



FORAGE FIRST®

BY DLF

ALFALFA

PRODUCT GUIDE | 2025



Forage First® describes how we view the importance of our products when planted on your farm. We have you in mind when yield and quality matter in your farming operation; through our leading research program we provide a higher standard of forage to maximize return on investment. We take pride in delivering proven products that will exceed your expectation with high yields, solid agronomics, improved forage quality and fiber digestibility. Our promise to you is that we will continue leading the way by moving the alfalfa and forage industry to new heights. We will do our best to help you get more out of your alfalfa and forage crops.

ALWAYS INNOVATING

As a forage leader for many years, we've always worked hard to improve. Continual research and development of new varieties ensures the right balance of protein and feed quality, stress tolerance, persistence, disease and pest resistance to suit your operation. Every top-performing variety is tested in many trials before being advanced and available to you. From the latest genetics to new seed treatments and technologies, we have you covered.

MAXIMUM FLEXIBILITY

We provide a diverse selection of products for producing high quality forage for your dairy and livestock operation. Our versatile portfolio offers a variety of proven products to fit each unique operation and was created with flexibility and ease of management in mind.

FOCUSED ON YOU

When you choose Forage First, you benefit from dedicated technical experts and a sales team who focuses solely on alfalfa and forages. Our insight and experience across millions of acres, when combined with the knowledge you have of the specific conditions on your farm, will deliver the best seed solution for you. When it comes time to plant, you won't rely on speculation; you'll rely on proven expertise.

FORAGE FIRST + DLF: SEEDS & SCIENCE, DELIVERED

DLF and La Crosse Seed have worked in synergy since 2018, when DLF acquired La Crosse Seed as their primary distribution focused business. DLF (Dansk Landbrugs Frøelskab) which translates to the "Danish Farmers Organization's Seed Supplier" was founded in 1872. DLF is owned by 3,000 growers specializing in growing and developing forage and turf seeds.

DLF is a global leader in the development of innovative forage products. DLF's US business is headquartered in Albany, Oregon together with a large portion of DLF's North American research and seed production activities. DLF operates a distribution focused business through La Crosse Seed which includes strategically placed warehouses across the United States.

With our synergistic approach, you are supported by a worldwide organization with a tremendous passion for innovation and commitment to helping deliver the absolute best forage products. As we move forward, our goal is to provide continuity to the alfalfa products you have been accustomed to sourcing along with all the other forage, cover crop, and other specialty seed products you may require.



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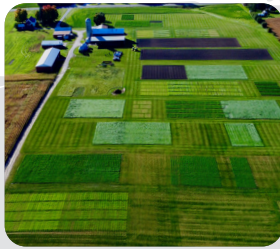
GROWING WITH DLF

Our customers demand a lot from their seed: yield, forage quality, winterhardiness and disease resistance. That is why we invest heavily in global R&D and our field trials. Roughly 11% (1 in 9) of DLF's over 2,000 worldwide employees are involved in breeding programs and product development. For more than 30 years, DLF breeding and product development has optimized forage grass and legume varieties ideal to local climatic and environmental conditions to seed the green future. We aim to deliver sustainable solutions with the potential to increase productivity of land and livestock, sequester carbon and reduce emissions in the supply chain.

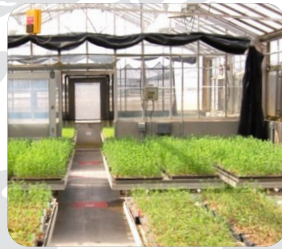
Connell, Washington USA



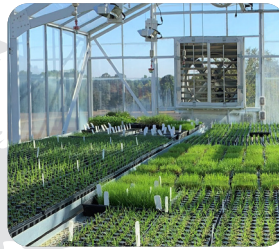
Port Hope, Ontario Canada



West Salem, Wisconsin USA



Philomath, Oregon USA



Berry, Kentucky USA



THE WORLD OF DLF



TESTING

- DLF head-to-head comparisons test current products against competitor check and experimental varieties
- This rigorous testing gives an ability to identify varieties with superior yield, persistence, faster regrowth, exceptional forage quality and superior disease resistance

DLF's Research trials provide the ability to select varieties that have improved disease resistance, superior yield, improved winterhardiness, faster regrowth and high forage quality based on true head to head comparisons!

DLF is the proven leader in developing forage grass and clover varieties that are adapted to diverse climatic and soil conditions. Our intensive breeding program is constantly developing new varieties of grass and clover species that will out-perform older generation genetics in yield, palatability, and forage quality.

ULTRACUT™ DISEASE PROTECTION

Select FORAGE FIRST® varieties include the UltraCut™ alfalfa disease package, helping growers produce a healthy alfalfa crop in field conditions susceptible to evolving Aphanomyces and Anthracnose disease strains. Its protection can help deliver an advantage through improved agronomic performance and yield potential. Look for UltraCut™ enhanced varieties like FF 42.A3.



FORAGE FIRST® Featured Alfalfa

BY DLF



FF 42.A3

Cutting System: 3 - 5

- Industry leading UltraCut™ disease package offers protection against evolving Aphanomyces & Anthracnose disease threats**
- Excellent forage yield with improved forage quality
- Patented Anthracnose*** technology, including Race 5
- 7 years forward breeding disease resistance/cold tolerance from 42.A2
- Very high multifoliate leaf expression

DISEASE & PEST CONTROL

| | | | |
|-----------------------|-----------|------------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | HR |
| Verticillium Wilt | HR | Aphanomyces Race 2 | HR |
| Anthracnose 1 | HR | Aphanomyces Race EMR** | HR |
| Anthracnose 5*** | HR | Potato Leafhopper | NR |
| Bacterial Wilt | HR | Spotted Alfalfa Aphid | R |
| Fusarium Wilt | HR | Stem Nematode | R |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.4 |   |
| Winter Survival | 1.5 | |
| Total DRI | 40/40 | |



