



WHEAT & WINTER GRAINS SEED GUIDE

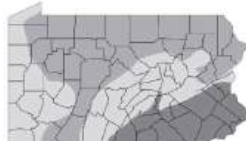
Planting Recommendations

Optimal planting dates for each area largely depends on the fly-free date as well as soil and field conditions. Below are the recommended optimal planting dates for various states across the Northeast, based on their fly-free dates.



NEW YORK

September 15



PENNSYLVANIA

- Area 1: September 20
- Area 2: September 25
- Area 3: October 1



DELAWARE

New Castle County: October 3
Kent County: October 8
Sussex County: October 10



NEW JERSEY

Northern counties: September 27
Southern counties: October 6

Pro Tip

- Be sure to check local university websites for county-by-county fly free dates
- It is important to be mindful of the hessian fly free date to help mitigate the chance of aphids transmitting barley yellow dwarf.



VIRGINIA

Northern counties: October 6
Central counties: October 9
Southern counties: October 12



MARYLAND

Northern Counties: October 1
Central Counties: October 6
Southern Counties: October 10

Planting Late

When planting more than 2 weeks past the fly-free date, increase the seeding rate by 10% for each week delayed past that date

Planting Depth

Seed 1 to 1 ½ inches deep and strive to maintain uniform seeding depth



Target Seeding Rates & Nutrient Removal Rates

Table 1. Relating seed size and target seeding rates to the number of pounds required per acre.

Seed Size (seeds per pound)	Target Seeding Rates (millions of seeds per acre)					
	1.2	1.4	1.6	1.8	2.0	2.2
	Actual pounds of Seed Required per acre*					
9,000	133	156	178	200	222	244
10,000	120	140	160	180	200	220
11,000	109	127	145	164	182	200
12,000	100	117	133	150	167	183
13,000	92	108	123	138	154	169
14,000	86	100	114	129	143	157
15,000	80	93	107	120	133	147
16,000	75	88	100	113	125	138

*Target seeding rate divided by seeds per pound = required pounds of seed per acre.

Source: Adapted from Pennington, D., Nagelkirk, M., and Sing, M. 2022. Planting the 2023 wheat crop. Michigan State University Extension Wheat. https://www.canr.msu.edu/news/planting_winter_wheat_crop

Relating seed size and target seeding rates to the number of pounds required per acre.

A 100bu. Winter wheat crop removes:

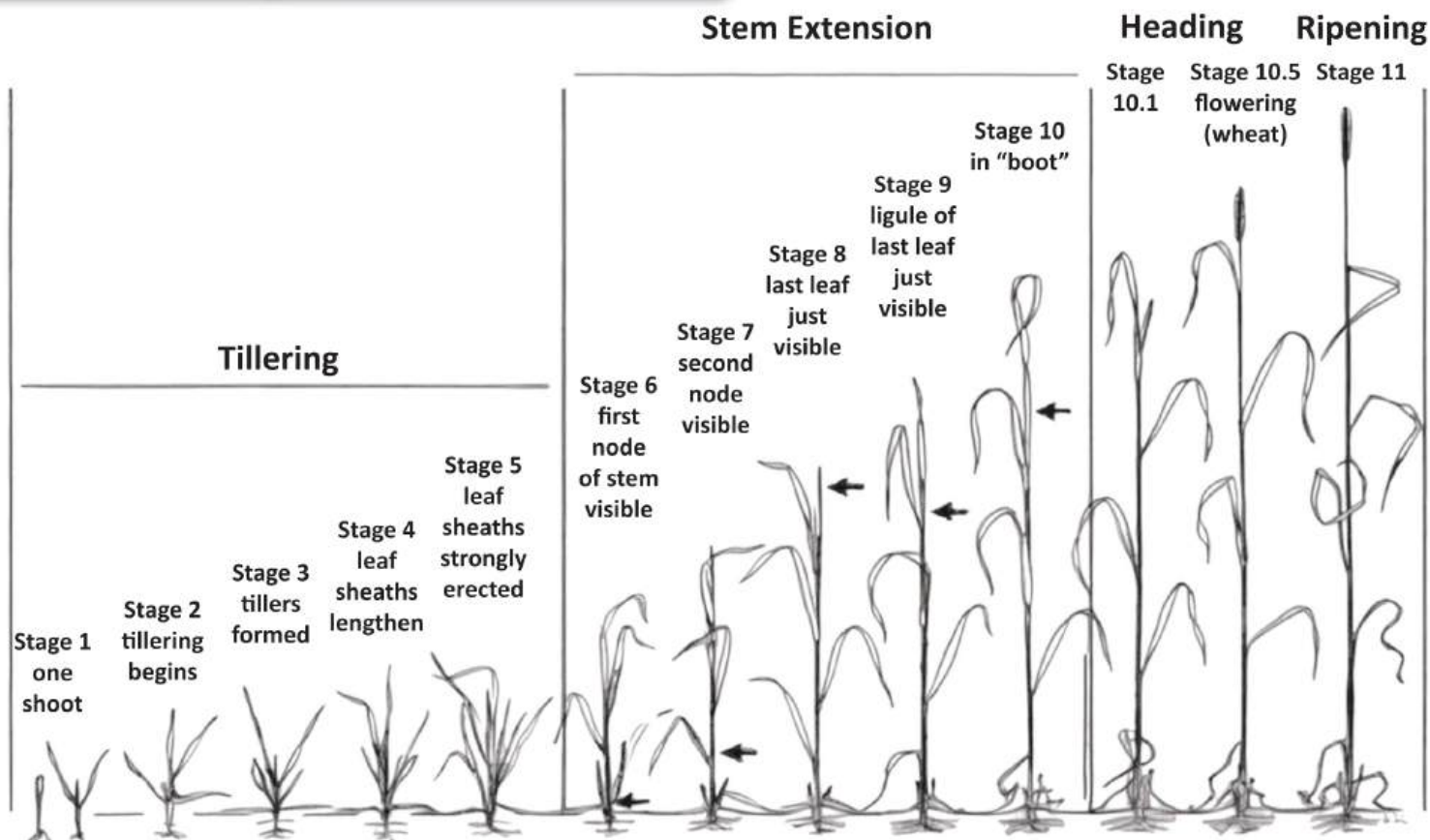
Nutrient	Grain (lbs./ac)	Stover (lbs./ac)	Total (lbs./ac)
Nitrogen (N)	116	70	186
Phosphates (P205)	48	16	64
Potassium (K20)	29	120	149
Sulfur (S)	10	14	24



