KWS Hybrid Rye Training: Company, Agronomy & Best Practices

2025

SEEDING
THE FUTURE
SINCE 1856

KWS

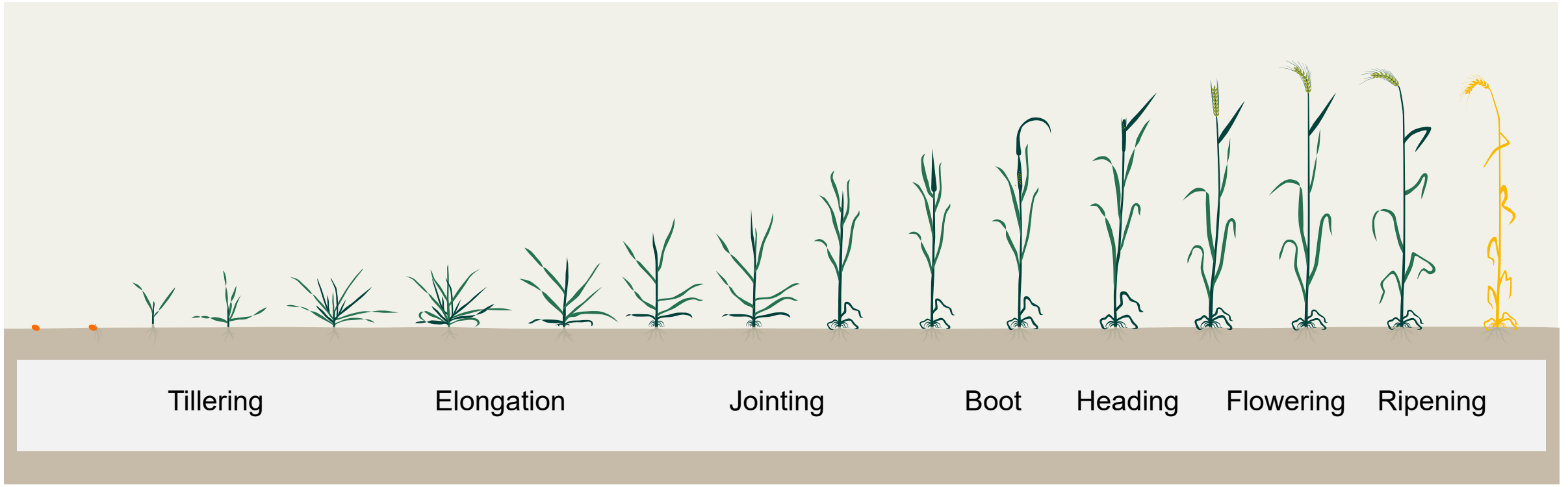
KWS Company Overview

- KWS is a family-owned plant breeding company founded in Germany in 1856.
  - World Headquarters: Einbeck, Germany
  - Cereals Headquarters: Wholde, Germany
- The KWS Hybrid Rye breeding program originated in Germany in the 1980s, building on decades of cereal breeding expertise.
- KWS Hybrid Rye was launched in Canada in 2014 and introduced in the United States in 2016.
  - Since then, the program has expanded significantly across North America, supported by dedicated regional trials and product development.

KWS Hybrid Rye Unit

- 1 unit contains ***1 million*** viable seeds.
- Unit weight can vary depending on germination rates and grain weight.
- The exact weight of each unit is printed on the bag or tote label for reference.
- Hybrid rye does not tolerate wet feet.
  - Heavy, wet soils can cause stand establishment issues and increase disease risk.
  - To avoid problems, ensure fields have good drainage and avoid planting in low-lying or poorly drained areas.