FF 4022.LH

Cutting System: 3 - 5

- High yielding leafhopper alfalfa
- Latest generation of leafhopper resistance with improved leafhopper expression
- Resistant to both pea aphids & stem nematode
- High multileaf expression
- Widely adapted across the Midwest

DISEASE & PEST CONTROL

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | HR |
| Verticillium Wilt | HR | Aphanomyces Race 2 | R |
| Anthracnose | HR | Pea Aphid | R |
| Bacterial Wilt | HR | Potato Leafhopper | HR |
| Fusarium Wilt | HR | Stem Nematode | R |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.0 |   |
| Winter Survival | 2.2 | |
| Total DRI | 34/35 | |


FF 5020.FR

Cutting System: 4 - 5

- Fast recovery after cutting & later fall dormancy
- Excellent forage yield potential combined with excellent winter hardiness
- Resistance to several important alfalfa pests including pea aphids & stem nematode

DISEASE & PEST CONTROL

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | HR |
| Verticillium Wilt | HR | Aphanomyces Race 2 | R |
| Anthracnose | HR | Pea Aphid | HR |
| Bacterial Wilt | HR | Potato Leafhopper | NR |
| Fusarium Wilt | HR | Stem Nematode | R |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.9 |  |
| Winter Survival | 2.0 | |
| Total DRI | 34/35 | |



FF 4020.BR

Cutting System: 3 - 5

NEW

- Branch rooting system
- Aphanomyces 2 resistance
- Stands up to wheel traffic pressure
- High yield & quality potential
- Adapted to variable soil conditions

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | HR |
| Verticillium Wilt | HR | Aphanomyces Race 2 | R |
| Anthracnose | HR | Stem Nematode | HR |
| Bacterial Wilt | HR | | |
| Fusarium Wilt | HR | | |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.0 |   |
| Winter Survival | 2.0 | |
| Total DRI | 34/35 | |

**Includes race 1 and race 2 protection. In addition, Forage Genetics International, LLC (FGI) has identified a novel source of Aphanomyces resistance in the greenhouse and field that visibly outperforms unrelated varieties on the market when grown under natural or artificial disease pressure. FGI researchers have been working cooperatively with universities collecting and testing the most virulent strains of Aphanomyces to help determine the level of resistance to this novel source.

***Includes Anthracnose Race 1 protection, along with Anthracnose Race 5 protection, which is patented by FGI.



FF 4020.ST

Cutting System: 3 - 5

NEW

- Bred for high forage production in saline soil conditions
- Resistance to Stem Nematode and Root Knot Nematode
- Well adapted to Western US.

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | R |
| Verticillium Wilt | HR | Pea Aphid | R |
| Anthracnose | R | Stem Nematode | HR |
| Bacterial Wilt | HR | | |
| Fusarium Wilt | HR | | |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.0 |   |
| Winter Survival | 2.0 | |
| Total DRI | 28/30 | |


FF PREMIUM Brand

Cutting System: 3 - 5

- Solid performance at a modest price
- Improved disease resistance
- Widely adapted

DISEASE & PEST CONTROL

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | HR |
| Verticillium Wilt | HR | Aphanomyces Race 2 | NR |
| Anthracnose | HR | Pea Aphid | NR |
| Bacterial Wilt | HR | Potato Leafhopper | NR |
| Fusarium Wilt | HR | | |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 4.0 |  |
| Winter Survival | 2.0 | |
| Total DRI | 30/30 | |


FF PRO Brand

Cutting System: 2 - 4

- Consistent performance at a budget price
- Widely adapted

DISEASE & PEST CONTROL

| | | | |
|-----------------------|-----------|--------------------|-----------|
| Phytophthora Root Rot | HR | Aphanomyces Race 1 | R |
| Verticillium Wilt | R | Aphanomyces Race 2 | NR |
| Anthracnose | R | Pea Aphid | NR |
| Bacterial Wilt | R | Potato Leafhopper | NR |
| Fusarium Wilt | R | | |

| | | |
|-----------------|--------------|---|
| Fall Dormancy | 3.0 |  |
| Winter Survival | 2.4 | |
| Total DRI | 25/30 | |



ICON KEY:



LEAFHOPPER PROTECTION



DURABLE ROOT STRUCTURE



SALT TOLERANT

ULTRACUT™

DISEASE PACKAGE



CROSSECOAT™ TECHNOLOGY

RESISTANCE RATINGS:

HR = Highly Resistant, 51% or more resistant plants

R = Resistant, 31 - 50% resistant plants

G/F = Salt Tolerance Germination (G), Forage (F)

MR = Moderately Resistant, 15 - 30% resistant plants

LR = Low Resistance, 6 - 14% resistant plants

S = Susceptible, 0 - 5% resistant plants

◦ = Not Rated/Not Tested

Alfalfa

DISEASE & PEST CONTROL

| FORAGE FIRST® | ULTRA/CUT™ | FALL DORMANCY | WINTER SURVIVAL | TOTAL DRI | CUTTING SYSTEM | DISEASE & PEST CONTROL | | | | | | | | | | | | |
|------------------|------------|---------------|-----------------|-----------|----------------|--------------------------|----------------------|--------------------|--------------------|-------------------|------------------|-----------------------|-----------------------|--------------------------------------|--------------|--------------------------|----------------------|---------------|
| | | | | | | PHYTOPHTHORA ROOT ROT | VERTICILLIUM WILT | ANTHRACNOSE 1** | ANTHRACNOSE 5** | BACTERIAL WILT | FUSARIUM WILT | APHANOMYCES RACE 1 | APHANOMYCES RACE 2 | APHANOMYCES*** (EVOLVING STRAINS) | PEA APHID | SPOTTED ALFALFA APHID | POTATO LEAFHOPPER | STEM NEMATODE |
| FF 42.A3 | | 4.4 | 1.5 | 40/40 | 3-5 | HR | HR | HR | HR | HR | HR | HR | HR | HR | R | R | o | R |
| FF 4022.LH | | 4.0 | 2.2 | 34/35 | 3-5 | HR | HR | HR | o | HR | HR | HR | R | o | R | o | HR | R |
| FF 5020.FR | | 4.9 | 2.0 | 34/35 | 4-5 | HR | HR | HR | o | HR | HR | HR | R | o | HR | o | o | R |
| FF 4020.BR | | 4.0 | 2.0 | 34/35 | 4-6 | HR | HR | HR | o | HR | HR | HR | R | o | o | o | o | HR |
| FF 4020.ST | | 4.0 | 2.0 | 28/30 | 4-5 | HR | HR | R | o | HR | HR | R | o | o | R | o | o | HR |
| FF PREMIUM Brand | | 4.0 | 2.0 | 30/30 | 3-4 | HR | HR | HR | o | HR | HR | HR | o | o | o | o | o | o |
| FF PRO Brand | | 3.0 | 2.4 | 25/30 | 2-4 | HR | R | R | o | R | R | R | o | o | o | o | o | o |

