

2025 Forage Variety Trials Report

The 2025 Forage Variety Trials Report summarizes performance data collected from ongoing forage variety trials at two sites in Pennsylvania.

Updated: December 17, 2025

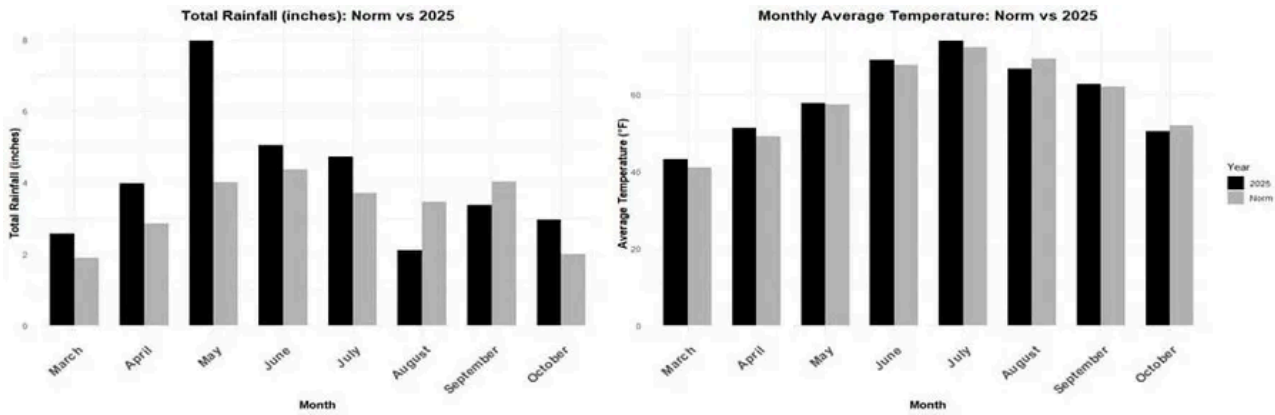


Forage variety trials at Rock Springs Research Farm, Pennsylvania Furnace, PA

The report includes results from alfalfa, clovers, perennial cool-season grasses, annual cool-season grasses, annual warm-season grasses, and short-lived winter forages and cover crops established at the Russell E. Larson Agricultural Research Center at Rock Springs, as well as alfalfa trials at the Southeast Research and Extension Center at Landisville.

Forage Growing Conditions and Insect Pressure

The 2025 growing season at Rock Springs began with normal temperatures and adequate soil moisture in late March and April. We used recent historical climate data from The Pennsylvania State Climatologist program as a reference to compare with 2025 weather conditions, accounting for ongoing forage crop growth conditions (Figure 1). Precipitation in March, April, and May exceeded historical averages (2.56 vs. 1.88 inches; 3.98 vs. 2.85 inches; and 7.96 vs. 4.01 inches, respectively). Average temperatures were slightly higher than long-term norms (43.1°F vs. 41.1°F in March, 51.3°F vs. 49.1°F in April, and 57.8°F vs. 57.4°F in May). Rainy weather persisted through mid-July, followed by drought conditions in late July, August, and mid-September (5.04 vs 4.37 inches in June, 4.72 vs 3.71 inches in July, 2.1 vs 3.45 inches in August, 3.36 vs 4.02 inches in September and 2.96 vs 2.00 inches in October).



(https://extension.psu.edu/media/wysiwyg/extensions/catalog_product/d56e18921c7846789cb26f769d25c052/w/e/weather-jpg.jpg)

Figure 1. Temperature and rainfall at Rock Springs.

Annual cool-season grasses and alfalfa were seeded on April 24–25, with successful germination and establishment. Short-lived winter forages, cover crops seeded in fall 2024, and perennial cool-season grasses and alfalfa established prior to 2025 benefited from favorable soil moisture and temperatures in April and May. These conditions promoted strong early growth before the drought, resulting in first-cut yields that were comparable to or exceeded those of previous years. However, hay production was challenging due to the persistent rainfall in May, June, and July.

Although scattered showers and thunderstorms in mid-August alleviated drought conditions, the drought conditions still reduced the yield of the second and third cut of perennial forages. Sorghum, sudangrass, and sorghum-sudan hybrids were seeded on June 13 and performed well throughout the season.

Weather variability remained a constant challenge for forage producers. While making dry hay in May, June, and July was difficult, advanced technologies—such as green chopping, baleage, and silage—offered practical solutions for managing wet forages.

At Landisville, precipitation levels in March, April, May, and June were higher than historical averages. Alfalfa yielded well in the first, second cuts and third cuts but suffered from drought stress between late July and October.

In terms of insect pressure, alfalfa weevils were not overly active during the first cut at either location, so no pesticides were applied. Early harvest served as the primary control strategy. Potato leafhoppers appeared after the first cut, prompting pesticide applications for the second cut at Rock Springs. Maintaining a consistent four-week harvest schedule helped minimize damage from potato leafhoppers.

Criteria for Reporting Varieties

Many varieties listed in this report are eligible for certification by seed-certifying agencies and are marketed in Pennsylvania (see Tables 1, 9, 11, 13, 18, 20, 23). Some entries are experimental lines and may or may not be marketed in the future. Proprietary and public varieties are included; blends and "commons" are generally not included, with a few exceptions.

Interpreting Yield Data and Stand Scores

Yield summaries and stand scores for individual trials appear in Tables 2–8, 10, 12, 14–17, 19, 21, 22, and 24. Although approximately 180 entries are tested, many represent advanced experimental varieties not yet available in Pennsylvania. Once these entries are officially named and marketed in Pennsylvania, they will appear in future reports. Experimental alfalfa entries that become named varieties are footnoted and will be included only if entered as commercial varieties in subsequent trials.

Varieties are ranked based on yield performance. The report presents current-year yields, cumulative yields from previous years, and average yields over the life of the stand. Evaluating both multi-year averages and current-year yields is essential because three to four years of data offer more reliable guidance for long-term forage rotations.

Stand scores represent a visual estimate of ground cover within the seeding row and are recorded after the final fall harvest. Scores range from 1 to 100, with 100 indicating a perfect stand score. This metric is useful for assessing varietal persistence and stand longevity.

When comparing varieties, differences are statistically meaningful only when they exceed the least significant difference (LSD). The LSD represents the minimum difference required between two varieties for a 95% confidence level that the difference is not due to chance. For example, if variety A yields 0.50 tons/acre more than variety B, that difference is significant only if the LSD is 0.50 or less. If the LSD is 0.51 or greater, the difference cannot be considered statistically meaningful under the given conditions.

The coefficient of variation (CV) measures relative variability and provides insight into the trial precision. In grain and forage trials, CV values for yield often range between 5% and 20%. Acceptable CV levels vary by trait. As CV increases, confidence in the reliability of the results decreases. Uncontrollable variation in soil fertility, drainage, and other environmental factors contributes to higher CV values.

Alfalfa

Many alfalfa varieties exist; selecting the appropriate variety is an important management decision. This report lists performance data for those varieties in the Penn State Alfalfa Variety Testing Program. Evaluation trials include both commercially available and advanced experimental varieties. Trials are initiated each year at the Rock Springs and Landisville research stations. In each trial, yield, stand, and other data collection continue for a maximum of four years after a seeding year or until the stand becomes so depleted that data collection is no longer worthwhile.

Trials at both locations are established on well-drained Hagerstown silt loam soils. Major site differences are likely reflected in the longer growing season, slightly elevated temperatures, and a tendency toward late summer drought at the Landisville site.

Keep in mind a few points when evaluating the alfalfa variety performance data:

- Selection of a variety based on yield performance alone is generally less satisfactory than selections that also consider stand score and pest resistance.
- Conditions on most farms are such that several varieties may perform nearly equally. It is usually not necessary to rely on a single variety.
- No variety, regardless of its excellence, can thrive under poor management. Good management considers all aspects of alfalfa production, including seedbed preparation, soil fertility management, lime and fertilizer application, seeding methods and timing, pest control, harvest frequency and timing, storage, and post-harvest treatment. Many modern varieties are adapted to intensive management.

Fall Dormancy

Fall dormancy ratings of alfalfa range from one (very dormant) to eleven (having no dormancy), but ratings above nine are uncommon. Varieties with less fall dormancy (higher numerical rating) regreen earlier in the spring, regrow faster after each harvest, and exhibit greater growth in the fall compared to those with more fall dormancy (lower numerical rating).

Pest Resistance

Disease and insect resistance may be the most important attributes of an alfalfa variety. The ratings for pest resistance given in this report can serve as a good indicator of a variety's potential performance in your area. Be aware of your pest resistance needs and choose the appropriate varieties.

Sclerotinia stem and crown rot is a severe concern to growers throughout the state because there is little plant resistance to the disease. Late-summer no-till seedings seem to be more susceptible to the disease. Newly established seedlings are very susceptible to infection in the fall when the fungus is active. Plants are attacked rapidly by the pathogen and die the following spring. Plants established in the spring are more resistant to the pathogen and are less severely damaged. The fungus survives as hard, black structures (sclerotia) on or near the soil surface. In the fall, sclerotia produce spores that cause infection. Plowing buries sclerotia, thus reducing inoculum and subsequent infection.