Hybrid Rye Growth Stages



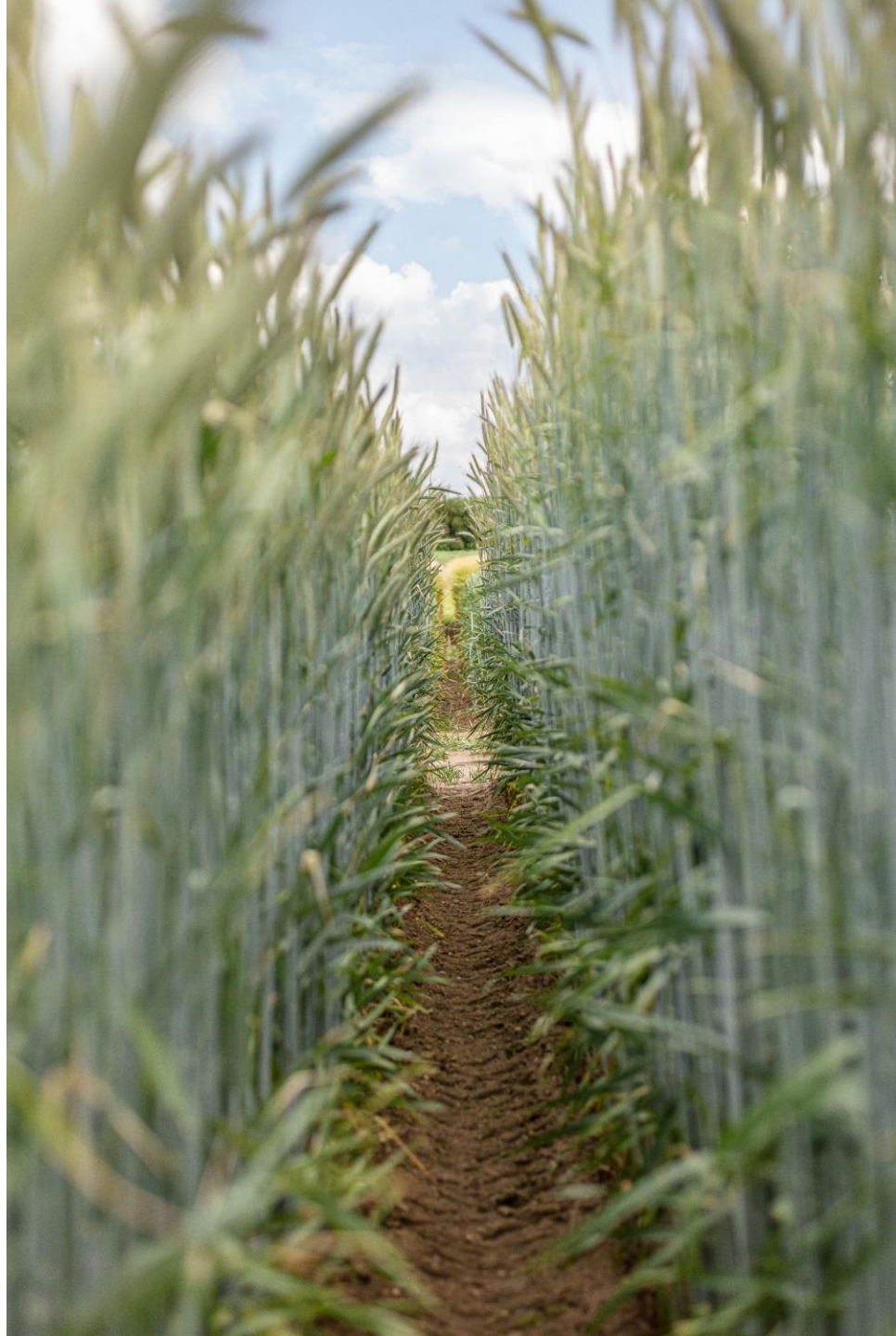
Top Guidelines for the *#RYEght* Results

- **Choose the RYEght Genetics**
  - Select varieties adapted to your region with proven yield and disease resistance.
- **Plant at the RYEght Time**
  - Use the optimal planting window for early establishment and winter survival.
- **RYEght Seed Bed Preparation**
  - Ensure a firm, level seedbed for uniform emergence.
- **Use the RYEght Planter**
  - Set equipment for accurate depth and spacing.
- **RYEght Planting Practices**
  - Follow recommended seeding rates and row spacing.
- **RYEght Stand Evaluations**
  - Scout fields early to confirm establishment and vigor.
- **RYEght Fertility Program**
  - Apply nutrients, especially nitrogen, at the right timing and rates.
- **RYEght Harvest**
  - Harvest at appropriate moisture to preserve grain quality.

Choose the ***#RYEght*** Genetics

KWS Hybrid Rye – Key Advantages

- **Hybrid Vigor**
  - Delivers robust growth, improved resilience, and superior yield potential compared to conventional rye.
- **Newest Small Grain on the Market**
  - An innovative crop option bringing fresh opportunities for rotation and profitability.
- **Forage and Grain Varieties**
  - Offers flexible solutions tailored for both high-quality forage production and grain harvest.
- **Highest Yielding Small Grain**
  - Consistently outperforms other cereals in yield trials across diverse environments.
- **Earlier Maturity Forage**
  - On average, reaches maturity **5–7 days earlier than triticale**, enabling timely harvest and improved double-cropping options.
- **Improved Drought Resistance**
  - Enhanced tolerance to dry conditions helps maintain yield stability under moisture stress.
- **Allelopathic Growth Inhibitors Suppress Weeds**
  - Naturally suppresses weed competition through allelopathic compounds, reducing the need for herbicides and supporting cleaner fields.