Featured Forage First® Clover & Grasses

| | | | |
|-------------------------------------|--|---|--|
| RED CARPET® XL Red Clover | | <ul style="list-style-type: none"> Best utilized for silage or spring hay Increased disease resistance to southern anthracnose & downy mildew | <ul style="list-style-type: none"> May produce 3 cuttings on second-year stands Works well in rotational grazing programs |
| ECHELON Orchardgrass | | <ul style="list-style-type: none"> Extremely late maturing, maintains forage quality longer between harvests Superior leaf disease resistance | <ul style="list-style-type: none"> Perfect companion for alfalfa or clover mixes Excellent persistence & vigor Increased palatability & stand persistence |
| STARGRAZER XL Tall Fescue | | <ul style="list-style-type: none"> Well adapted for the Midwest, Mid-Atlantic & Northeast Suitable for both pastures or hay production | <ul style="list-style-type: none"> Slightly earlier maturing than KY31 Good yielder with excellent persistence |
| TOP TIM XL Timothy | | <ul style="list-style-type: none"> Early maturity blend Excellent with clover or alfalfa for hay or pasture | <ul style="list-style-type: none"> 1 - 2 weeks earlier to boot stage than Climax in most environments |

Featured Forage First® Grass Mixes

SEEDING RATE (LBS/ACRE)

SEEDING RATE (LBS/ACRE)

VERSAGRASS™ MIX 25 - 30

Excellent for waterways, terraces, ditches, banks & headlands. Great for permanent pastures and companion crop for hay production.



- 25% Big Ton XL Smooth Bromegrass
- 25% Endo-Graze XL Perennial Ryegrass
- 25% Haymate XL Orchardgrass
- 25% Top Tim XL Timothy

GRASS MASTER MIX 30 - 40

Endophyte-free, tall fescue & orchardgrass perform well in less-than-ideal summers. Good for grazing & hay production.



- 35% Stargrazer XL Tall Fescue
- 35% Haymate XL Orchardgrass
- 15% Endo-Graze XL Perennial Ryegrass
- 15% Fusion XL Festulolium

BLM #4 MIX 30 - 40

Versatile mix, establishes quickly. Endophyte-free tall fescue extends productivity into hot, dry summer.



- 30% Endo-Graze XL Perennial Ryegrass
- 20% Tetrabana XL Italian Ryegrass
- 20% Stargrazer XL Tall Fescue
- 15% Balin/Ginger Kentucky Bluegrass
- 15% Top Tim XL Timothy

MARE & FOAL MIX 30 - 40

Ability to be productive under rotational grazing & hay production. Tolerant to heavy traffic.



- 50% Haymate XL Orchardgrass
- 25% Top Tim XL Timothy
- 15% Fusion XL Festulolium
- 10% Balin/Ginger Kentucky Bluegrass

FESCUE BASED MIX 30 - 40

Endophyte-free, fescue based pairs well with dairy quality alfalfa, or can be straight seeded for heifers.



- 40% Stargrazer XL Tall Fescue
- 30% Meadow Fescue
- 20% Fusion XL Festulolium
- 10% Endo-Graze XL Perennial Ryegrass

SEE YOUR REGIONAL SALES MANAGER FOR LIST OF ADDITIONAL ALFALFA AND FORAGE OPTIONS.



XL Brand



Leafhopper Protection



Salt Tolerant



Disease Package



Variety

LA CROSSE SEED PROVIDES A FULL RANGE OF PRODUCTS TO MEET YOUR NEEDS:

| | |
|--|---|
|  <p>FORAGES</p> <ul style="list-style-type: none"> • Forage grasses • Forage legumes • Forage mixes • Seed inoculants • Conservation seed/mixes • Small grains • Custom forage mixes |  <p>TURF</p> <ul style="list-style-type: none"> • Turf seed • Turf mixes • Custom turf mixes • Conservation mixes • Erosion control |
|  <p>SUMMER ANNUALS</p> <ul style="list-style-type: none"> • Sorghum x Sudan • Sudangrass • Forage Sorghum • Millets • Teffgrass |  <p>COVER CROPS</p> <ul style="list-style-type: none"> • Cover crop seed • Cover crop mixes • Custom cover crop mixes • Seed inoculants |
|  <p>NATIVES & WILDFLOWERS</p> <ul style="list-style-type: none"> • Native grasses • Conservation seed mixes • Wildflowers/forbs • Custom conservation seed fixes » (NRCS, CRP, Pollinator) |  <p>WILDLIFE</p> <ul style="list-style-type: none"> • Food plot seed • Food plot mixes • Custom wildlife mixes |



CUSTOM SEED MIXING

La Crosse Seed offers custom mixing capabilities to meet any need. Contact us at info@laxseed.com or visit our website to learn more.