Resistance to *Aphanomyces* can be found in some of the newest varieties. *Aphanomyces euteiches* is a soilborne fungus with behavior and requirements similar to *Phytophthora*. It is a wet-soil seedling pathogen and can be expected to thrive under cool, waterlogged conditions. Resistance may be beneficial when growing alfalfa on poorly drained soils. More specific information about many alfalfa diseases is included in the current *Penn State Agronomy Guide*.

The crown and root rot complex is still a problem. Because of the complexity of the pathogens involved, resistance to this disease is not very high in any variety. Good management slows the progress of this disease. More specific information is included in the current *Penn State Agronomy Guide*.

Plant breeders develop alfalfa varieties by selecting from genetically diverse populations. Within such populations, individual plants may vary widely in their response to a particular disease or insect. Some may be highly resistant, and others very susceptible. A particular pest resistance rating usually reflects the response of the majority of plants in the variety. In our trials, varieties with the most pest resistance ratings of moderate or higher have usually shown better long-term performance.

Guidelines for Selecting Alfalfa Varieties

To select alfalfa varieties based on the trial results, follow these suggestions:

1. Determine the trial site that most resembles your farm regarding soil and growing season. Performance data of varieties at this site are likely to provide more relevant selection information.
2. Look at the performances of the varieties at both trial sites. Varieties that do equally well at both sites probably are adapted to a wider range of environmental conditions.
3. Performance data over several years can be very useful in selecting a variety because some varieties seem to decline more rapidly with age than others.
4. The most recent harvest-year data should receive major consideration for long-term rotations. If you plan to harvest alfalfa for three years or less, then high performance during early years should be given major consideration.
5. Disease- and pest-resistance ratings should be examined in relation to yield, especially if your area is known to have problems with alfalfa diseases and pests. For example, *Phytophthora* root rot resistance may be exceptionally important on farms with moderately to poorly drained soils.

Table 1 lists the marketers of alfalfa varieties included in this report, as well as the report table numbers in which the varieties appear. Also included are fall dormancy ratings and selected disease- and insect-resistance ratings. Tables 2 through 8 offer guidelines for assessing the production potential of various alfalfa varieties.

Fall dormancy ratings of alfalfa range from one (very dormant) to eleven (having no dormancy). Varieties that are less fall dormant (higher numerical rating) regreen earlier in the spring, regrow faster after each harvest, and exhibit greater growth in the fall compared to those varieties with more fall dormancy (lower numerical rating).

Table 1. Alfalfa Varieties Marketed in Pennsylvania and Listed in This Report.

Variety	Marketer	Fall Dormancy	Pest Resistance Ratings - Bacterial Wilt	Pest Resistance Ratings - Verticillium Wilt	Pest Resistance Ratings - Fusarium Wilt	Pest Resistance Ratings - Anthracnose	Pest Resistance Ratings - Phytophthora Root Rot	Pest Resistance Ratings - Aphanom Race 1
374HD	Albert Lea Seed	4	HR	HR	HR	HR	HR	HR
394 AP	Albert Lea Seed	4	HR	HR	HR	HR	HR	HR
54Q16	Forage First 5 Series by DLF	4	HR	HR	HR	HR	HR	HR
54Q29	Forage First 5 Series by DLF	4	HR	HR	R	HR	HR	HR
54VQ52	Forage First 5 Series by DLF	3	HR	HR	R	HR	HR	HR
54VR10	Forage First 5 Series by DLF	4	HR	HR	R	HR	HR	HR
55H96	Forage First 5 Series by DLF	5	HR	R	HR	HR	HR	HR
55V50	Forage First 5 Series by DLF	5	HR	HR	R	HR	HR	HR
6453Q	NEXGROW	4	HR	HR	HR	HR	HR	HR
AFX 439	Alforex Seeds by DLF	4	HR	HR	HR	HR	HR	HR
AFX479	Alforex Seeds by DLF	4	HR	HR	HR	HR	HR	HR
54VQ56	Alforex Seeds by DLF	4	HR	HR	HR	HR	HR	HR
AFX589	Alforex Seeds by DLF	5	HR	HR	HR	HR	HR	HR

Variety	Marketer	Fall Dormancy	Pest Resistance Ratings - Bacterial Wilt	Pest Resistance Ratings - Verticillium Wilt	Pest Resistance Ratings - Fusarium Wilt	Pest Resistance Ratings - Anthracnose	Pest Resistance Ratings - Phytophthora Root Rot	Pest Resistance Ratings - Aphanom Race 1
X-Force 5420-Wet	Alforex Seeds by DLF	4	HR	HR	HR	HR	HR	HR
54Q30	DLF USA	4	HR	HR	HR	HR	HR	HR
Ameristand 428TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	HR
CP5025	Legacy Seeds	4	HR	HR	HR	HR	HR	HR
CP5029	Legacy Seeds	4	HR	HR	HR	HR	HR	HR
CP5143	Legacy Seeds	4	HR	R	HR	HR	HR	HR
CP5295	Legacy Seeds	4	HR	R	HR	HR	HR	HR
CP5364	Legacy Seeds	5	HR	HR	HR	HR	HR	HR
CP5382	Legacy Seeds	5	HR	R	HR	HR	HR	HR
CP5420	Legacy Seeds	4	HR	HR	HR	HR	HR	HR
FF 42.A3	DLF Pickseed	4.4	HR	HR	HR	HR	HR	HR
Finch	Albert Lea Seed	4	HR	HR	HR	HR	HR	HR
FSG 421LH	Seedway	4	HR	HR	HR	HR	HR	HR
FSG450	Seedway	5	HR	HR	HR	HR	HR	HR
Gemstone II	Chemgro Seeds	4	HR	HR	HR	HR	HR	HR
High Five	Growmark, Inc.	4	HR	HR	HR	HR	HR	HR

Variety	Marketer	Fall Dormancy	Pest Resistance Ratings - Bacterial Wilt	Pest Resistance Ratings - Verticillium Wilt	Pest Resistance Ratings - Fusarium Wilt	Pest Resistance Ratings - Anthracnose	Pest Resistance Ratings - Phytophthora Root Rot	Pest Resistance Ratings - Aphanom Race 1
Hybriforce-4420/Wet	DLF	4	HR	HR	HR	HR	HR	HR
KF 544 PLH	Kings Agriseed	5	HR	HR	HR	HR	HR	HR
KF Stronghold 35-2	Kings Agriseeds	4	HR	HR	HR	HR	HR	HR
KF435HD	Kings Agriseeds	4	HR	HR	HR	HR	HR	HR
Mariner V	Growmark, Inc.	4	HR	HR	HR	HR	HR	HR
MVS 4220Q	Mountain View Seeds	4	HR	HR	HR	HR	HR	HR
Oneida	Public/Check	3	R	HR	HR	MR	MR	-
PPG-2110	Moutainview	3.9	HR	HR	HR	HR	HR	HR
Sceptor	Growmark, Inc	4	HR	HR	HR	HR	HR	HR
Signature	Growmark, Inc.	4	HR	HR	HR	HR	HR	HR
SW4515	S&W Seed Company	4	HR	HR	HR	HR	HR	HR
SW5615	S&W Seed Company	5	HR	HR	HR	HR	HR	HR
SW525LH	S&W Seed Company.	5	HR	HR	HR	HR	HR	HR
SW5615	S&W Seed Company	5	HR	HR	HR	HR	HR	HR
Touchstone EQ	Chemgro Seeds	4	HR	HR	HR	HR	HR	HR

Variety	Marketer	Fall Dormancy	Pest Resistance Ratings - Bacterial Wilt	Pest Resistance Ratings - Verticillium Wilt	Pest Resistance Ratings - Fusarium Wilt	Pest Resistance Ratings - Anthracnose	Pest Resistance Ratings - Phytophthora Root Rot	Pest Resistance Ratings - Aphanom Race 1
Vernal	Public/Check	4	R	S	MR	S	S	S
WL349HQ	Forage Genetics	4	HR	HR	HR	HR	HR	HR

BW = Bacterial Wilt, **VW** = Verticillium Wilt, **FW** = Fusarium Wilt, **AN** = Anthracnose, **PRR** = Phytophthora Root Rot, **APH1** = Aphanomyces Race 1. Resistance Key (%): **S** = 0 to 5 %; **LR** = 6 to 14 %; **MR** = 15 to 30 %; **R** = 31 to 50 %; **HR** = 51 % or greater. If the resistance rating for a variety is not listed, the information is not available.

The Fall Dormancy and Pest Resistance Ratings in this table are from the National Alfalfa and Forage Alliance and/or the Alfalfa variety breeder and have not been verified by Penn State.