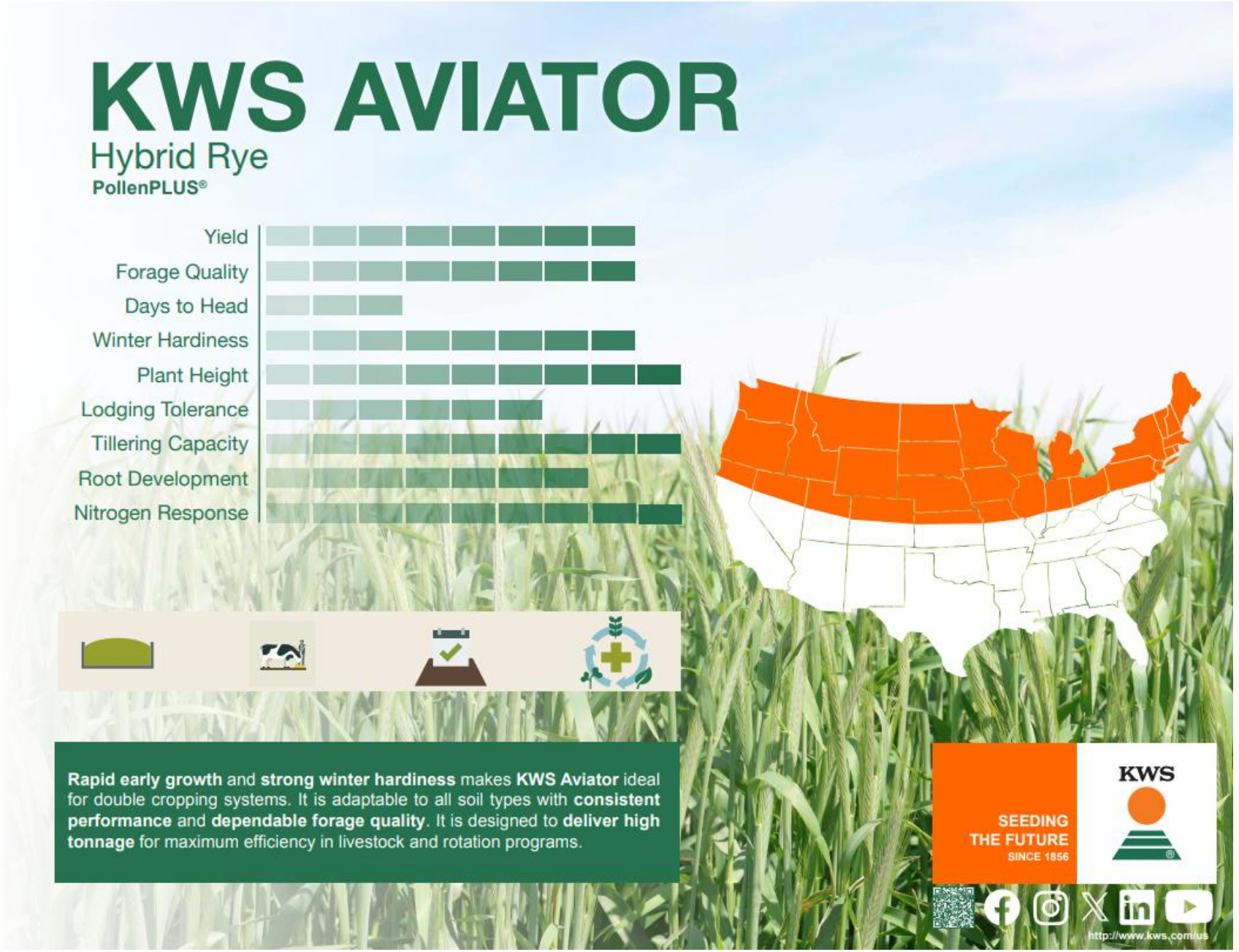
Forage Varieties

KWS Aviator

- **Early Forage Readiness**
  - Matures quickly to allow timely chopping and maximizes feed quality before heading.
- **High-Quality Forage**
  - Produces excellent forage with good protein and digestibility, ideal for dairy and beef rations.
- **Excellent Feed Value**
  - High-energy forage with reliable starch and palatability to drive performance.
- **Increased Tillering Capacity**
  - Enhanced tillering improves plant density, contributing to higher yields and better overall production.
- **Flexible Harvest Window**
  - Can be harvested early for higher quality or later for higher yield, adapting to your forage needs.

KWS Progas

- **Exceptional Biomass Production**
  - Designed specifically for high-tonnage forage, providing abundant silage volume.
- **Improved Drought Tolerance**
  - Maintains biomass yield in dry conditions, reducing forage risk in challenging seasons.
- **Excellent Forage Quality**
  - Balanced energy and fiber content supports high intake and milk production.
- **Fast Spring Growth**
  - Quick canopy development helps suppress weeds and accelerates early forage availability.
- **Wide Adaptation**
  - Performs consistently across regions and soil types, making it a reliable forage option.


KWS AVIATOR
Hybrid Rye
PollenPLUS®
Yield
Forage Quality
Days to Head
Winter Hardiness
Plant Height
Lodging Tolerance
Tillering Capacity
Root Development
Nitrogen Response
Rapid early growth and strong winter hardiness makes KWS Aviator ideal for double cropping systems. It is adaptable to all soil types with consistent performance and dependable forage quality. It is designed to deliver high tonnage for maximum efficiency in livestock and rotation programs.
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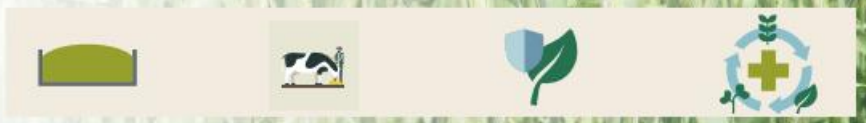
KWS PROGAS

Hybrid Rye

PollenPLUS®



KWS Progas offers **excellent forage quality**, making it a top choice for both silage and grazing systems. It provides a **strong disease resistance package** for healthy, dependable stands. This variety thrives across all soil types, delivering **consistent performance** in diverse environments.

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Grain Varieties

KWS Serafino

- **Stable Yields Across Environments**
  - Highly consistent performance across a wide range of soils and conditions.
- **Strong Root Development**
  - Develops a robust root system that improves drought tolerance and enhances overall plant stability.
- **Excellent Grain Quality and Test Weight**
  - Uniform grain ideal for feed or processing markets.
- **Good Straw Strength**
  - Reduces risk of lodging and ensures easier harvest operations.
- **Strong Agronomic Package**
  - Balanced disease resistance and winter hardiness for reliable production.

KWS Tayo

- **High Grain Yield Potential**
  - Proven top performer in yield trials across diverse environments.
- **Excellent Winter Hardiness**
  - Strong cold tolerance ensures consistent stand establishment and survival.
- **Increase Lodging Tolerance**
  - Improved lodging resistance for easier harvest and better grain quality under challenging conditions
- **Good Disease Resistance**
  - Offers protection against key diseases, supporting clean grain production.
- **Reliable Test Weight and Grain Quality**
  - Delivers consistent test weight and marketable grain quality for feed or milling.