SEED OPTIONS

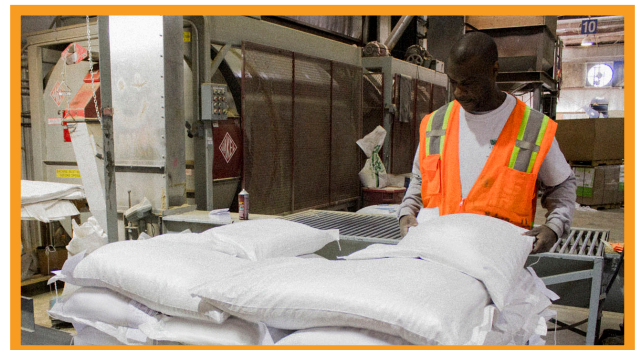
La Crosse Seed offers a vast portfolio of seed designed for many conservation applications. A partial list available through La Crosse Seed includes seed for:

- **Conservation cover – including CRP and pollinator habitat seeds**
- **Contour buffer strips**
- **Filter strips**
- **Field borders**
- **Forage and biomass plantings**
- **Grassed waterways**
- **Stream bank protection**

CONSIDERATIONS WHEN

CREATING CUSTOM SEED MIXES:

- Think about seed sizes – will the different size and shape of certain seeds prohibit specific application methods?
» *Aerial:* too large of seed might struggle to get adequate seed-to-soil contact
» *Drilling or Ground Seeding:* seed size usually affects seeding depth. Different seeding depths become a real challenge with numerous species all in the same bag
- Different cover crops often perform best when planted at different times
- Not all crops are beneficial to the next crop in the rotation
- Select species carefully, making sure all species are adapted to the field's soil, drainage and crop rotation












Contact your Regional Sales Manager










SUMMER SELECT SUMMER ANNUALS

MULTI-CUT SPECIES

| | | | MATURITY | APPROX. SEEDS PER POUND* | DRYLAND SEEDING LBS/ACRE | IRRIGATION/HI-RAIN SEEDING LBS/ACRE | RECOVERY AFTER CUTTING | LEAF DISEASE RESISTANCE | SUGARCANE APHID TOLERANCE | SINGLE SILAGE CUT SUITABILITY | RAPID DRY DOWN |
|----------------------|--|--|-----------|--------------------------|--------------------------|-------------------------------------|------------------------|-------------------------|---------------------------|-------------------------------|----------------|
| SORGHUM X SUDANGRASS | QUICKDRY BMR T/TS  | | MED LATE | 14,000 - 15,000 | 20 - 25 | 35 - 50 | 4 | 4 | 3 | 2 | 3 |
| | DENSE TONNAGE BMR BD T   | | MED LATE | 14,000 - 15,000 | 15 - 25 | 25 - 35 | 4 | 4 | 1 | 4 | 2 |
| | EVERGROW BMR PPS T   | | LATE | 14,000 - 15,000 | 20 - 25 | 35 - 50 | 3 | 5 | 2 | 3 | 2 |
| | GREENSUGAR TR T | | MED | 16,000 - 20,000 | 20 - 25 | 50 - 60 | 3 | 3 | 2 | 2 | 2 |
| | GREENSUGAR MS T  | | MED LATE | 16,000 - 20,000 | 20 - 25 | 50 - 60 | 3 | 4 | 1 | 2 | 2 |
| SUDANGRASS | BALEMORE | | EARLY MED | 35,000 - 40,000 | 15 - 25 | 20 - 35 | 3 | 3 | 1 | 2 | 4 |
| PEARL MILLET | HERCULES BMR BD T   | | MED | 50,000 - 60,000 | 10 - 12 | 15 - 20 | 5 | 5 | 5 | 4 | 4 |
| | PERFORM T | | MED | 50,000 - 60,000 | 10 - 12 | 15 - 20 | 5 | 4 | 5 | 4 | 4 |
| TEFF GRASS | REPRIEVE XL  | | NA | 650,000 | 8 - 10 | 8 - 10 | 4 | 3 | 5 | NA | 4 |

SINGLE-CUT SPECIES

| | | | | DAYS TO HARVEST (SOFT DOUGH STAGE) | APPROX. HARVEST HEIGHT (FT) | APPROX. SEEDS PER POUND* | SEEDING 30" ROWS (LBS) | SEEDING NARROW (LBS) | RECOVERY AFTER CUTTING | STANDABILITY | SUGARCANE APHID TOLERANCE | DOUBLE CROP | OVERALL ADAPTABILITY |
|----------------|---|-----------------|---------|------------------------------------|-----------------------------|--------------------------|------------------------|----------------------|------------------------|--------------|---------------------------|-------------|----------------------|
| FORAGE SORGHUM | 94 MS TS  | | MS | 6 - 8 | 17,000 - 19,000 | 4 - 6 | 10 - 15 | 3 | 4 | 2 | 3 | 4 | |
| | 95 BMR TS   | | 85 - 95 | 5 - 7 | 16,000 - 18,000 | 5 - 7 | NR | 2 | 4 | 3 | 3 | 5 | |
| GRAIN SORGHUM | 79 B TS   | OPEN BRONZE/RED | 48 - 51 | 80 - 85 | 36 - 42 | 13,000 | 25,000 - 40,000 | 60,000 - 75,000 | 5 | 4 | 4 | 5 | 2 |
| | 94 R TS   | SEMI-CLOSED RED | 68 - 71 | 110 - 115 | 50 - 56 | 16,000 | 25,000 - 40,000 | 60,000 - 75,000 | 5 | 4 | 5 | 4 | 3 |

| | MILLET | PRIMARY FORAGE USE | PLANTING DATE | SEEDING RATE (LBS, BROADCAST - ADD 30%) | DAYS TO GRAIN MATURITY |
|---------|-----------------------|---|---------------|---|------------------------|
| FOXTAIL | Common Foxtail Millet | Hay or silage | May - July | 20 - 25 | 60 - 100 |
| | German Millet | Dry hay in 55 - 60 days | May - July | 20 - 25 | 75 - 90 |
| | Siberian Millet | Dry hay in 40 - 50 days | May - July | 20 - 25 | 60 - 80 |
| | White Wonder Millet | Dry hay in 50 - 55 days | May - July | 20 | 70 - 90 |
| | White Proso Millet | NR | May - July | 20 - 25 | 70 - 90 |
| GRAZING | Japanese Millet | Grazing; dry hay in 45 - 50 days | April - July | 15 - 20 | 60 - 70 |
| | Pearl Millet | Grazing in 35 - 40 days; dry hay in 40-50 days; can ensile or green-chop also | May - July | 12 - 20 | 60 - 70 |
| | Brown Top Millet | Thin stems make dry hay more suitable | May - July | 20 - 25 | 60 |

