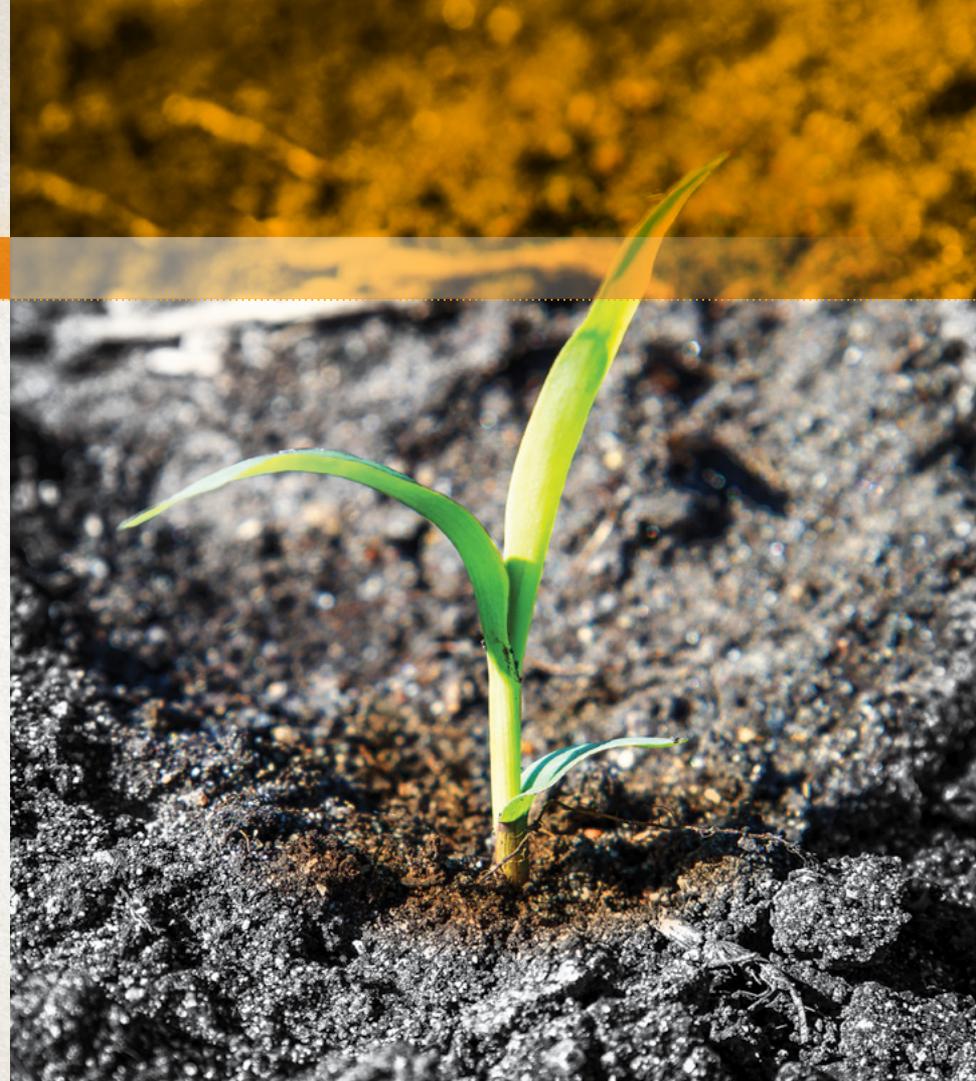


GIVE SORGHUM AN EXCEPTIONAL START WITH VERTIX SEED TREATMENTS

Sorghum hybrids from Alta Seeds are designed for resilience. To fully secure your seed investment, it's vital to guard against disease and pests during germination and stand establishment. Vertix™ seed treatments give you the protection you need to combat threats to stand establishment so your sorghum gets off to an exceptional start and reaches its genetic potential.

With industry-leading protection against seed- and soil-borne diseases and early season insects, Vertix seed treatments create a protective barrier against pathogens and pests that begins in the bag and extends to the field. The innovative solution lineup also includes herbicide safening to increase selectivity to Group 15 herbicides like MOCCASIN™ II PLUS S-metolachlor. Vertix seed treatments allow you to maximize your seed investment and have confidence in knowing that your seed is safeguarded from the very beginning.

Vertix seed treatments are available in three different options to meet your unique environmental conditions and growing practices >





ALL VERTIX SEED TREATMENTS PROVIDE:

- » Protection from bag to field
- » Proven, reliable active ingredients
- » Uniform coverage and low dust levels
- » Increased stand, uniformity and plant vigor



VERTIX CORE uses a unique combination of ipconazole and metalaxyl fungicides to control a variety of diseases including seed rots like *Aspergillus* spp. and seedling blights such as *Fusarium* spp. and *Rhizoctonia solani*.

ACTIVE INGREDIENTS: **IPCONAZOLE + METALAXYL** (fungicides)

DISEASE PROTECTION: *Fusarium* spp., *Rhizoctonia solani*, *Pythium* spp., early season Phytophthora, *Aspergillus* spp., and *Penicillium* spp.

VERTIX SELECT builds on Vertex CORE by adding flurazole as a safener to allow pre-emergent Group 15 herbicides to be safely applied without damaging the seed.

ACTIVE INGREDIENTS: **IPCONAZOLE + METALAXYL** (fungicides)

FLURAZOLE (herbicide safener)

DISEASE PROTECTION: *Fusarium* spp., *Rhizoctonia solani*, *Pythium* spp., early season Phytophthora, *Aspergillus* spp., and *Penicillium* spp.

CROP PROTECTION: Crop safening from Group 15 herbicides such as MOCCASIN™ II PLUS, S-metolachlor, acetochlor and dimethenamid

VERTIX PREMIER contains all the ingredients found in Vertex SELECT along with imidacloprid insecticide to combat early season aphids, chinch bugs, imported fire ants and wireworms.

ACTIVE INGREDIENTS: **IPCONAZOLE + METALAXYL** (fungicides)

FLURAZOLE (herbicide safener)

IMIDACLOPRID (insecticide)

DISEASE PROTECTION: *Fusarium* spp., *Rhizoctonia solani*, *Pythium* spp., early season Phytophthora, *Aspergillus* spp., and *Penicillium* spp.

CROP PROTECTION: Crop safening from Group 15 herbicides such as MOCCASIN™ II PLUS, S-metolachlor, acetochlor, and dimethenamid

INSECT PROTECTION: Early season aphids, chinch bugs, imported fire ants and wireworms



As a grower, your needs are ever-evolving. And our team is constantly innovating and improving our hybrid lineup to meet those needs.

With options to maximize your season even in the toughest conditions, Alta Seeds develops hybrids with one mission in mind:

**TO HELP YOU GROW
YOUR SUCCESS.**





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