Grain Varieties

KWS Receptor

- **Very High Yield Potential**
  - Among the highest-yielding hybrid ryes in the portfolio.
- **Strong Winter Hardiness**
  - Exceptional cold tolerance ensures consistent stand establishment and winter survival.
- **Excellent Grain Quality**
  - Consistent test weights and uniform kernel size support premium markets.
- **Improved Drought Tolerance**
  - Maintains yield performance under moisture stress.
- **Strong Disease Resistance Package**
  - Protects against rust and other foliar diseases for cleaner harvests.

KWS SERAFINO

Hybrid Rye

PollenPLUS®

Fungicide Response	MODERATE
Nitrogen Response	MODERATE
Cycle Length	MEDIUM

KWS Serafino is preferred by the **distilling and malting industries**, with excellent performance in livestock rations. With its unmatched **adaptability** across U.S. growing regions, it produces **strong, stable yields** year after year. It offers reliable **ergot protection** and **proven consistency** in diverse conditions.

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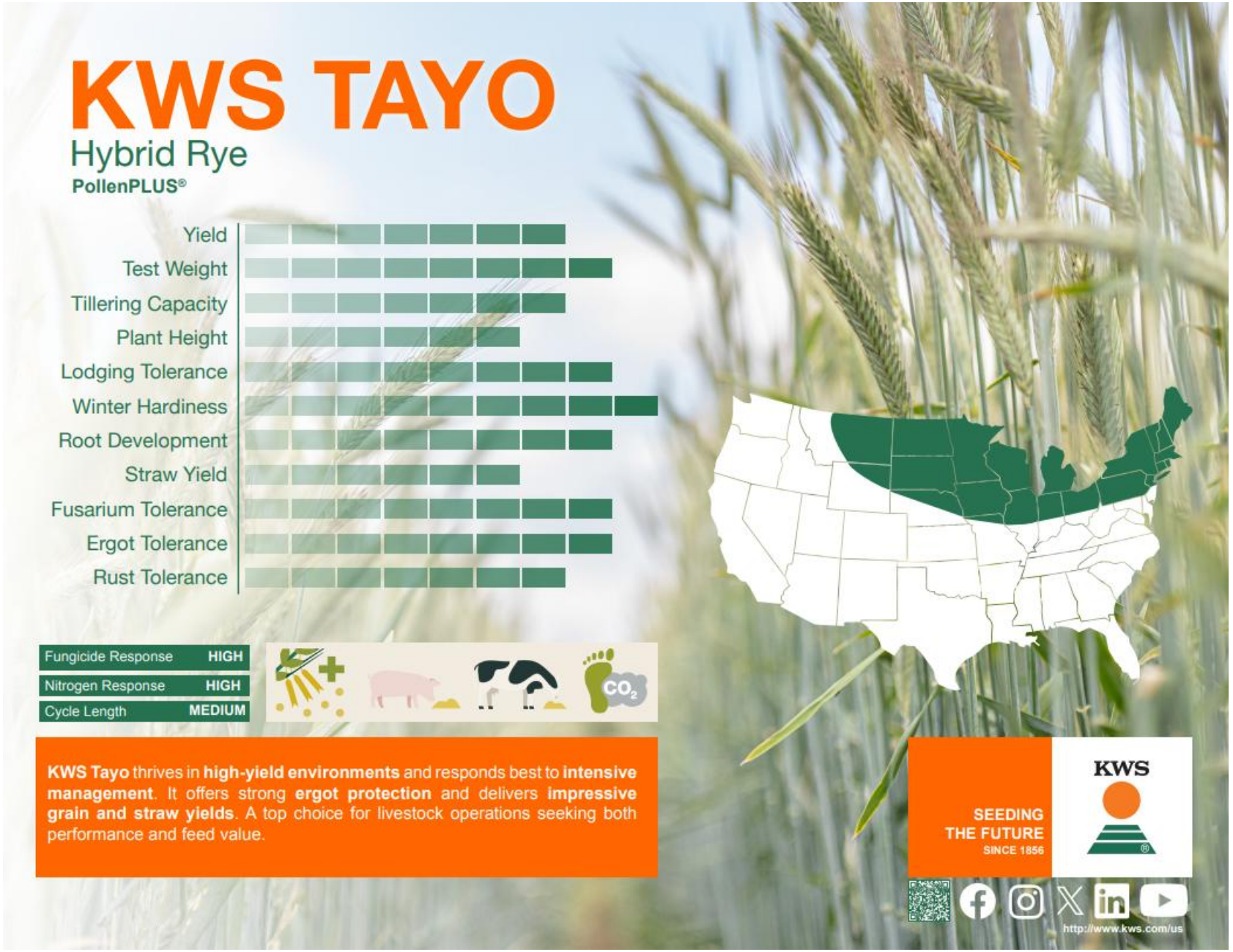
KWS TAYO
Hybrid Rye
PollenPLUS®
Yield
Test Weight
Tillering Capacity
Plant Height
Lodging Tolerance
Winter Hardiness
Root Development
Straw Yield
Fusarium Tolerance
Ergot Tolerance
Rust Tolerance
Fungicide Response HIGH
Nitrogen Response HIGH
Cycle Length MEDIUM
CO2
KWS Tayo thrives in high-yield environments and responds best to intensive management. It offers strong ergot protection and delivers impressive grain and straw yields. A top choice for livestock operations seeking both performance and feed value.
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KWS
http://www.kws.com/us