BD = Brachytic Dwarf, **BMR** = Brown Mid-Rib, **MS** = Male Sterile, **PPS** = Photo Period Sensitive, **T** = Base Treatment, **TS** = Base Treatment/Safened

Unless otherwise indicated, a standard 5 point rating system is used. Ratings are based on comparison with other products of like maturity/product use.

1 = POOR, 5 = EXCELLENT

| | |
|--|---|
| <ul style="list-style-type: none"> Widely adapted Traditional growth habit with wide, long leaves | <ul style="list-style-type: none"> Increased sugar content = improved digestibility Fast establishment & regrowth = more productivity |
| <ul style="list-style-type: none"> Management friendly hybrid with greater harvest flexibility Dwarf hybrid = improved standability & higher leaf:stem ratio | <ul style="list-style-type: none"> Suitable for grazing environments or 1-cut silage systems Increased sugar content = improved digestibility |
| <ul style="list-style-type: none"> Widely adapted with improved disease resistance PPS hybrids remain vegetative until mid-Sept (day length < 12h, 20m) | <ul style="list-style-type: none"> PPS allows for wider window of harvest Build tonnage without sacrificing quality |
| <ul style="list-style-type: none"> Broad adaptation in a traditional, non-BMR package | <ul style="list-style-type: none"> High yielding; increase population for improved quality |
| <ul style="list-style-type: none"> Higher levels of sugar/protein in vegetative portion of plant Increased disease resistance | <ul style="list-style-type: none"> MS = no anthers, thus no pollen for self-fertilization Improved standability |
| <ul style="list-style-type: none"> Best summer annual option when dry hay production is planned Can also be used for grazing or green chop | <ul style="list-style-type: none"> Strong emergence & quick regrowth |
| <ul style="list-style-type: none"> Versatile hybrid suitable for silage, grazing & dry hay Dwarf gene increases leaf:stem ratio & improves standability | <ul style="list-style-type: none"> Enhanced palatability, digestibility & overall utilization No prussic acid or sugarcane aphid concerns |
| <ul style="list-style-type: none"> Versatile hybrid suitable for silage, grazing & dry hay Quicker regrowth compared to sorghum x sudangrass | <ul style="list-style-type: none"> No prussic acid or sugarcane aphid concerns Shorter stature = improved standability |
| <ul style="list-style-type: none"> Great rotational crop between alfalfa & perennial stands Superior quality - ideal for horses & other livestock | <ul style="list-style-type: none"> Well adapted to dry climates |

| | | | |
|---------------------------|--------------------------------|--|---|
| YIELD FOR MATURITY | LEAF DISEASE RESISTANCE | | |
| 4 | 3 | <ul style="list-style-type: none"> Good disease resistance Excellent regrowth for a forage sorghum | <ul style="list-style-type: none"> Male Sterile = increased sugar accumulation |
| 5 | 5 | <ul style="list-style-type: none"> Early maturing dwarf BMR High grain yield for maturity | <ul style="list-style-type: none"> Excellent leaf disease resistance Widely adapted with excellent standability |

| | | | | | |
|----------------------------|---------------------------|-------------------------------------|-------------------------------|---|--|
| HEAD SMUT TOLERANCE | FUSARIUM TOLERANCE | MAIZE DWARF MOSAIC TOLERANCE | DOWNY MILDEW TOLERANCE | | |
| 3 | 4 | 4 | 3 | <ul style="list-style-type: none"> Widely adapted - can go anywhere! Ultra early hybrid | <ul style="list-style-type: none"> Exceptional drought tolerance |
| 5 | 4 | 5 | 5 | <ul style="list-style-type: none"> Widely adapted hybrid that yields Medium maturity | <ul style="list-style-type: none"> Excellent sugarcane aphid tolerance & disease resistance |

*Refer to seeds per lb on seed tag

| TYPICAL HEIGHT & STATURE | REGROWTH AFTER CUTTING/HARVEST | ATTRIBUTES |
|-------------------------------|-------------------------------------|---|
| 2 - 4' | Little to no regrowth | <ul style="list-style-type: none"> Forage type millets primarily Many so called "varieties" |
| 2 - 4' | Little regrowth | <ul style="list-style-type: none"> VERY fast growing Used primarily for hay production; seeds for wildlife |
| 2 - 2½' | Little to no regrowth | <ul style="list-style-type: none"> VERY fast growing Earlier maturing |
| 3 - 4' | Poor at best | <ul style="list-style-type: none"> Dual purpose - hay & grain Late maturing |
| 2 - 2½' | Poor at best | <ul style="list-style-type: none"> Usually grown for seed - bird seed or livestock feed |
| 2 - 4' | Leave 6 - 8" for adequate regrowth | <ul style="list-style-type: none"> Grazing / hay potential on wet soils (no prussic acid) Ideal for waterfowl / wildlife feed |
| 3 - 6' (depending on variety) | Leave 8 - 10" for quickest regrowth | <ul style="list-style-type: none"> Very resilient - handles a variety of soil types No prussic acid concerns |
| 2 - 4' | Leave 6 - 8" for adequate regrowth | <ul style="list-style-type: none"> Fast growing for seed mostly - wildlife Seed shatters easily - reseed potential very high |



SOIL FIRST[®] 101 COVER STARTER

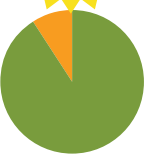
Simple. Practical. A low-risk option for early adopters and growers looking for flexibility.