Alfalfa Marketers Listed in This Report

Albert Lea Seed

1414 W Main St, PO Box 127

Albert Lea, MN 56007

Phone: 800-352-5247

alseed.com

America's Alfalfa

1423 11th Ave N

Nampa, ID 83687

Phone: 208-466-3568

www.americasalfalfa.com

DLF USA

33080 Red Bridge Road,

Albany, OR 97322

Phone: 541-369-2251

us.dlf.com

Forage Genetics International

1897 195th St

Boone, IA 50036

Phone: 515-432-9115

www.foragegenetics.com

Forage First 5 Series by DLF

2541 Commerce St.

La Crosse, WI 54603

Phone: 877-560-5181

us.dlf.com/la-crosse-seed/forage/brands/5-series

Growmark FS

Loucks Mill Rd

York, PA 17402

Phone: 800-338-4769

www.gromarkfs.com

King's Agriseeds

1828 Freedom Rd #101

Lancaster, PA 17601

Phone: 717-687-6224

www.kingsagriseeds.com

Legacy Seeds

290 Depot Street, P.O. Box 68

Scandinavia, WI 54977

Phone: 866-791-6390

legacyseeds.com

Mountain View Seeds

8955 Sunnyview Rd NE

Salem, OR 97305

Phone: 503-588-7333

www.mtviewseeds.com

Pioneer Hi-Bred (by DLF)

68 Industrial Rd

Elizabethtown, PA 17022

Phone: 717-653-5605

www.pioneer.com

S&W Seed Company

7108 N Fresno St Ste 380

Fresno, CA, 93720

Phone: 559-884-2535

www.swseedco.com

Seedway

275 N 8th St

Mifflinburg, PA 17844

Phone: 800-338-2137

www.seedway.com

Table 2. 2021 Alfalfa Variety Trial--Rock Springs.

Variety	2025 Yield	2024 Yield	2023 Yield	2022 Yield	Four-Year Average Yield	Stand Score Fall 2025
C0518A3663	8.31	10.12	12.06	8.26	9.57	90.0
Ameristand 42	8.31	9.96	11.71	8.42	9.55	80.6
SW5614	8.07	9.42	11.10	8.09	9.07	82.2
SW4515	8.02	9.21	10.32	7.66	8.88	85.0
54Q16	7.62	8.92	10.99	8.00	8.84	82.8
High Five	7.58	8.94	10.72	7.74	8.78	85.6
Gemstone II	8.05	8.75	10.53	7.49	8.74	83.3
6453Q	7.77	9.14	10.82	7.33	8.73	78.9
SW5615	8.03	8.77	10.37	7.96	8.72	85.0
KF435HD	8.06	8.88	10.30	7.84	8.7	84.4
KF Stronghold	7.58	8.92	10.51	7.80	8.68	82.8
AFX 439	7.07	9.22	10.64	7.87	8.65	79.4
54VR10	7.36	8.59	10.29	7.74	8.58	83.9
Hybriforce-4420/Wet	7.16	8.52	9.96	8.03	8.54	83.9
FSG450	7.08	8.82	10.30	7.14	8.45	83.9
Signature	7.23	8.6	10.23	7.46	8.45	82.8
Mariner V	7.32	8.38	10.04	7.88	8.44	80.0
54Q29	6.96	8.41	10.07	7.56	8.28	81.7
Touchstone EQ	8.79	8.1	9.67	7.42	8.28	84.4
FF42.A3	7.14	8.31	9.78	7.13	8.08	82.8
Oneida VR	5.43	6.78	8.45	6.24	6.68	83.3
Vernal	5.09	5.78	7.98	5.52	6.17	77.2
Grand Mean	7.45	8.66	10.31	7.57	8.49	82.9

Variety	2025 Yield	2024 Yield	2023 Yield	2022 Yield	Four-Year Average Yield	Stand Score Fall 2025
CV	14.13	6.75	6.55	9.23	6.73	6.20
LSD	1.48	0.83	0.95	0.98	0.8	5.31

*Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on April 23, 2021.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the four-year average.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 3. 2021 Potato Leafhopper (PLH) Resistant Alfalfa Variety Trials--Rock Springs.

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	2022 Yield (tons/acre)	Four-Year Average Yield (tons/acre)	PLH-R Rating† Two-Year Average	Stand Score Fall 2025
55H96	6.84	8.79	9.82	6.97	8.19	3.10	82.2
SW525LH	7.61	7.64	9.69	5.57	8.18	3.20	84.4
SW4602LH	7.36	7.13	9.97	6.38	8.11	3.20	81.7
FSG 421LH	6.70	7.49	10.29	6.16	7.69	4.10	73.9
Sceptor	6.22	8.66	9.28	7.08	7.66	3.30	80.6
KF 544 PLH	5.38	8.60	9.38	7.11	7.23	3.40	69.4
7801*	5.90	8.17	9.22	7.13	7.16	3.00	77.2
Oneida VR	6.21	8.47	9.22	6.69	7.04	1.40	77.8
Vernal	5.78	6.97	9.66	5.44	6.91	1.30	71.1
Grand Mean	6.45	7.99	9.61	6.50	7.57	2.89	77.6
CV (%)	9.78	6.25	6.91	10.35	3.21	20.27	6.89

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	2022 Yield (tons/acre)	Four-Year Average Yield (tons/acre)	PLH-R Rating† Two- Year Average	Stand Score Fall 2025
LSD (p =.05)	0.92	0.73	0.93	0.94	0.35	0.70	7.80

*Not commercially available.

†PLH-R Score: Best (No Damage) = 5 and Worst (Damage) = 1. The two-year average is 2022 and 2023 combined.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on April 23, 2021.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the four-year average.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 4. 2022 Alfalfa Variety Trial--Rock Springs.

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	Three-Year Average Yield (tons/acre)	Stand Score Fall 2025
AFX 479	8.74	9.43	9.92	9.47	79.4
Touchstone EQ	8.61	8.89	10.01	9.22	78.3
54Q16	8.29	8.70	10.89	9.23	83.3
WL349HQ	8.27	9.32	9.94	9.14	78.3
AFX 184021	8.23	9.19	10.72	9.33	81.7
54Q29	8.13	8.77	10.82	9.16	86.1
SW5615	7.93	8.49	10.44	8.93	81.7
54VQ52	7.56	8.61	10.30	8.83	85.0
55V50	7.46	8.37	9.84	8.59	81.1
FF 42.A3	7.06	8.06	10.17	8.36	76.1
Oneida VR	6.35	7.27	10.16	7.85	79.4

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	Three-Year Average Yield (tons/acre)	Stand Score Fall 2025
Vernal	5.33	6.06	9.66	7.02	83.3
Grand Mean	7.66	8.43	10.24	8.76	81.2
CV (%)	7.16	5.42	9.90	4.38	8.27
LSD (p = .05)	0.78	0.66	1.42	0.55	9.70

*Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on April 28, 2022.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the three-year average.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 5. 2023 Alfalfa Variety Trial--Rock Springs.

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	Two-year Average Yield (tons/acre)	Stand Score Fall 2025
CP5382*	9.33	9.38	9.36	92.2
CP5364*	9.19	9.07	9.13	92.8
CP5420*	8.93	9.03	8.98	93.3
374HD	8.81	8.50	8.65	94.4
CP5025*	9.10	8.09	8.60	91.1
WL 349	9.09	8.10	8.60	94.4
MVS 4220Q	8.69	8.32	8.51	96.1
394 AP*	8.90	8.03	8.47	95.0
CP5465	8.85	8.05	8.45	93.3
Finch	8.72	8.06	8.39	90.0

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	Two-year Average Yield (tons/acre)	Stand Score Fall 2025
CP5295*	8.95	7.66	8.30	93.3
CP5029*	8.58	7.82	8.20	92.2
FF 42.A3	8.27	8.10	8.19	94.4
CP5143	8.77	7.01	7.89	94.4
Oneida VR	7.10	8.18	7.64	97.8
Vernal	6.51	7.56	7.04	95.6
Grand Mean	8.61	8.19	8.40	93.8
CV (%)	6.40	8.56	6.29	2.62
LSD (p = .05)	0.78	1.00	0.75	3.49

* Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on August 24, 2023.

Yields are given in tons per acre on a dry matter basis.

Entries are ranked in order of decreasing yield based on the two-year average.

RCBD, 4 reps, analyzed with R.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 6. 2024 Alfalfa Variety Trial--Rock Springs.

Variety	2025 Yield (tons/acre)	Stand Score Fall 2025
X-Force 5420-Wet	9.97	96.7
54VQ56	9.63	98.3
AFX 479	9.52	97.8
AFX 589	9.33	96.1
54Q30	9.29	96.1
WL349HQ	9.23	95.6

Variety	2025 Yield (tons/acre)	Stand Score Fall 2025
CP5465*	9.01	95.0
MVS4220q*	8.96	96.1
PPG-1910*	8.92	97.8
BY24-12KF	8.88	97.2
BY24-14AF	8.67	94.4
PPG-2110	8.60	96.7
WL365HQ	8.56	96.7
Oneida	8.41	97.8
WL358LH	8.11	95.6
Vernal	7.46	98.3
Grand Mean	8.91	96.6
CV (%)	6.99	1.91
LSD (p = .05)	0.88	2.63

* Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on August 26, 2024.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 7. 2021 Alfalfa Variety Trial--Landisville.