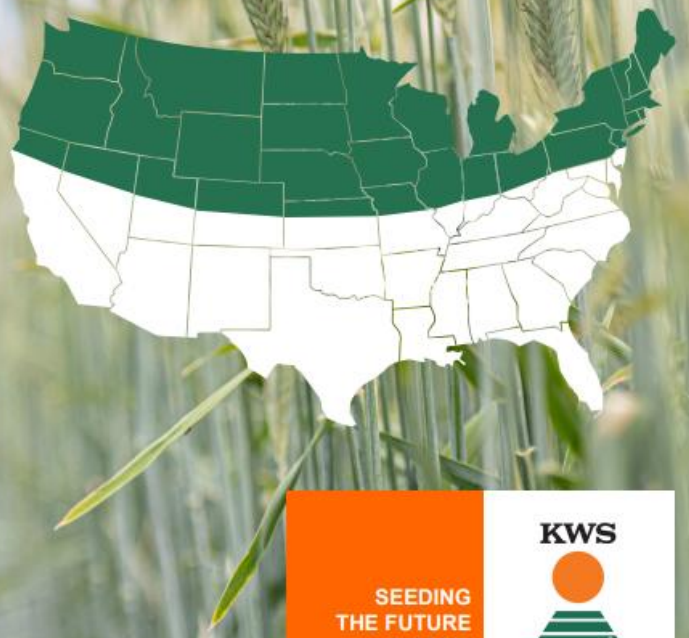
KWS RECEPTOR

Hybrid Rye

PollenPLUS®

Fungicide Response	HIGH
Nitrogen Response	HIGH
Cycle Length	MEDIUM

KWS Receptor delivers top-end yield potential with the highest level of **ergot protection** and excellent **disease resistance**. It is adaptable across diverse Midwest soils and climates—200+ bu/acre achieved in ideal conditions. Strong winter hardiness and broad agronomic fit make it a **high-performing grain option**.



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SINCE 1856

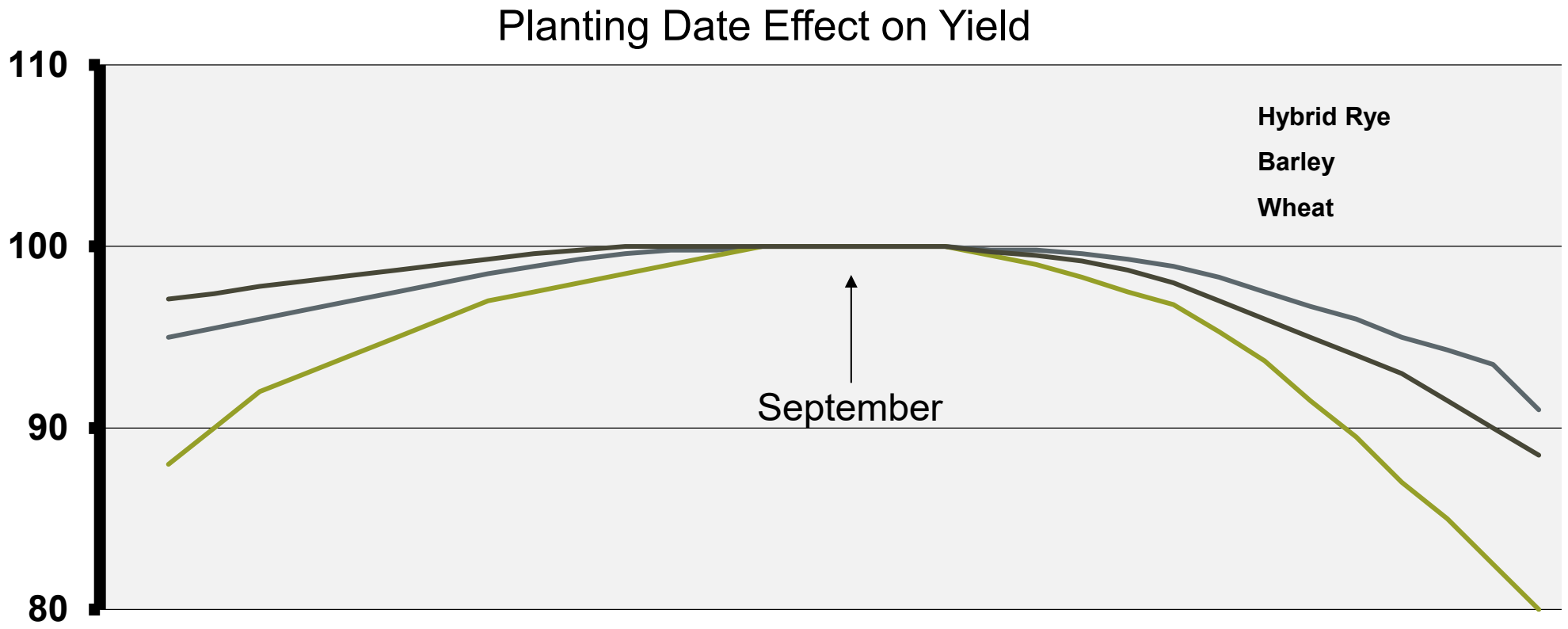
KWS

http://www.kws.com/us

Key Advantages of KWS Hybrid Rye

- Uses 20% Less Water Than Winter Wheat
- Consistently High Yields
- High Disease Resistance
- Less Seed to Handle & Store
- Less Risk for Fusarium
- Lower Crop Input Requirements
- Improved Crop Rotation
- Built in Ergot Protection - PollenPLUS®
- Natural Weed Suppression
- Sustainability Advantage
- Superior Winter Hardiness

Plant at the RYEght Time



Mid-September is the Ideal Planting Window

- Exact dates vary by region and seasonal conditions—consult local guidelines for best results.

Focus on Fall Establishment

- The goal is to achieve strong root and tiller development before winter dormancy to set the stage for vigorous spring growth.