- For multiple regions & marginal soil environments
- Winter-hardy rye will sequester excess nitrogen

SEEDING RATE (LBS/ACRE) Drill: 30 - 35 **Broadcast:** 35 - 40 **Aerial:** 30 - 40 **Forage:** 40 - 50

91% GUARDIAN[®] WINTER RYE

9% TILLAGE RADISH[®]



SOIL FIRST[®] 102 COVER STARTER +

Building nitrogen and root mass while improving soil tilth and biomass potential.

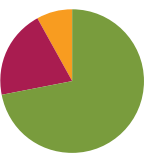
- Perfect before both corn or soybeans
- Ideal for Southern Corn Belt & beyond

SEEDING RATE (LBS/ACRE) Drill: 30 - 35 **Broadcast:** 35 - 40 **Aerial:** 30 - 40 **Forage:** 40 - 50

72% GUARDIAN[®] WINTER RYE

20% CRIMSON CLOVER

8% TILLAGE RADISH[®]



SOIL FIRST[®] 121 BRASSICA BOOST

Pairing with other species is great for forage or grazing and providing high biomass potential

- Perfect supplement for cereal grains like rye & oats
- Will scavenge for excess nutrients left in the soil

SEEDING RATE (LBS/ACRE) Drill: 6 - 8 **Broadcast:** 8 - 10 **Aerial:** 10 - 15 **Supplemental:** 2 - 4

50% PURPLE TOP TURNIPS

50% TILLAGE RADISH[®]



SOIL FIRST[®] 125 N-HANCER

Heavy legume mix intended for adding Nitrogen.

- Strong nitrogen fixing mix
- Ideal as fall forage mix

SEEDING RATE (LBS/ACRE) Drill: 35 - 40 **Broadcast:** 40 - 50 **Aerial:** NR **Forage:** 40 - 50

30% DEFENDER OATS

25% SPRING PEAS

20% BALANSA CLOVER

20% CRIMSON CLOVER

5% TILLAGE RADISH[®]



SOIL FIRST[®] 140 MULTI-PURPOSE

For livestock grazers providing soil protection & biomass from fall through spring.

- Early seeding/late fall silage opportunity
- Ideal forage for beef/non-lactating dairy

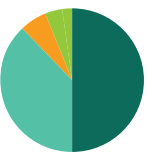
SEEDING RATE (LBS/ACRE) Drill: 35 - 40 **Broadcast:** 40 - 50 **Aerial:** NR **Forage:** 40 - 50

50% NITROUS[®] WINTER TRIT

38% WINTER PEAS

6% TILLAGE RADISH[®]

6% FORAGE BRASSICA



SOIL FIRST[®] 142 CLASSIC - NEW FORMULA

For early planting windows - double-crop, prevent plant, interseeding.

- Ideal for acres going to corn or other grass crops
- Plant early to maximize production

SEEDING RATE (LBS/ACRE) Drill: 12 - 15 **Broadcast:** 15 - 20 **Aerial:** 20 - 25 **Forage:** 15 - 20

85% CRIMSON CLOVER

15% TILLAGE RADISH[®]



SOIL FIRST[®] 150 FIELD FIT

Straightforward & flexible mix with very minimal spring management.

- Winterkills in most northern climates
- Great for sequestering leftover nutrients

SEEDING RATE (LBS/ACRE) Drill: 30 - 35 **Broadcast:** 35 - 40 **Aerial:** 30 - 40 **Forage:** 40 - 50

90% DEFENDER OATS

10% TILLAGE RADISH[®]



SOIL FIRST[®] 160 ROOTING

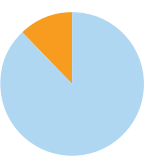
Blend of radish & ryegrass maximizes root mass and captures nutrients.

- Best for breaking up compaction & catching nutrients
- Perfect in manure systems

SEEDING RATE (LBS/ACRE) Drill: 15 - 20 **Broadcast:** 20 - 25 **Aerial:** 20 - 25 **Forage:** 20 - 25

88% ANNUAL RYEGRASS

12% TILLAGE RADISH[®]



SOIL FIRST[®] 167 SUMMER BIOMASS

Base of 50% warm-season annual grasses is optimized for biomass & is uniquely suited for grazing.

- Tolerates poor soil, low pH, & drought environments
- Species diversity helps soil aggregate stability

SEEDING RATE (LBS/ACRE) Drill: 15 - 20 **Broadcast:** 20 - 25 **Aerial:** NR **Forage:** 25 - 30

25% SORGHUMxSUDANGRASS

20% IRON & CLAY COW PEAS

15% PEARL MILLET

10% GERMAN MILLET

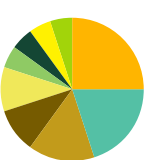
10% DEFENDER OATS

5% SUNN HEMP

5% FORAGE COLLARDS

5% PEREDOVIK SUNFLOWER

5% HYBRID BRASSICA



SOIL FIRST[®] 175 ACCUSPREAD

Coated clover and ryegrass creates spread patterns and broadcast germination.