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	2022 Yield (tons/acre)	Four-year Average Yield (tons/acre)	Stand Score Fall 2025
Ameristand 428TQ	5.19	7.95	10.33	8.80	8.07	82.6
SW5517*	5.17	7.70	9.59	8.80	7.81	83.3

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	2022 Yield (tons/acre)	Four-year Average Yield (tons/acre)	Stand Score Fall 2025
AFX 439	5.16	7.04	9.90	9.11	7.80	81.3
KF435HD	4.87	6.56	9.85	8.17	7.36	82.9
FSG450	4.78	7.41	10.14	8.55	7.72	82.0
6453Q	5.02	7.06	9.75	8.51	7.58	80.3
54Q16	4.95	6.56	9.38	9.40	7.57	83.3
Signature	4.51	6.54	9.46	8.75	7.32	81.3
Hybriforce- 4420/Wet	4.86	7.20	9.03	8.48	7.39	83.7
FF42.A3	4.43	7.00	9.14	7.98	7.14	80.0
54Q29	4.83	7.25	9.63	8.33	7.51	81.8
High Five	4.64	6.37	9.48	8.62	7.28	84.9
KF Stronghold 35-2	4.46	6.37	8.90	7.49	6.81	83.3
SW5606*	5.14	6.81	8.72	8.43	7.27	85.0
Mariner V	4.41	5.92	8.83	7.97	6.78	80.9
54VR10	4.77	6.74	8.85	7.70	7.02	84.6
SW5615	4.11	6.36	8.81	7.48	6.69	83.5
Vernal	3.34	5.19	6.94	6.44	5.48	78.4
Grand Mean	4.70	6.78	9.26	8.28	7.26	82.4
CV (%)	12.20	14.21	15.66	16.19	11.64	2.69
LSD (p = .05)	0.81	1.36	2.03	1.88	1.17	3.14

* Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

Yields are given in tons per acre on a dry matter basis.

The trial was seeded on April 19, 2021.

Entries are ranked in order of decreasing yield based on the four-year average.

RCBD, 4 reps, analyzed with R.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Table 8. 2022 Alfalfa Variety Trial--Landisville.

Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	2023 Yield (tons/acre)	Three-Year Average Yield (tons/acre)	Stand Score Fall 2025
WL349HQ	6.27	9.28	10.14	8.56	81.5
54Q16	6.83	8.27	10.42	8.51	84.8
AFX 479*	6.29	8.30	10.23	8.27	85.0
SW5615	5.77	8.14	10.01	7.97	84.1
AFX 184021*	6.20	7.90	10.63	8.24	85.7
AFX 589	5.61	8.07	10.27	7.98	84.7
54Q29	5.99	7.53	10.08	7.87	85.2
FF 42.A3	5.55	7.47	9.83	7.62	82.7
Touchstone	5.92	7.12	9.05	7.37	84.4
54VQ52	5.91	6.92	9.87	7.57	85.3
Oneida VR	4.67	6.25	8.08	6.33	85.1
Vernal	4.72	6.25	7.18	6.05	82.5
Grand Mean	5.81	7.62	9.65	7.69	84.2
CV (%)	6.85	10.40	12.33	7.84	1.90
LSD (p=.05)	0.57	1.14	1.67	0.88	2.30

*Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

The trial was seeded on April 25, 2022.

Yields are given in tons per acre on a dry matter basis.

12 entries, RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the three-year average.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Perennial Clovers

Red Clover is an excellent short-lived perennial forage species adapted to many Pennsylvania farms where soil conditions may limit the performance of alfalfa. It can produce profitable levels of highly palatable, nutritious forage. Several management practices may enhance the longevity and acceptability of red clover: 1. When harvesting direct-seeded red clover, cut before it blooms in the seeding year; 2. For most of Pennsylvania, red clover is harvested on a three-cut system; 3. Choose varieties that have adequate disease resistance for your area. See the current *Penn State Agronomy Guide* for specific establishment, fertilization, and harvest management recommendations.

Our trial also includes white clover varieties. While white clover is not well-suited for silage or hay production, it can make high-quality pasture and performs well in years with frequent rainfall.

The following clover trial was harvested on a three-cut system. The trial was fertilized according to Penn State soil test recommendations. Table 9 lists the clover varieties in our testing program currently marketed in Pennsylvania. Table 10 offers guidelines for assessing the production potential of various red clover varieties and white clover varieties.

Table 9. Perennial Clover Varieties Marketed in Pennsylvania and Listed in This Report.

Species	Variety	Marketer	Appears in Table No.
Red Clover	Blaze	Mountain View Seeds	10
Red Clover	Cinnamon Plus	Cornell - Check	10
Red Clover	CW040040	Barenbrug USA	10
Red Clover	CW202	Barenbrug USA	10
Red Clover	GA-9908	Smith Seed Services	10
Red Clover	SERC-V15	Smith Seed Services	10
White Clover	Alice	Barenbrug USA	10
White Clover	C26800	Ampac Seeds/Luisetti Seeds	10
White Clover	C27413	Ampac Seeds/Luisetti Seeds	10
White Clover	CW0401	Barenbrug USA	10
White Clover	CW0501	Barenbrug USA	10
White Clover	CW905	Barenbrug USA	10
White Clover	CW9502	Barenbrug USA	10

Species	Variety	Marketer	Appears in Table No.
White Clover	Fiona	Barenbrug USA	10

Perennial Clover Marketers Listed in This Report:

AMPAC Seed

32727 OR-99E,

Tangent, OR 97389

Phone: 541-928-1651

www.ampacseed.com

Barenbrug USA

33477 OR-99E

Tangent, OR 97389

Phone: 541-926-5801

www.barusa.com

Mountain View Seeds

8955 Sunnyview Rd NE

Salem, OR 97305

Phone: 503-588-7333

www.mtviewseeds.com

Smith Seed Services

26890 Powerline Road

Halsey, OR 97348

Phone:541-369-2757

smithseed.com

Table 10. 2023 Perennial Clovers Variety Trial--Rock Springs.

Species	Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	Two-Year Average Yield (tons/acre)	Stand Score Fall 2025
Red Clover	SERC-V15*	6.25	9.17	7.71	48.8
Red Clover	Cinnamon Plus	5.99	8.21	7.10	26.3
Red Clover	GA-9908	5.93	7.82	6.88	18.8
Red Clover	Blaze	6.14	7.59	6.87	52.5
Red Clover	CW040040*	6.00	7.37	6.69	50.0
Red Clover	CW202*	4.87	7.89	6.38	31.3
Red Clover Mean		5.86	8.01	6.94	37.9

Species	Variety	2025 Yield (tons/acre)	2024 Yield (tons/acre)	Two-Year Average Yield (tons/acre)	Stand Score Fall 2025
Red Clover CV (%)		11.23	7.16	8.15	35.5
Red Clover LSD (p = .05)		0.99	0.86	0.85	20.0
White Clover	CW9501	2.61	6.39	4.50	-
White Clover	CW0905	2.64	6.02	4.33	-
White Clover	CW9502	2.71	5.57	4.14	-
White Clover	Fiona	2.85	5.24	4.05	-
White Clover	Alice	2.80	5.02	3.91	-
White Clover	CW0401	2.40	4.59	3.50	-
White Clover	C27413	2.21	4.55	3.38	-
White Clover	C26800	2.60	3.50	3.05	-
White Clover Mean		5.11	2.60	3.86	-
White Clover CV (%)		9.24	20.40	10.99	-
White Clover LSD (p = .05)		0.69	0.78	1.01	-

*Not commercially available.

CV = coefficient of variation.

LSD = least significant difference.

Seeded on April 25, 2023.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the two-year total.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Perennial Cool-season Grasses

Many farmers in Pennsylvania could benefit from including some perennial cool-season grasses as an integral part of their forage program. Our soil fertility management in our 2023 perennial cool-season grasses trial was designed around maintenance applications of phosphorus and potash to meet the soil test requirements. Seventy pounds of available nitrogen is applied in early April, with an additional 50 pounds applied after each harvest except for the last.

The first cutting in the perennial cool-season grasses trial was made when an individual variety reached the mid-to-late boot stage. Subsequent harvests were then made at intervals of 40 to 45 days, except the final harvest, when all the plots were harvested on the same day. All plots were harvested three to four times throughout the growing season, weather permitting, except for the establishment year.

Although production for each cut in a given year varies among species, most varieties produce one-third to one-half of the total annual production in the first cut. Yields are not greatly reduced if a three-cut system is used. Quality will be increased by early and frequent cutting. Choose a species that fits the farm's capabilities and the operator's management scheme. See the current *Penn State Agronomy Guide* for specific recommendations about establishment, fertilization, and other management considerations.

Table 11 lists perennial cool-season grass varieties in our testing program that are currently marketed in Pennsylvania or may be available in the near future (Please check with marketers for availability). Table 12 offers guidelines for assessing the production potential of various grass varieties.

Table 11. Perennial Cool-Season Grass Varieties Marketed in Pennsylvania and Listed in This Report.