Adjust Seeding Rates for Late Planting

- If planting is delayed, increase your seeding rate to compensate for reduced tillering potential

RYEght Seed Bed Preparation

- **Goal:** Achieve excellent seed-to-soil contact to support strong, uniform establishment.
- **Ideal Seed bed Should Be:**
  - **Firm:** Provides consistent depth placement and good contact.
  - **Minimal Clods:** Reduces air gaps and improves germination uniformity.
  - **Even Crop Residue Distribution:** Prevents hair pinning and allows even emergence.
- **Benefits of Proper Seed bed Preparation:**
  - Ensures uniform seeding depth, critical for even emergence.
  - Promotes consistent germination across the field.

Use the RYEght planter – Do’s and Don’ts

Planting Do's

- **Use a Precision Planter**
  - Ensures consistent seed depth and spacing for uniform emergence.
- **No-Till or Minimum-Till Systems**
  - Well-suited for conservation practices while maintaining good seed placement.
- **Convert Corn Air Seeder**
  - Adapt existing equipment to handle hybrid rye accurately.
- **Change Plates to Small Grain Settings**
  - Use appropriate metering components to avoid seed damage and ensure even flow.
- **Use GPS Guidance**
  - Shift planter passes as needed to achieve proper row spacing and avoid overlaps.

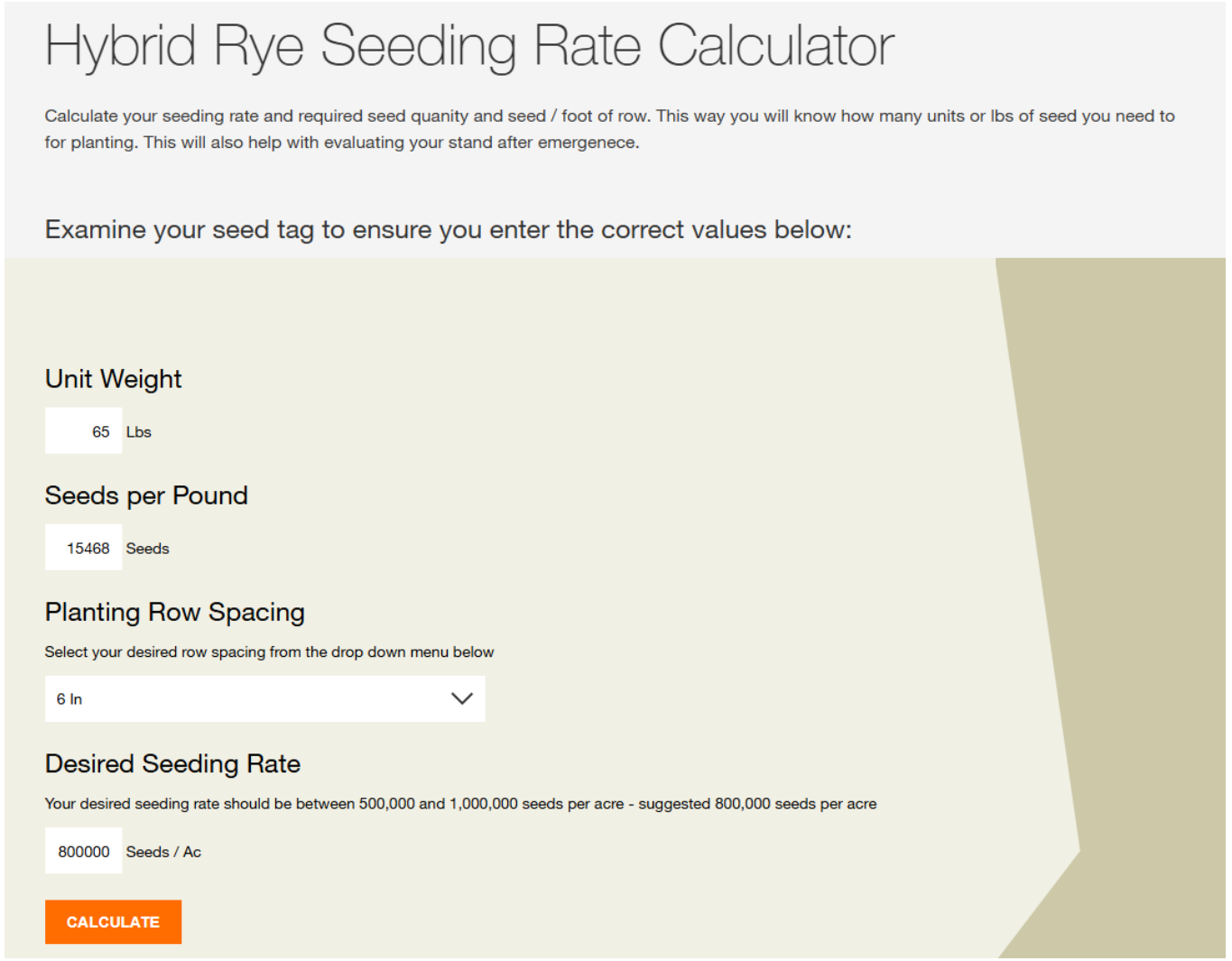
Planting Don'ts

- **Avoid Press Drills**
  - Less precise depth control can lead to uneven stands.
- **Do Not Broadcast Seed**
  - Leads to inconsistent establishment and poor seed-to-soil contact.
- **Avoid Aerial Application**
  - Not recommended for hybrid rye - results in poor emergence and stand variability.