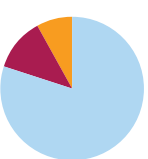
- Great compaction alleviation & nutrient scavenging
- Facilitates more accurate broadcast seeding patterns

SEEDING RATE (LBS/ACRE) Drill: 20 - 25 **Broadcast:** 25 - 30 **Aerial:** 25 - 30 **Forage:** 25 - 30

80% ANNUAL RYEGRASS*

12% CRIMSON CLOVER*

8% TILLAGE RADISH[®]



*COATED

Planting Information Chart

| KIND OF SEED | APPROX. SEEDS/LB | LBS/BU | PLANTING RATE LBS/ACRE | PLANTING RATE LBS/ACRE IN MIXES | SEEDING DEPTH | SUGGESTED PLANTING DATES | EMERGENCE TIME (DAYS) | PRIMARY USE | LIFE |
|----------------------------|------------------|--------|------------------------|---------------------------------|---------------|--------------------------|-----------------------|--------------------------------|-----------|
| Alfalfa | 227,000 | 60 | 15 - 20 | 8 - 10 | ¼" - ½" | Mar - May, Aug - Sep | 7 | Hay, Silage, Pasture | Perennial |
| Barley | 14,000 | 48 | 30 - 100 | 20 - 40 | ¾" - 1" | Mar - Apr, Aug - Oct | 6 - 8 | Pasture, Silage | Annual |
| Bermudagrass (Hulled) | 2,071,000 | 40 | 5 - 10 | N/A | ½" | Apr - Jun, Aug - Sep | 21 | Hay, Pasture | Perennial |
| Birdsfoot Trefoil | 370,000 | 60 | 8 - 10 | 4 - 5 | ¼" | Feb - May, Aug - Sep | 7 | Pasture | Perennial |
| Bluegrass, Kentucky | 2,177,000 | 14 | 10 - 15 | 4 - 10 | ¼" | Feb - May, Aug - Sep | 28 | Pasture | Perennial |
| Brassicas, Hybrid | 165,000 | N/A | 4 - 6 | 2 - 3 | ¼" | Jul - Sep | 4 - 6 | Cover Crop | Annual |
| Brome, Meadow | 93,000 | N/A | 12 - 20 | 5 - 10 | ¼" - ½" | Mar - May, Aug - Sep | 14 | Hay, Pasture | Perennial |
| Brome, Smooth | 138,000 | 14 | 15 - 20 | 5 - 10 | ¼" - ½" | Mar - May, Aug - Sep | 14 | Hay, Pasture | Perennial |
| Buckwheat | 15,000 | 52 | 40 - 55 | 5 - 20 | ½" - 1" | Jun - Jul | 7 | Cover Crop | Annual |
| Cereal Rye | 18,000 | 56 | 30 - 80 | 20 - 40 | ¾" - 1" | Mar - Apr, Aug - Oct | 5 - 8 | Cover Crop, Silage, Pasture | Annual |
| Chicory | 426,000 | N/A | 4 - 5 | 2 - 3 | ½" - ¾" | Apr - May, Aug - Sep | 7 - 21 | Pasture, Wildlife | Perennial |
| Clover, Alsike | 728,000 | 60 | 7 - 8 | 1 - 3 | ¼" - ½" | Feb - May, Aug - Oct | 7 | Hay, Pasture | Perennial |
| Clover, Arrowleaf | 400,000 | 60 | 5 - 10 | N/A | ½" - ¾" | Aug - Oct | 7 | Hay, Pasture | Annual |
| Clover, Balansa | 500,000 | | 3 - 6 | 1 - 4 | ¼" | Feb - Mar, Aug - Sep | 14 | Cover Crop, Hay | Annual |
| Clover, Berseem | 207,000 | 60 | 8 - 20 | 5 - 10 | ¼" | May - Jun, Aug - Oct | 5 - 8 | Cover Crop, Hay | Annual |
| Clover, Crimson | 150,000 | 60 | 10 - 15 | 4 - 8 | ¼" | Aug - Oct | 7 - 10 | Cover Crop, Hay | Annual |
| Clover, Kura | 227,000 | 60 | 10 | 4 - 6 | ¼" - ½" | Apr - May, Aug | 7 | Hay, Pasture | Perennial |
| Clover, Ladino White | 768,000 | 60 | 4 - 6 | 2 - 4 | ½" - ¾" | Feb - May, Aug - Oct | 7 - 10 | Hay, Pasture | Perennial |
| Clover, Mammoth Red | 272,000 | 60 | 8 - 12 | 6 - 8 | ¼" - ½" | Feb - May, Aug - Oct | 7 | Hay, Silage, Pasture | Biennial |
| Clover, Medium Red | 272,000 | 60 | 8 - 12 | 6 - 8 | ¼" - ½" | Feb - May, Aug - Oct | 7 | Hay, Silage, Pasture | Biennial |
| Clover, New Zealand White | 768,000 | 60 | 4 - 6 | 2 - 4 | ½" - ¾" | Feb - May, Aug - Oct | 7 - 10 | Pasture | Perennial |
| Clover, White Dutch | 768,000 | 60 | 6 - 8 | 2 - 4 | ½" - ¾" | Feb - May, Aug - Oct | 7 - 10 | Pasture | Perennial |
| Crownvetch | 138,000 | 60 | 20 - 40 | 5 - 10 | ½" | Mar - May, Aug - Sep | 14 | Erosion Control | Perennial |
| Fescue, Hard | 592,000 | N/A | 5 - 10 | N/A | ¼" - ½" | Feb - May, Aug - Sep | 14 | Erosion Control | Perennial |
| Fescue, Tall | 227,000 | 25 | 25 - 30 | 6 - 12 | ¼" - ½" | Mar - May, Aug - Sep | 14 | Hay, Pasture, Erosion Control | Perennial |
| Festulolium | 227,000 | N/A | 30 - 40 | 15 - 20 | ¼" | Mar - May, Aug - Sep | 14 | Hay, Pasture | Biennial |
| Hairy Vetch | 16,000 | 60 | 15 - 30 | 10 - 20 | 1" | Aug - Oct | 14 | Cover Crop | Annual |
| Kale | 200,000 | N/A | 3.5 - 4 | 2 - 3 | ½" | May - Jul | 7 | Cover Crop | Annual |