Species	Variety	Marketer	Table No.
Bromegrass	Arid	Mountain View Seeds	12
Bromegrass	BAR15BR35	Barenbrug USA	12
Bromegrass	Carlton	Mountain View Seeds	12
Bromegrass	Champaigne	Mountain View Seeds	12
Bromegrass	Fleet	Mountain View Seeds	12
Meadow Fescue	Hyperbola	DLF USA	12
Meadow Fescue	Modena	BrettYoung Seeds	12
Meadow Fescue	PPG-FP101	Mountain View Seeds	12
Orchardgrass	Alpine	Mountain View Seeds	12
Orchardgrass	Bighorn	Mountain View Seeds	12
Orchardgrass	Captur	DLF USA	12
Orchardgrass	Devour	Mountain View Seeds	12
Orchardgrass	GK281(Kaha)	Ampac Seeds/Luisetti Seeds	12

Species	Variety	Marketer	Table No.
Orchardgrass	OG96	DLF USA	12
Orchardgrass	Persist II	Smith Seed Services	12
Orchardgrass	Potomac	Smith Seed Services	12
Orchardgrass	SEOG-122	Smith Seed Services	12
Orchardgrass	SEOG-223	Smith Seed Services	12
Perennial Ryegrass	BAR16LPD101	Barenbrug USA	12
Perennial Ryegrass	BARLP8BTRESN	Barenbrug USA	12
Perennial Ryegrass	Dexter 1	DLF USA	12
Tall Fescue	Cajun II	Smith Seed Services	12
Tall Fescue	Estancia E+	Mountain View Seeds	12
Tall Fescue	Fawn	Smith Seed Services	12
Tall Fescue	FTF96	DLF USA	12
Tall Fescue	Greendale	DLF USA	12
Tall Fescue	Palatine	Mountain View Seeds	12
Tall Fescue	SETF-N97	Smith Seed Services	12
Tall Fescue	SETFPC-5BK	Smith Seed Services	12
Tall Fescue	SETF-SGT	Smith Seed Services	12
Tall Fescue	Teton II	Mountain View Seeds	12
Tall Fescue	Triumphant	DLF USA	12
Timothy	Carson	Mountain View Seeds	12
Timothy	NC-Graze/NC-G22	Green Consulting Services	12

Cool-Season Grass Marketers Listed in This Report:

AMPAC Seed

32727 OR-99E

Tangent, OR 97389

Phone: 541-928-1651

www.ampacseed.com

Barenbrug USA

33477 OR-99E
 Tangent, OR 97389
 Phone: 800-547-4101
 www.barusa.com

Brett Young Seeds

Box 99 ST. Norbert P.S.
 Winnipeg, MB Canada
 Phone: 204-478-2202
 brettyoung.ca

DLF USA

33080 Red Bridge Road, SE
 Albany, OR 97322
 Phone: 541-369-2251
 www.dlfpickseed.com

Green Consulting Services

8324 Broken Yolk Trail
 Raleigh, NC 27695
 Phone: 919-609-8141
 www.ncfarmfresh.com

Mountain View Seeds

8955 Sunnyview Rd NE
 Salem, OR 97305
 Phone: 503-588-7333
 www.mtviewseeds.com

Smith Seed Services

26890 Powerline Road
 Halsey, OR 97348
 Phone: 541-369-2757
 smithseed.com

Table 12. 2023 Perennial Cool-Season Grass Variety Trial--Rock Springs.

Species	Variety	First Cut	Yield 2025	Yield 2024	Yield Two-year Average	Stand Score Fall 2025	CP\$	ADF\$	aNDF\$	30-hr NDFD\$	TTND
Bromegrass	BAR15BR35	NA†	NA†	NA†	NA†	NA†	NA†	NA†	NA†	NA†	NA†
Bromegrass	Fleet	19-May	6.85	5.53	6.19	81.7	12.1	39.1	62.7	52.5	49.0

Species	Variety	First Cut	Yield 2025	Yield 2024	Yield Two-year Average	Stand Score Fall 2025	CP§	ADF§	aNDF§	30-hr NDFD§	TTND
Bromegrass	Champaigne	19-May	6.18	5.03	5.61	72.8	12.3	38.2	64.0	53.6	49.2
Bromegrass	Arid	19-May	4.54	3.33	3.94	74.4	13.6	36.2	64.6	54.8	51.0
Bromegrass	Carlton	19-May	4.51	3.18	3.85	80.0	16.2	33.1	56.8	56.2	55.5
Bromegrass Mean			5.52	4.27	4.89	77.2	13.6	36.6	62.0	54.3	51.2
Bromegrass CV (%)			5.19	6.4	4.94	5.11					
Bromegrass LSD (p = .05)			0.46	0.44	0.38	6.78					
Meadow Fescue	PPG-FP101	19-May	5.08	5.68	5.38	90.8	12.1	36.4	60.8	52.1	51.9
Meadow Fescue	Modena	19-May	4.57	4.69	4.63	86.9	13.4	34.0	57.6	51.9	54.5
Meadow Fescue	Hyperbola	19-May	4.36	4.74	4.56	90.2	13.0	34.7	58.1	53.0	52.9
Meadow Fescue Mean			4.67	5.04	4.85	89.3	12.9	35.0	58.9	52.3	53.1
Meadow Fescue CV (%)			8.95	9.31	8.3	3.46					
Meadow Fescue LSD (p = .05)			0.72	0.81	0.69	5.77					
Orchardgrass	Bighorn	19-May	6.2	6.98	6.36	95.0	11.5	38.1	61.9	51.4	51.9
Orchardgrass	OG 96	19-May	5.62	6.68	6.3	92.8	12.3	35.2	60.1	52.3	52.5
Orchardgrass	Alpine	19-May	5.75	6.52	6.22	93.3	12.7	35.9	59.9	52.6	53.9

Species	Variety	First Cut	Yield 2025	Yield 2024	Yield Two-year Average	Stand Score Fall 2025	CP\$	ADF\$	aNDF\$	30-hr NDFD\$	TTND
Orchardgrass	Potomac	19-May	6.11	6.49	6.02	94.4	11.7	38.0	63.3	49.9	48.0
Orchardgrass	Persist II	19-May	6.26	5.94	5.86	92.2	11.9	38.1	62.8	49.5	48.4
Orchardgrass	Captur	19-May	5.09	5.87	5.79	91.1	12.9	35.7	59.5	52.4	51.6
Orchardgrass	Devour	19-May	5.68	5.75	5.78	93.3	12.9	35.5	61.4	52.2	52.2
Orchardgrass	SEOG-122	19-May	5.56	5.57	5.65	91.1	13.3	35.9	63.6	53.8	51.4
Orchardgrass	SEOG-223	19-May	5.39	5.47	5.48	91.7	11.4	38.6	63.6	50.6	49.1
Orchardgrass	GK281(Kaha)	19-May	2.73	4.11	3.42	NA**	14.8	33.4	57.8	54.5	52.7
Orchardgrass Mean			5.44	5.94	5.69	92.9	12.5	36.4	61.4	51.9	51.2
Orchardgrass CV (%)			5.91	9.74	6.44	2.57					
Orchardgrass LSD (p = .05)			0.47	0.84	0.53	3.64					
Perennial Ryegrass	BAR16LPD101	12-Jun	4.46	5.73	5.10	98.3	9.7	33.5	56.5	46.6	44.6
Perennial Ryegrass	Dexter 1	12-Jun	4.30	5.8	5.05	97.8	9.6	32.9	59.0	49.3	45.8
Perennial Ryegrass	BARLP8BTRESN	12-Jun	4.96	4.98	4.97	100.0	9.1	35.6	59.8	48.0	46.2
Perennial Ryegrass Mean			4.57	5.51	5.04	98.7	9.5	34.0	58.5	48.0	45.5
Perennial Ryegrass CV (%)			10.04	5.04	6.5	1.80					

Species	Variety	First Cut	Yield 2025	Yield 2024	Yield Two-year Average	Stand Score Fall 2025	CP§	ADF§	aNDF§	30-hr NDFD§	TTND
Perennial Ryegrass LSD (p = .05)			0.79	0.48	0.57	3.07					
Tall Fescue	Triumphant	19-May	6.39	8.17	7.28	83.4	10.3	37.2	65.6	49.9	46.6
Tall Fescue	TetonII	19-May	6.67	7.83	7.25	85.1	11.5	38.1	63.0	49.8	48.4
Tall Fescue	Fawn	19-May	6.84	7.41	7.12	85.7	10.5	38.2	64.5	49.3	45.8
Tall Fescue	Greendale	19-May	6.46	7.69	7.07	85.1	12.4	35.9	60.4	51.5	49.7
Tall Fescue	SETF-N97	19-May	6.41	7.70	7.05	84.0	10.7	37.8	65.8	51.5	46.9
Tall Fescue	Estancia E+	19-May	6.34	7.69	7.01	86.2	11.5	37.0	63.5	51.2	49.6
Tall Fescue	SETF-SGT	19-May	6.47	7.56	7.01	86.2	11.4	36.6	62.6	51.2	49.3
Tall Fescue	SETFPC-5BK	19-May	6.11	7.59	6.85	84.0	11.3	38.3	64.4	51.2	47.1
Tall Fescue	Cajun II	19-May	6.28	7.34	6.81	81.2	11.4	37.0	63.4	49.9	47.0
Tall Fescue	FTF96	19-May	6.10	6.72	6.41	77.3	12.2	36.0	62.7	54.2	52.6
Tall Fescue	Palatine	19-May	5.72	6.54	6.13	84.6	12.4	35.9	62.0	51.9	50.8
Tall Fescue Mean			6.34	7.48	6.91	83.9	11.4	37.1	63.5	51.1	48.5
Tall Fescue CV (%)			7.42	9.01	6.95	2.88					
Tall Fescue LSD (p = .05)			0.68	0.97	0.69	6.71					
Timothy	Carson	19-May	5.77	6.08	5.92	97.8	11.5	36.4	60.7	48.3	47.6

Species	Variety	First Cut	Yield 2025	Yield 2024	Yield Two-year Average	Stand Score Fall 2025	CP§	ADF§	aNDF§	30-hr NDFD§	TTND
Timothy	NC-G22	19-May	5.52	5.25	5.38	98.9	12.9	35.6	59.6	47.1	46.2
Timothy Mean			5.64	5.67	5.65	98.3	12.2	36.0	60.2	47.7	46.9
Timothy CV (%)			6.40	6.16	6.28	1.60					
Timothy LSD (p = .05)			0.81	0.79	0.80	3.54					
Overall Mean			5.61	6.11	5.86		12.1	36.3	61.5	51.4	49.7
Overall CV (%)			7.63	10.41	7.69						
Overall LSD (p = .05)			0.60	0.89	0.63						

†Not applicable due to stand establishment failure.