Fertilizing Your Winter Wheat Crop

- Manage pH, aiming for a pH of 6-7.
- Winter wheat needs anywhere from 1.2-1.75 lbs of N for every bushel.
- Split applications of N in the spring are beneficial if they can be applied timely.
- Manage for your tillers, that helps drive your yield.

Wheat Growth Stages



SW 665 | Soft Red Winter Wheat

Maturity	Medium	Standability	8	Winter Hardiness	8
Plant Height	Medium	Test Weight	8	FHB1 Marker	Yes
Head Type	Bearded	Straw Strength	9	Hessian Fly	Seg-L

For any wheat acre in the East. Broadly adapted with medium maturity and bearded head type. FHB1 gene for combating Fusarium Head Blight. Medium height with excellent standability.

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



NATIONAL
WHEAT YIELD
CONTEST
WINNER

NATIONAL
WHEAT
CONTEST
QUALITY
WINNER

SW 535 | Soft Red Winter Wheat

Maturity	Medium	Standability	8	Winter Hardiness	8
Plant Height	Medium	Test Weight	8	FHB1 Marker	-
Head Type	Smooth	Straw Strength	8	Hessian Fly	Res-B, L, O

Smooth head with the complete package when it comes to disease tolerance. Widely adapted variety with great standability and overall performance. Handles stressed environments with ease, yielding through the adverse conditions.

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



SW 541 | Soft Red Winter Wheat

Maturity	Medium - Early	Standability	7	Winter Hardiness	7
Plant Height	Medium - Tall	Test Weight	7	FHB1 Marker	-
Head Type	Smooth	Straw Strength	8	Hessian Fly	Susc

Smooth variety with a standout look in the field. Versatile from NY to NC, this variety has strong agronomics and yield output. If you're looking for huge straw and yield output, this is your variety. Manage on high N acres, PGR recommended.

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



SW 695 | Soft Red Winter Wheat

Maturity	Medium - Late	Standability	8	Winter Hardiness	8
Plant Height	Medium	Test Weight	7	FHB1 Marker	Yes
Head Type	Bearded	Straw Strength	8	Hessian Fly	Res-B, C, D, L

From top to bottom, this bearded variety has it all. For every acre, every disease, every management style. A complete defensive package with an offensive yield, this variety handles any acre including high N acres.