| Lespedeza, Korean (Hulled) | 238,000 | 25 | 25 - 35 | N/A | ¼" - ½" | Mar - Apr | 14 | Hay, Pasture, Erosion Control | Annual |
| Lespedeza, Striate (Kobe) | 200,000 | 25 | 25 - 35 | N/A | ¼" - ½" | Mar - Apr | 14 | Hay, Pasture, Erosion Control | Annual |
| Millet, Browntop | 142,000 | 50 | 10 - 30 | N/A | ½" - 1" | May - Jul | 10 | Hay, Pasture | Annual |
| Millet, Foxtail (German) | 220,000 | 50 | 20 - 25 | N/A | 1" | May - Jul | 10 | Hay | Annual |
| Millet, Japanese | 143,000 | 35 | 15 - 30 | 8 - 12 | 1" | Apr - Jul | 10 | Hay, Wildlife, Erosion Control | Annual |
| Millet, Pearl | 60,000 | 52 | 10 - 30 | 5 - 20 | ½" - 1" | May - Jul | 3 - 5 | Pasture, Silage | Annual |
| Millet, Proso | 80,000 | 56 | 20 - 30 | 5 - 20 | 1" | May - Jul | 3 - 5 | Grain, Wildlife | Annual |
| Oats, Spring, Fall | 16,000 | 32 | 30 - 50 | 20 - 40 | ¾" - 1" | Mar - Apr, Aug - Sep | 5 - 8 | Cover Crop, Silage, Hay | Annual |
| Orchardgrass | 416,000 | 14 | 20 - 30 | 3 - 10 | ¼" - ½" | Mar - May, Aug - Sep | 18 | Hay, Pasture | Perennial |
| Peas, Austrian Winter | 2,000 | 60 | 30 - 80 | 10 - 30 | 1" - 1 ½" | Aug - Sep | 9 | Cover Crop | Annual |
| Peas, Cow | 3,000 | 60 | 75 - 120 | N/A | ¼" - ½" | May - Jul | 8 | Cover Crop, Silage | Annual |
| Phacelia | 230,000 | N/A | 8 | 1 - 2 | ¼" | Jun - Sep | 10 - 14 | Cover Crop | Annual |
| Radish | 35,000 | N/A | 3 - 8 | 1 - 3 | ¼" - ½" | Aug - Sep | 14 | Cover Crop | Annual |
| Rapeseed | 145,000 | 50 | 4 - 6 | 2 - 4 | ¼" - ½" | Apr - May, Aug - Sep | 4 - 10 | Cover Crop | Annual |
| Red Top | 4,990,000 | 14 | 4 - 5 | 1 - 2 | ¼" | Mar - May, Aug - Sep | 10 | Pasture, Erosion Control | Perennial |
| Reed Canarygrass | 480,000 | 47 | 5 - 10 | 3 - 5 | ¼" - ½" | Mar - May, Aug - Sep | 21 | Hay, Pasture | Perennial |
| Ryegrass, Annual | 227,000 | 24 | 15 - 30 | 10 - 15 | ¼" | Mar - Apr, Aug - Oct | 7 | Cover Crop, Silage, Pasture | Annual |
| Ryegrass, Perennial | 227,000 | 24 | 30 - 40 | 6 - 10 | ¼" - ½" | Feb - May, Aug - Sep | 14 | Hay, Pasture | Perennial |
| Sainfoin | 30,000 | 55 | 20 | 15 | ½" - ¾" | Mar - Apr | 10 | Hay, Pasture, Wildlife | Perennial |
| Sorghum, Forage | 17,000 | 56 | 6 - 15 | N/A | ¾" - 1 ½" | May - Jul | 10 | Silage | Annual |
| Sorghum, Forage BMR | 17,000 | 56 | 4 - 6 | N/A | 1" | May - Jul | 10 | Silage | Annual |
| Sorghum, Grain | 15,000 | 50 | 3 - 10 | N/A | 1" | May - Jul | 10 | Grain, Wildlife | Annual |
| Sorghum x Sudangrass | 21,000 | 56 | 25 - 50 | 5 - 20 | ¾" - 1 ½" | May - Jul | 10 | Silage | Annual |
| Sorghum x Sudangrass BMR | 21,000 | 56 | 15 - 35 | N/A | 1" | May - Jul | 10 | Silage | Annual |
| Sudangrass | 43,000 | 40 | 20 - 45 | N/A | ½" - 1" | May - Jul | 10 | Hay, Pasture | Annual |
| Sunn Hemp | 15,000 | N/A | 15 | 5 - 8 | ½" - 1" | Jul - Sep | 3 - 7 | Cover Crop | Annual |
| Sunflower | 7,000 | 32 | 8 - 5 | 1 - 2 | ¾" - 1" | May - Aug | 4 - 10 | Wildlife | Annual |
| Sweetclover | 259,000 | 60 | 12 - 15 | 6 - 8 | ¼" - ½" | Feb - May, Aug - Oct | 7 | Pasture, Wildlife | Biennial |
| Switchgrass | 389,000 | 55 | 5 - 8 PLS | N/A | ½" | Apr - May | 21 | Hay, Pasture, CRP | Perennial |
| Timothy | 1,152,000 | 45 | 12 - 15 | 2 - 6 | ¼" - ½" | Mar - May, Aug - Sep | 10 | Hay, Pasture | Perennial |
| Teffgrass | 1,300,000 | N/A | 8 - 12 | N/A | ¼" | May - Jul | 3 - 5 | Hay, Pasture | Annual |
| Triticale | 15,000 | 48 | 30 - 100 | 20 - 40 | ¾" - 1" | Mar - Apr, Aug - Oct | 6 - 8 | Hay, Pasture | Annual |
| Turnips | 220,000 | 55 | 2 - 6 | 1 - 4 | ¼" | Aug - Sep | 4 - 10 | Cover Crop | Annual |
| Weeping Lovegrass | 1,482,320 | 60 | 3 - 5 | 1 - 2 | ½" | May - Jun | 7 | Hay, Pasture | Perennial |
| Wheat | 11,000 | 60 | 90 - 120 | 60 - 90 | ¾" - 1 ½" | Mar - Apr, Aug - Oct | 7 | Pasture, Silage | Annual |

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FORAGE FIRST®

BY DLF



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