*Serious winter kill in 2024.

§Forage quality analysis for the first cut samples:

CP = crude protein.

ADF = acid detergent fiber.

aNDF = neutral detergent fiber after starch amylase digestion.

30-hr NDFD = 30-hour neutral detergent fiber digestibility.

TTNDFD = total tract NDFD.

CV = coefficient of variation.

LSD = least significant difference.

All species were seeded on April 21, 2023.

Yields are given in tons per acre on a dry matter basis.

RCBD, 4 reps, analyzed with R.

Entries are ranked in order of decreasing yield based on the two-year average for each species.

Stand score based on a scale from 1 to 100. A 100 is considered to be a perfect stand.

Fall-seeded Winter Forages and Cover Crops

In fall 2024, a trial evaluating fall-seeded winter forages and cover crops was established at the Rock Springs and Landisville research locations. Planting occurred in early October, and harvest took place in spring 2025. The trial featured two harvest management systems: a single-cut system and a multi-cut system.

Cereal species were harvested using the single-cut approach, while annual ryegrasses were evaluated under both systems. Four annual ryegrass varieties were included in each. In the multi-cut system, annual ryegrass was harvested twice—first on May 20 at Landisville and on May 27 at Rock Springs, followed by a second cut on June 24 and June 20 respectively, weather permitting. In the single-cut system, varieties were harvested at the late-boot to the heading stage, except barley at the soft dough stage, depending on weather conditions. Harvesting for this trial began on May 1, 2025, and concluded on June 5, 2025.

Our soil fertility program is based on phosphorus and potash maintenance applications that are aligned with soil test recommendations. Plots received 100 pounds of nitrogen per acre at spring green-up, and, for the multi-cut system, an additional 50 pounds after the first harvest. For detailed recommendations on establishment, fertilization, and other management practices, please refer to the current *Penn State Agronomy Guide*.

Table 13 lists the fall-seeded winter forage and cover crop varieties included in this trial that are currently available—or may soon become available—in Pennsylvania (availability may vary; please confirm with suppliers). Tables 14 through 17 provide guidelines for assessing the production potential of these varieties.

Table 13. 2024-2025 Fall-Seeded Winter Forage and Cover Crop Varieties Marketed in Pennsylvania and Listed in This Report

Species	Variety	Marketer	Appears in Table No.
Annual Ryegrass	BAR LMF 490-3(2n)	Barenbrug USA	4,5
Annual Ryegrass	BAR LMF 490-4(2n)	Barenbrug USA	4,5
Annual Ryegrass	Centurion(2X)	Mountain View Seeds	2,4
Annual Ryegrass	DSVLw A2481	DSV Zaden Nederland BV	2,4
Annual Ryegrass	DSVLw A2482	DSV Zaden Nederland BV	2,4
Annual Ryegrass	DSVLw M2487	DSV Zaden Nederland BV	2,4
Annual Ryegrass	Jackson	WAX	4,5
Annual Ryegrass	Maximus(4N)	Barenbrug USA	4,5
Annual Ryegrass	ME-4	WAX	4,5
Annual Ryegrass	ME-94	WAX	4,5
Annual Ryegrass	Nelson Tetraploid	WAX	4,5

Species	Variety	Marketer	Appears in Table No.
Annual Ryegrass	Ribeye(2n)	Barenbrug USA	4,5
Annual Ryegrass	Tetraprime II	Mountain View Seeds	2,4
Annual Ryegrass	WAX Marshall	WAX	4,5
Annual Ryegrass	WMCT	WAX	4,5
Annual Ryegrass	WMWL	WAX	4,5
Annual Ryegrass	WMWL-2	WAX	4,5
Cereal Rye	KWS Progas	KWS Cereals	2,3
Cereal Rye	KWS Aviator	KWS Cereals	2,3
Cereal Rye	Rye Grazemaster II	Seedway	2
Barley	SB 151	VA Crop Improvement Assoc.	2
Barley	VT beahm	VA Crop Improvement Assoc.	2
Barley	PSU 8	Check	2
Barley	PSU EXP	Check	2
Triticale	2021u03	Oregon Trail Seeds	2,3
Triticale	2021u05	Oregon Trail Seeds	2,3
Triticale	BCT19004	Seed Link	2
Triticale	BCT19005	Seed Link	2
Triticale	BCT23001	Seed Link	2
Triticale	BCT23002	Seed Link	2
Triticale	BCT23003	Seed Link	2
Triticale	Triticale Hybrid Flex	Seedway	2
Triticale	Triticale Hyoctane	Seedway	2
Triticale	Triticale Maverick	Seedway	2

Winter Forage and Cover Crop Marketers Listed in This Report:

Barenbrug USA

Tangent, OR 97389

Phone: 541-926-5801

www.barusa.com

DSV Zaden Nederland BV

Neepawa, MB R0J 1H0

Phone: 800-430-5955

www.dsv-northstar.com

KWS Cereals USA

495 County Rd 1300 N,

Champaign, IL 61822

Phone: 303-489-4265

www.kws.com

Mountain View Seeds

Salem, OR 97305

Phone: 503-588-7333

www.mtviewseeds.com

Oregon Trail Seeds

Imbler, OR 97827

Phone: 541-898-7333

www.otseeds.com

Seed Link

1010 Monarch Rd.

Lindsay ON, K9V 4R1 Canada

Phone: 705-324-4144

www.seed-link.ca

Seedway 275 N 8th St

Mifflinburg, PA 17844

Phone: 800-338-2137

www.seedway.com

The Wax Company LLC

212 Front St N,

Amory, MS 38821

Phone: 662-256-3511

Virginia Crop Improvement Association

9225 Atlee Branch Lane

Mechanicsville, VA 23116

Phone: 804-472-4649

Table 14. 2024-2025 Fall-Seeded Winter Forages and Cover Crops Trial--Single-Cut Management Sequence--Rock Springs.

Species	Variety	Harvest date	Yield	CP%§	ADF§	aNDF§	30-hr NDFD§	TTNDFD§
Annual Ryegrass	Centurion(2X)	6/5/2025	3.19	11.9	34.3	58.1	60.7	52.0
Annual Ryegrass	Tetraprime II	6/5/2025	3.11	11.8	31.1	53.1	62.3	57.6
Annual Ryegrass	DSVLw A2481	6/5/2025	2.63	12.9	32.0	54.4	61.9	55.3
Annual Ryegrass	DSVLw M2487	6/5/2025	2.23	12.7	31.6	54.0	61.9	55.5
Annual Ryegrass	DSVLw A2482	6/5/2025	1.34	17.5	25.4	43.0	68.5	63.7
Annual Ryegrass Mean			2.5	13.4	30.9	52.5	63.1	56.8
Annual Ryegrass CV (%)			10.21					
Annual Ryegrass LSD (p = .05)			0.4					
Cereal Rye	KWS Progas	5/8/2025	2.53	14.4	33.2	57.2	60.5	57.4
Cereal Rye	KWS Aviator	5/8/2025	2.08	13.8	34.0	56.8	59.2	56.3
Cereal Rye	Rye Grazemaster II	5/8/2025	1.68	18.6	29.3	50.1	63.7	60.6
Cereal Rye Mean			2.1	15.6	32.2	54.7	61.1	58.1
Cereal Rye CV (%)			11.93					
Cereal Rye LSD (p = .05)			0.43					
Barley	VT beahm	6/5/2025	5.55	10.1	35.2	58.9	53.7	43.4
Barley	SB 151	6/5/2025	5.43	10.1	33.5	56.6	54.2	46.4
Barley	PSU 8	6/5/2025	4.64	9.0	33.0	55.4	52.3	40.9
Barley	PSU EXP	6/5/2025	4.48	9.0	34.1	56.4	52.5	42.0
Barley Mean			5.03	9.5	33.9	56.8	53.2	43.2
Barley CV (%)			5.91					
Barley LSD (p = .05)			0.94					
Triticale	BCT23003	5/27/2025	4.66	11.4	36.2	63.5	57.1	48.7

Species	Variety	Harvest date	Yield	CP%§	ADF§	aNDF§	30-hr NDFD§	TTNDFD§
Triticale	Hyoctane	5/27/2025	4.35	10.8	35.3	61.9	56.0	49.1
Triticale	BCT19005	5/27/2025	3.99	11.0	35.8	62.7	58.3	51.9
Triticale	2021u05	5/27/2025	3.98	13.7	30.8	56.2	61.6	56.5
Triticale	Maverick	5/27/2025	3.88	11.8	35.5	62.9	56.8	49.4
Triticale	BCT23001	5/27/2025	3.8	12.9	34.5	61.4	59.2	51.5
Triticale	BCT23002	5/27/2025	3.77	14.2	32.0	59.0	63.0	56.0
Triticale	BCT19004	5/27/2025	2.94	14.2	31.0	54.3	61.8	55.5
Triticale	Hybrid Flex	5/8/2025	2.18	15.9	32.4	54.2	62.4	58.9
Triticale	2021u03	5/8/2025	0.93	17.4	29.7	52.8	66.4	62.4
Triticale Mean			3.44	13.3	33.3	58.9	60.3	54.0
Triticale CV (%)			14.73					
Triticale LSD (p = .05)			1.13					

§Forage quality analysis for the first cut samples.