RYEght Planting Practices

- **Ideal Planting Temperature**:
  - Plant when soil temperatures are below 59°F to promote vigorous establishment and reduce disease risk.
- **Planting Window**:
  - Timing is region-dependent, consult local recommendations for the optimal planting period.
- **Earlier Planting for Forage**:
  - For forage use, earlier planting dates can maximize biomass production and improve quality.
- **Seeding Rate**:
  - Target **0.8 units per acre** (800,000 viable seeds) for most conditions.
- **Seeding Depth**:
  - Plant at a target depth of 1” for uniform emergence.
- **Seed Rate Calculator**:
  - Utilize our calculator to confirm correct rates based on thousand-kernel weight and germination percentage.
- **Calibrate Planter Carefully**:
  - Take the time to calibrate your planter properly - accurate metering and placement are essential for a uniform stand.

RYEght Planting Practices



Hybrid Rye Seeding Rate Calculator

RYEght Planting Practices – Planting Depth

- Establishment is the most important factor at low seeding rates
- Correct planting depth is roughly 1 inch, depending on conditions

Effect of planting depth in hybrid rye, avg. of 9 trials (0.6 million plants/acre)

Planting depth	Yield, lbs/acre	Difference, lbs/acre
1.0 inch	8345	-
1.6 inch	8141	-204
2.4	8007	-338

Fall & Spring Stand Evaluations

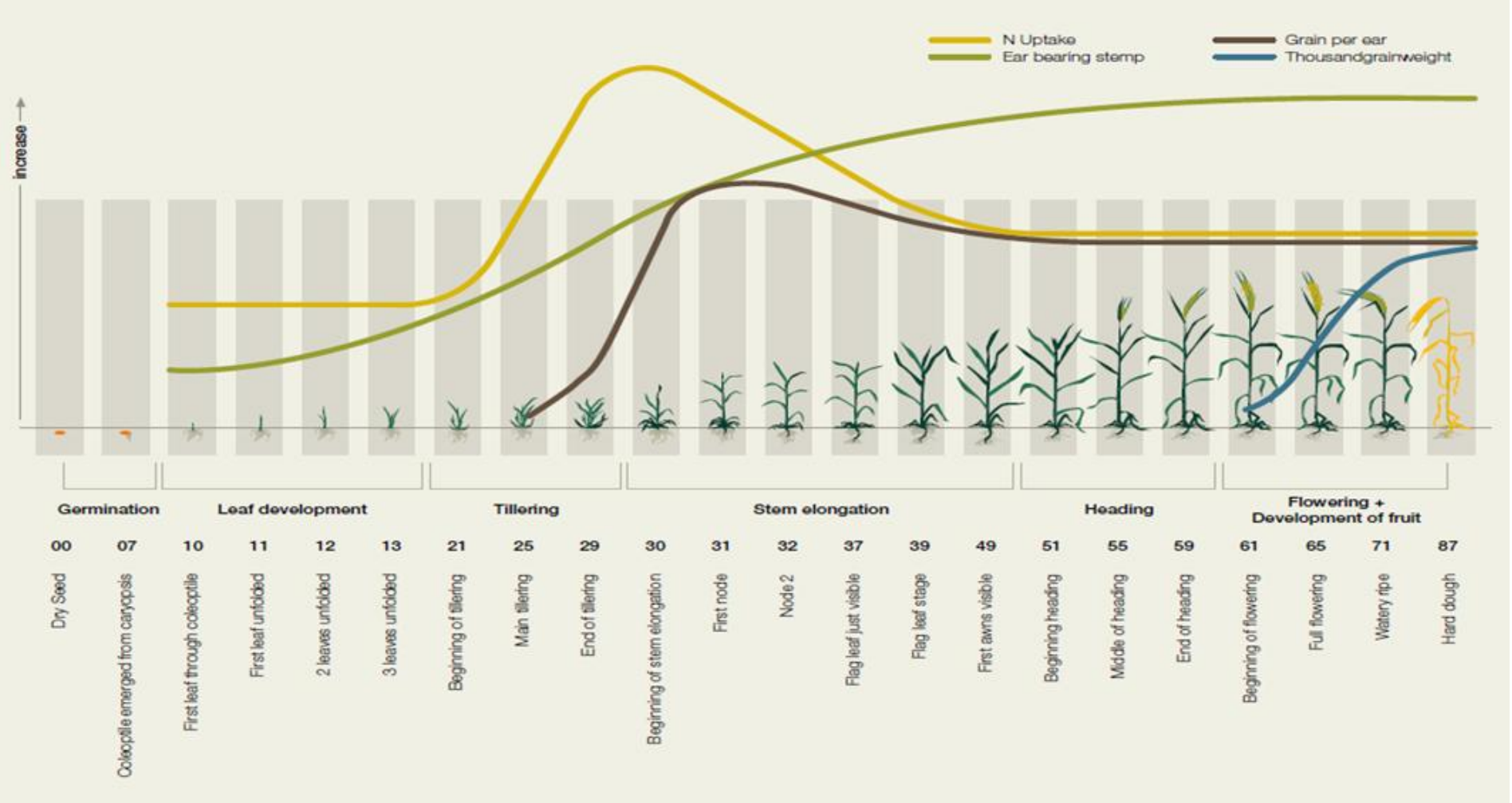
- **Evaluate:**
  - **Plant and Tiller Density:**
    Assess how many plants and tillers are present per square foot.
  - **Mortality:**
    Identify areas with plant losses to understand establishment issues.
- **Stand Density Goals:**
  - **17 Plants per Square Foot:**
    Ideal target for maximizing yield potential.
  - **10 Plants per Square Foot:**
    Minimum threshold for achieving adequate yields.
- **Notes & Considerations:**
  - **Thin Areas:**
    Watch for patches with lower plant counts - these can impact yield consistency.
  - **Potential for More Ergot:**
    Thin stands are more prone to ergot infection due to less pollen availability.