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



SW 568 | Soft Red Winter Wheat

Maturity	Medium	Standability	8	Winter Hardiness	8
Plant Height	Medium	Test Weight	8	FHB1 Marker	Yes
Head Type	Smooth	Straw Strength	8	Hessian Fly	Res-B, D, L, O

A smooth line that is a yield leader and widely adapted to different soils. Excellent tillering, standability, and test weight, this plant is sure to carry excitement all the way through harvest. Carrying FHB1 and a strong disease package, this variety moves North and South, across any soil type with ease.

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



SW 648 | Soft Red Winter Wheat

Maturity	Medium	Standability	8	Winter Hardiness	8
Plant Height	Medium	Test Weight	8	FHB1 Marker	-
Head Type	Bearded	Straw Strength	8	Hessian Fly	Res-B, D, L, O

A bearded variety sure to impress from planting all the way to harvest. With quick emergence and excellent tillering, this variety brings top-end yields to your field. Coupled with a great defensive package, including tolerance to head scab, this variety is sure to impress!

Leaf Rust



Septoria Leaf Blotch



Glume Blotch



Powdery Mildew



Stem Rust



Stripe Rust



Barley Yellow Dwarf Virus



FHB Field Rating



Soil-Borne Mosaic Virus



Planting Date, Rate, and Depth



Ideal Planting Dates

- Winter triticale should be planted in the fall on dates similar to or slightly earlier than winter wheat to encourage fall growth. For example: if targeting a wheat planting date of Sept. 15, the target for triticale would be the first week of September.
- Spring triticale should be planted as early as practical.
- It is important to be mindful of the hessian fly free date to mitigate the chance of aphids transmitting barley yellow dwarf.



Target Planting Rate

- Target seeding rates of 1.2-1.3M seeds/acre for Fall planting and 1.5M seeds/acre for spring planting.
- Target a lower seeding rate of 1.1-1.2M if the crop is intended for grain production.
- Late planted winter triticale planting rates should be increased by 10-20%. A seed treatment may also be beneficial for later planting.



Planting Depth

- If drilled, aim for a consistent depth of 1-1.5 inches deep.
- If broadcasting, increase seeding rates by 20-30%.

Soil Conditions and Fertility Fundamentals

- Maintain soil pH between 5.8 and 7.0
- Ensure good drainage.
- Fertilizer applications should be based on soil tests. Triticale typically requires nitrogen, phosphorus, and potassium for optimal growth.

Plant Growth Regulator

Plant growth regulators are recommended in areas prevalent to lodging. Growth regulators should be applied between Feekes 4 (Zadoks 30) and Feekes 7 (Zadoks 32). Plant growth regulators are recommended for triticale intended for grain production.



MAVERICK | Winter Forage Triticale

Maverick is a new winter awnletted triticale release that was bred for forage yield and quality and reduced awns. It is a tall, leafy variety, but with good standability. It is a mid to late season variety, relative to other forage triticale's, with good winter hardiness, excellent disease resistance, and has performed well in testing across the Northeast.

THOR™ | Facultative Forage Triticale

An awnletted, moderate plant height and good stem strength. Good early seedling vigor with high silage yield and good silage quality, resulting as the industry standard for silage quality. Adapted widely throughout the Northern US and Northeast. Ideal variety for spring and fall forage mixes. Being a facultative variety, it can be planted spring or fall. Seed at 90 - 120 lbs. per acre.



HYOCTANE | Winter Forage Triticale

HyOctane is a winter triticale variety that has proven forage yield and winter hardiness across the East Coast. HyOctane makes a great option for fall grazing on ensiling in the spring before corn planting. Reduced awned variety to aid livestock palatability. Good early-season vigor and earlier heading date than traditional varieties. Medium straw strength. Very short awns. Very high leaf-to-stem ratio. Seed at 90 - 120 lbs. per acre.

HYBRID FLEX | Spring & Winter Forage Triticale

Hybrid Flex is a facultative type, allowing it to be established in the spring or fall. It has unmatched early vigor. It is an awnletted variety with good winter hardiness and matures earlier than traditional triticales. It is broadly adapted across the U.S. for spring or fall planting.



Planting Dates



Ideal Planting Dates

- Optimal planting dates are dependent on field conditions, Hessian Fly Free Dates* and crop rotation.



Target Planting Rate

- An increased seeding rate should be considered for planting dates more than two weeks past the fly-free date.
- Target seeding rates are similar to wheat and can be found in Table 1 of the Wheat Planting Recommendations section.
- Broadcast planting may require an increase in planting rate needed to maintain ideal populations.
- Excess seed will not benefit yield.



Planting Depth

- Plant at 0.75" to 1.5" deep depending on soil type, conditions and tillage practices.