CP = crude protein (%).

ADF = acid detergent fiber (%).

aNDF = neutral detergent fiber (%).

30-hr NDFD = 30-hour neutral detergent fiber digestibility (%).

TTNDFD = total tract NDFD (%).

CV=coefficient of variation.

LSD=least significant difference.

All harvest events occurred in 2025.

Yields are given in tons per acre on a dry matter basis.

Variety means are means derived from LS Means.

Table 15. 2024-2025 Fall-Seeded Winter Forages and Cover Crops Trial--Single-Cut Management Sequence--Landisville

Species	Variety	Harvest date	Yield	CP§	ADF§	aNDF§	30-hr NDFD§	TTNDFD§
Cereal Rye	KWS Progas	1-May	2.10	19.2	27.6	50.2	63.0	60.8
Cereal Rye	KWS Aviator	1-May	2.09	18.4	28.9	51.3	62.8	59.6
Cereal Rye Mean			2.10	18.8	28.3	50.8	62.9	60.2
Cereal Rye CV (%)			18.06					
Cereal Rye LSD (p = .05)			0.66					
Triticale	2021u05	27-May	2.21	14.5	33.1	58.5	61.1	57.0
Triticale	2021u03	8-May	1.59	18.3	27.2	48.0	66.8	63.0
Triticale Mean			1.90	16.4	30.1	53.3	63.9	60.0
Triticale CV (%)			5.63					
Triticale LSD (p = .05)			1.01					

§Forage quality analysis for the first cut samples.

CP = crude protein (%).

ADF = acid detergent fiber (%).

aNDF = neutral detergent fiber.

30-hr NDFD = 30-hour neutral detergent fiber digestibility

TTNDFD = total tract NDFD.

CV = coefficient of variation.

LSD = least significant difference.

All harvest events occurred in 2025.

Yields are given in tons per acre on a dry matter basis.

Variety means are means derived from LS Means.

Table 16. 2024-2025 Short-Lived Winter Forages and Cover Crops Trial--Multi-Cut Management Sequence [Annual Ryegrass] --Rock Springs

Variety	Yield (tons/acre) 1 st -Cut	Yield (tons/acre) 2 ^{ed} -Cut	Yield (tons/acre) Total	CP	ADF§	aNDF§	30-hr NDFD	TTNDFD
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Variety	Yield (tons/acre) 1 st -Cut	Yield (tons/acre) 2 nd -Cut	Yield (tons/acre) Total	CP	ADF§	aNDF§	30-hr NDFD	TTNDFD
Centurion(2X)	2.14	1.71	3.84	13.0	31.0	53.6	60.7	55.8
DSVLw A2481	1.83	1.86	3.69	15.5	28.6	47.8	62.0	58.1
WMWL-2	1.83	1.55	3.38	15.9	27.1	46.7	64.4	60.1
Ribeye(2n)	1.83	1.42	3.25	12.9	31.1	54.1	62.1	54.9
Tetraprime II	1.66	1.57	3.24	14.8	28.1	45.1	62.4	62.5
WAX Marshall	1.69	1.43	3.13	14.2	30.4	50.1	59.8	55.1
ME-4	1.54	1.55	3.09	15.3	27.2	46.7	63.0	58.6
WMWL	1.47	1.50	2.97	15.8	27.9	47.7	63.2	60.1
ME-94	1.42	1.54	2.96	14.7	28.8	48.6	63.2	58.2
Nelson Tetraploid	1.45	1.49	2.95	16.3	30.3	47.4	57.1	49.5
DSVLw M2487	1.24	1.51	2.75	14.4	29.3	47.9	61.4	58.1
BAR LMF 490-4(2n)	1.14	1.59	2.73	14.7	28.3	48.5	63.6	58.5
BAR LMF 490-3(2n)	1.39	1.31	2.70	15.8	28.7	48.5	64.7	57.9
WMCT	1.54	1.11	2.65	14.6	29.4	50.2	62.3	58.7
Maximus(4N)	1.29	1.30	2.60	14.5	29.5	49.5	63.9	59.7
Jackson	0.93	1.34	2.27	16.3	29.5	49.4	65.0	59.6
DSVLw A2482	1.01	0.99	2.00	15.6	28.4	44.0	61.6	60.6
Grand Mean	1.49	1.46	2.95	15.0	29.0	48.6	62.4	58.0
CV (%)	25.78	13.28	14.52					
LSD (p = .05)	1.00	0.50	1.11					

§Forage quality analysis for the first cut samples.

CP=crude protein.

ADF= Acid Detergent Fiber.

aNDF= Neutral Detergent Fiber.

30-hr NDFD= 30-hour neutral detergent fiber digestibility

TTNDFD=total tract NDFD.

CV=coefficient of variation.

LSD=least significant difference.

All harvest events occurred in 2025.

Yields are given in tons per acre on a dry matter basis.

Variety means are means derived from LS Means.

Table 17. 2024-2025 Short-Lived Winter Forages and Cover Crops Trial--Multi-Cut Management Sequence [Annual Ryegrass] –Landisville

Variety	Yield 1 st -Cut	Yield 2 ^{ed} -Cut	Yield Total	CP%\$	ADF\$	aNDF\$	30-hr NDFD\$	TTNDFD\$
WMCT	2.56	2.15	4.72	15.3	39.7	60.9	54.1	47.3
ME-4	2.48	2.12	4.61	15.4	38.7	60.1	53.6	48.8
WMWL	2.69	1.91	4.60	13.4	39.8	63.1	53.0	47.4
WAX Marshall	2.69	1.90	4.59	15.2	39.2	61.6	53.0	47.8
WMWL-2	2.71	1.78	4.49	15.3	38.5	60.3	53.6	47.4
BAR LMF 490-4(2n)	2.52	1.81	4.33	13.9	39.3	61.7	51.7	46.4
ME-94	2.63	1.64	4.28	14.6	39.3	62.2	52.5	45.8
Ribeye(2n)	2.55	1.72	4.27	14.0	40.3	63.3	52.9	49.0
Nelson Tetraploid	2.50	1.77	4.27	16.1	39.8	60.0	51.7	44.9
Jackson	2.27	1.79	4.07	14.6	40.6	63.7	52.2	45.5
BAR LMF 490-3(2n)	2.20	1.69	3.89	14.2	40.9	62.8	50.6	46.0
Maximus(4N)	2.09	1.64	3.73	15.0	40.3	62.2	54.0	48.6
Grand Mean	2.49	1.83	4.32	14.8	39.7	61.8	52.7	47.1
CV (%)	13.12	9.23	8.52					
LSD (p = .05)	1.15	0.42	0.92					

§Forage quality analysis for the first cut samples.

CP=crude protein.

ADF= Acid Detergent Fiber.

aNDF= Neutral Detergent Fiber.

30-hr NDFD= 30-hour neutral detergent fiber digestibility

TTNDFD=total tract NDFD.

CV=coefficient of variation.

LSD=least significant difference.

All harvest events occurred in 2025.

Yields are given in tons per acre on a dry matter basis.

Variety means are means derived from LS Means.

2025 Spring-seeded Annual Cool-season Grasses

In spring 2025, a cereals trial designed to evaluate forage production potential was established at Rock Springs. Planting occurred on April 24, and each variety was harvested at the early- to mid-boot stage.

Our soil fertility program is based on phosphorus and potassium maintenance applications to meet soil test recommendations. Plots received 100 pounds of nitrogen per acre at the seedling stage. For annual ryegrass, plots received an additional 50 pounds of nitrogen per acre following each cutting. There were two cuttings for annual ryegrass this year. For specific recommendations on establishment, fertilization, and other management practices, please refer to the current *Penn State Agronomy Guide*.

Table 18 lists the spring-planted cereal and annual ryegrass forage varieties included in our testing program that are currently marketed in Pennsylvania or may be available in the near future (availability should be confirmed with suppliers). Table 19 provides guidelines for assessing the production potential of these cereal and annual ryegrass varieties suitable for forage production.

Table 18. Spring-Planted Small Cereal Varieties Marketed in Pennsylvania and Listed in This Report.

Species	Variety	Marketer	Appears in Table No.
Annual Ryegrass	Barnaël	Barenbrug USA	19
Annual Ryegrass	Force	Ampac Seed Co.	19
Annual Ryegrass	BAR LM490-3	Barenbrug USA	19
Annual Ryegrass	BAR LM490-4	Barenbrug USA	19
Annual Ryegrass	BGS	Ampac Seed Co.	19
Annual Ryegrass	Ribeye	Barenbrug USA	19

Species	Variety	Marketer	Appears in Table No.
Oats	BCO2501	Seed-Link Inc.	19
Oats	BCO2502	Seed-Link Inc.	19
Oats	BCO2503	Seed-Link Inc.	19
Oats	BCO2504	Seed-Link Inc.	19
Oats	BCO2505	Seed-Link Inc.	19
Spring Triticale	2021u03	Oregon Trail Seeds	19
Spring Triticale	KWT13053	Oregon Trail Seeds	19

Annual Cool-Season Grasses Marketers Listed in This Report:

AMPAC Seed Co.