Row Width (in)	Row Length (in)
6	24.0
7	20.6
7.5	19.2
8	18.0
9	16.0
10	14.4
12	12.0
15	9.6

RYEght Fertility Program

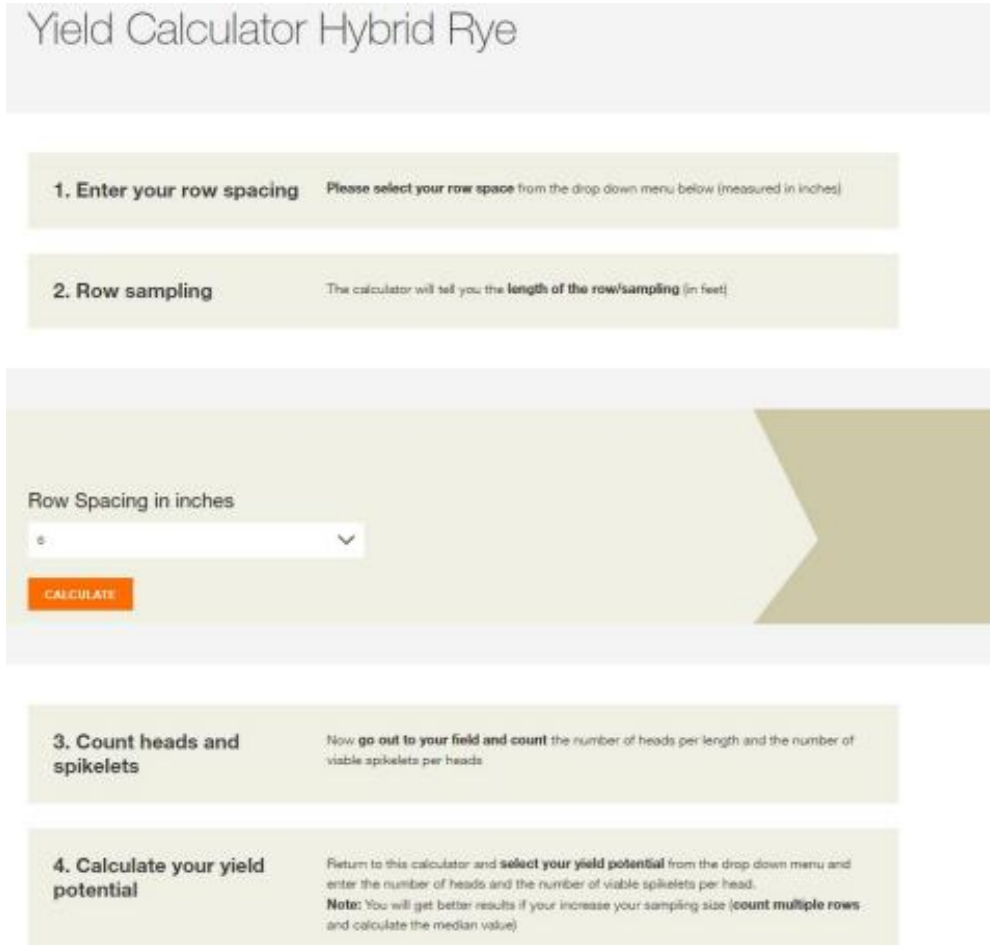
- **Soil Tests**
  - Essential to make good nutrient management decisions.
- **Nitrogen Requirements: (Expected bu./ac x 1.2)**
  - **80-120 lbs N/acre** (depending on soil fertility, organic matter, previous crop credits, and yield target)
  - **Split Nitrogen Applications:**
    - Apply a small portion (20-30 lbs./ac) in the fall to support establishment but reserve the majority for spring to match peak uptake and reduce leaching losses.
- **Phosphorous & Potassium Requirements**
  - Base applications on soil test levels to support early root development, tillering, and overall plant health. (40-60 lbs./ac of P & 60-100 lbs./ac of K preplant)
- **Sulfur Supplementation**
  - KWS Hybrid rye benefits from sulfur; consider applying 10–20 lbs./acre, especially in low-organic-matter soils or where deficiencies are common.
- **Avoid Over-Application of Nitrogen**
  - Excess nitrogen increases lodging risk and can contribute to higher ergot susceptibility.

RYEght Fertility Program



RYEght Grain Harvest

- **Calculate Yield**
  - Use the *Hybrid Rye Yield Calculator* from KWS to estimate production accurately.
- **Harvest Timing**
  - Target harvest at around 15% grain moisture to minimize drying costs and protect grain quality.
- **Cut Height**
  - Cut high to leave as much straw as possible standing in the field to reduce material entering the combine.
- **Straw Management**
  - Re-cut or windrow the remaining straw if you plan to bale or incorporate it.
- **Threshing Tips**
  - **Avoid broken kernels** by adjusting rotor/cylinder speed and concave clearance.
  - **Ease the thresh** (reduce aggressive threshing settings) to protect grain quality.
- **Combine Calibration**
  - Take time to calibrate the combine carefully to optimize threshing and cleaning efficiency.



Yield Calculator Hybrid Rye

KWS WEBSITE

KWS US Hybrid Rye Home Page

RESOURCES

Guides

2025 Yield Data

Hybrid Rye Production Guide

Variety Sheets

Calculators

Seeding Rate

Stand Evaluation

Yield

Profitability

Distributor Map

Shows the location of every KWS Hybrid Dealer across the United States.

Thank you for your support