Aphids and Barley Yellow Dwarf Virus

Planting after the Hessian Fly Free Date can reduce the likelihood of fall BYDV infection. Seed treatment and foliar insecticide applications can also be used to mitigate infection.



Barley Yellow Dwarf Virus (above)

Fertilizer and Plant Growth Regulators

- Soil tests should be conducted to determine appropriate fertilizer use.
- Split applications are often recommended.
- Monitor and manage pH (target a pH of 6.0-8.0).
- If lodging is a concern for growers who push yields with heavy nitrogen application, plant growth regulators are recommended.
- Growth regulators are commonly applied at the jointing stage (feekes 6). Be sure to read the label before applying.

*See "Winter Wheat Planting Recommendations" for additional information on Hessian fly free dates

WINTER BARLEY VARIETIES

AVALON | Winter Malting Barley

Two-row malt barley, Avalon has an excellent malt score and flavor profile. It is a constant yielding variety, especially under continental climate conditions. Avalon has very good grading and straw stiffness. This variety has good resistance against major leaf diseases, especially against Brown Rust.

SBS 151 | Winter Feed Barley

Early maturity, tall height with excellent standability, excellent winterhardiness, and disease resistance.

SBS 255 | Winter Feed Barley

Medium maturity with competitive yields. Excellent test weight. Excellent standability. Significantly better resistance to head scab than Secretariat.



Planting Date, Rate, and Depth



Ideal Planting Dates

- Between August and October (depending on location).
- Three weeks of good growing conditions are recommended.
- An increased seeding rate may be beneficial if considering a later planting date.



Target Planting Rate

- Rates: between 500,000 - 1,000,000 seeds/ac. 800,000 viable seeds/ac is recommended.
- Aim for a uniform depth of 1.0-1.5 inches, yield is suppressed at seeding depths >2.0 inches.
- Seedbed preparation is essential to achieve good seed-to-soil contact.



Planting Depth

- Aim for a uniform depth of 1.0-1.5 inches.
- Yield is suppressed at seeding depths >2.0 inches.
- Seedbed preparation is essential to achieve good seed-to-soil contact.

Stand Evaluation

Use the table to calculate plants/square foot. Aim is to have 17 plants per square foot, but if you have 10 plants that are evenly spaced this is adequate for good yields.

Stand evaluations can help with decision making on spring fertilization application.

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

Plant Growth Regulators

Palisade (Trinexapac-ethyl) - Feekes growth stage 4 (tiller elongation) through stage 7 (node formation)



Application Rates

Phosphorus (P) & Potassium (K):

Fall apply: 50-100% of your total Phosphorus and Potassium needs

Typical P needs 20-30 lbs. P205/acre

Typical K needs 40-50 lbs. K2O/acre

Spring apply: remaining P & K

Nitrogen (N) & Sulfur (S):

Fall apply: 20-40 lbs. N/acre

Spring apply: remaining Nitrogen based on your evaluated yield potential

Typical N needs 40-50 lbs. N/acre

Typical S needs 20-25 lbs. S/acre in the sulphate form

Hybrid Rye Nutrient Removal Table: (Per Bushel)*

	Phosphorus (P2O5)	Potassium (K2O)	Sulfur (S)
Grain	0.45	0.30	0.10
Straw	0.20	1.50	0.15
Total	0.65	1.80	0.25

***For rate adjustments based on soil test levels and yield goals, see the University of Minnesota Rye Fertilizer Recommendations or Fertilizer Recommendations Guide from South Dakota State University.*

Fungicides

Miravis Ace (Pydiflumetofen, Propiconazole) - Apply Feekes growth stage 10.3 to Feekes 10.5.1 and 10.5.4.

Fungicide applications may be necessary under certain conditions and disease pressure. Hybrid Rye is more tolerant to many diseases that effect other cereals like fusarium, strip rust, karnal bunt and scald.

Plant Growth Regulators (PGR's) High nitrogen carry-over from previous crops, manure applications, and high seeding rates can create thin stems and increase the risk of lodging. PGR's enhance stem thickness and diameter to help strengthen the stem and decrease lodging, which avoids harvest delays, yield loss and reduced grain quality.

***Avoid application if crop is stressed by drought, disease, or high temperatures.*

HYBRID RYE VARIETIES

COVERMASTER

New to the lineup, Covermaster is an improved variety of rye designed for quick establishment and tillering in the fall. Covermaster makes for a really good fit as a covercrop to help cover soil and prevent erosion losses throughout the winter.



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NOTES





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