32727 OR-99E,

Tangent, OR 97389

Phone: 541-928-1651

www.ampacseed.com

Barenbrug USA

33477 OR-99E

Tangent, OR 97389

Phone: 541-926-5801

www.barusa.com

Oregon Trail Seeds

65268 Striker Ln.

Imbler, OR 97841

Phone: 541-898-7333

www.otseeds.com

Seed-Link Inc

1010 Monarch Rd.

Lindsay, Ontario, K9V 4R1, CANADA

Phone:705-324-0544

www.seed-link.ca

Table 19. 2025 Spring-Seeded Small Cereal and Annual Ryegrass Variety Trial

Species	Varieties	Yield	CP§	ADF§	aNDF§	30-hr NDFD§	TTNDFD§	Stand 2025(%)
Annual Ryegrass	BAR LM490-3	3.46	19.99	29.24	44.1	61.3	60.0	100

Species	Varieties	Yield	CP§	ADF§	aNDF§	30-hr NDFD§	TTNDFD§	Stand 2025(%)
Annual Ryegrass	Ribeye	3.28	16.52	32.02	53.0	56.2	50.8	100
Annual Ryegrass	BAR LM490-4	3.26	19.02	29.99	46.9	60.2	57.2	100
Annual Ryegrass	Force	3.05	20.72	29.63	44.1	63.4	62.2	100
Annual Ryegrass	Barnaël	2.96	19.43	28.75	44.1	62.3	62.3	100
Annual Ryegrass	BGS	2.93	20.32	31.91	45.7	60.4	60.2	100
Annual Ryegrass Mean		3.16	19.33	30.26	46.3	60.6	58.8	100
Annual Ryegrass CV (%)		7.03						
Annual Ryegrass LSD (p = .05)		0.33						
Oats	BCO2503	2.50	13.70	35.22	57.4	52.7	46.1	100
Oats	BCO2501	2.46	14.91	33.88	53.3	55.3	53.8	100
Oats	BCO2505	2.38	14.06	36.21	59.4	53.1	45.6	100
Oats	BCO2504	2.21	15.56	32.63	53.6	57.9	54.3	100
Oats	BCO2502	1.92	16.02	33.03	52.9	58.0	53.3	100
Oats Mean		2.29	14.85	34.19	55.3	55.4	50.6	100
Oats CV (%)		10.87						
Oats LSD (p = .05)		0.38						
Spring Triticale	2021u03	2.07	17.55	32.32	54.7	55.6	50.1	100
Spring Triticale	KWT13053	1.93	17.04	33.25	56.3	55.2	49.9	100
Spring Triticale Mean		2.00	17.29	32.79	55.5	55.4	50.0	100
Spring Triticale CV (%)		11.42						
Spring Triticale LSD (p = .05)		0.59						

§Forage quality analysis for the first cut samples:

CP = crude protein.

ADF = acid detergent fiber.

aNDF = neutral detergent fiber after starch amylase digestion.

30-hr NDFD = 30-hour neutral detergent fiber digestibility.

TTNDFD = total tract NDFD.

CV = coefficient of variation.

LSD = least significant difference.

All species were seeded on April 24, 2025.

Yields are given in tons per acre on a dry matter basis, there were 2 cuttings in annual ryegrass.

Annual Warm-season Grasses

In the summer of 2025, annual warm-season grass trials were conducted at Rock Springs, including forage sorghum, sudangrass, sorghum-sudan hybrids. The trials were planted on June 13. In the trial, 100 lbs. N, 60 lbs. P₂O₅, 60 lbs. K₂O and 20 lbs. S (sulfur) were applied at planting. In the sudangrass, sorghum-sudan hybrids trials, additional applications of 50 lbs. N was applied after each cutting. Forage sorghum was harvested using a 1-cut system, and harvest occurred on October 6. Sudangrass and sorghum-sudan hybrids, were harvested twice during the trial.

Table 20 lists annual warm-season grass varieties in our testing program that are currently marketed in Pennsylvania or may be available in the near future (Please check with marketers for availability). Tables 21, and 22 offer guidelines for assessing the production potential of forage sorghum, sudangrass, and sorghum-sudan hybrids that may be suitable for forage production, respectively.

Table 20. Annual Warm-Season Grass Varieties Marketed in Pennsylvania and Listed in This Report.

Species	Variety	Marketer	Appears in Table No.
Forage sorghum	11372	Advanta Seeds	22
Forage sorghum	55033	Advanta Seeds	22
Forage sorghum	ADVF7232	Advanta Seeds	22
Forage sorghum	ADVF7424	Advanta Seeds	22
Forage sorghum	ADVF8322	Advanta Seeds	22
Forage sorghum	F45-D30	Seedway	22
Forage sorghum	F45-D50s	Seedway	22
Forage sorghum	F45-S10	Seedway	22
Forage sorghum	NK300	S&W	22
Forage sorghum	SP1727MS BMR	S&W	22

Species	Variety	Marketer	Appears in Table No.
Forage sorghum	SP2606BMR	S&W	22
Forage sorghum	SP2707DT	S&W	22
Forage sorghum	SS304	S&W	22
Forage sorghum	SS405	S&W	22
Forage sorghum	V05200	Advanta Seeds	22
Multi-cut sorghum-sudan hybrids, sudangrass	58007	Advanta Seeds	21
Multi-cut sorghum-sudan hybrids, sudangrass	ADVS6218	Advanta Seeds	21
Multi-cut sorghum-sudan hybrids, sudangrass	AS9301	Advanta Seeds	21
Multi-cut sorghum-sudan hybrids, sudangrass	Bovine Endurance	Seedway	21
Multi-cut sorghum-sudan hybrids, sudangrass	Bovine Extra	Seedway	21
Multi-cut sorghum-sudan hybrids, sudangrass	Bovine XP1_Br	Seedway	21

Annual Warm-Season Grass Marketers Listed in This Report:

Advanta Seeds

8872 HSC Parkway, Suite 402

Bryan, TX 77807 – USA

Phone: 844-529-3420

www.advantaseeds.com

Seedway

275 N 8th St

Mifflinburg, PA 17844

Phone: 800-338-2137

www.seedway.com

S&W Seed Company

2101 Ken Pratt Blvd STE 201

Longmont, CO 80501

Phone: 855-767-4486

www.sorghumpartners.com

Table 21. 2025 Sorghum-Sudan Hybrids and Sudangrass Variety Trial--Rock Springs.

Variety	Yield Oven-dried	Yield Adjusted to 65% moisture	CP§	ADF§	aNDF§	NDFD30§	TTNDFD§	Stand 2025
AS9301	7.83	22.37	11.9	34.6	60.8	57.8	55.3	100
58007	7.27	20.77	10.1	38.3	63.8	54.0	52.3	100
Bovine XP1_Br	7.26	20.74	8.7	37.5	62.6	52.5	54.3	100
ADVS6218	6.50	18.57	10.8	37.7	64.1	55.4	53.7	100
Bovine Extra	5.24	14.97	9.9	38.4	64.9	55.8	53.0	100
Bovine Endurance	4.43	12.66	10.7	38.1	66.2	57.0	53.7	100
Grand Mean	6.42	18.35	10.4	37.4	63.7	55.4	53.7	100
CV (%)	13.25	13.25						
LSD (p = .05)	1.28	3.66						

§Forage quality analysis for the first cut samples:

CP = crude protein.

ADF = acid detergent fiber.

aNDF = neutral detergent fiber after starch amylase digestion.

30-hr NDFD = 30-hour neutral detergent fiber digestibility.

TTNDFD = total tract NDFD.

CV = coefficient of variation.

LSD = least significant difference.

All species were seeded on June 13, 2025.

Yields are given in tons per acre on a dry matter basis, there were 2 cuttings in annual ryegrass

Table 22. 2024 Forage Sorghum Variety Trial--Rock Springs.

Variety	Yield (tons/acre) Oven-dried	Yield (tons/acre) 65% Moisture Adjusted	CP§	ADF§	aNDF§	NDFD30§	TTNDFD§	Stand 2025
SS304	12.95	37.01	8.4	34.2	58.7	50.3	45.1	100

Variety	Yield (tons/acre) Oven-dried	Yield (tons/acre) 65% Moisture Adjusted	CP§	ADF§	aNDF§	NDFD30§	TTNDFD§	Stand 2025
SS405	11.95	34.14	7.0	34.3	60.1	47.6	41.7	100
NK300	9.31	26.59	7.8	34.5	54.5	47.5	40.1	100
ADVF8322	8.89	25.41	7.5	37.0	62.5	48.4	42.7	100
55033.00	8.53	24.36	7.5	37.5	62.6	46.3	40.2	100
F45-S10	7.82	22.33	8.0	32.8	55.7	49.8	45.4	100
V05200	7.66	21.90	8.3	34.6	59.0	51.7	48.4	100
SP1727MS BMR	7.64	21.84	9.3	31.8	53.6	52.1	48.7	100
SP2606BMR	7.54	21.53	8.7	34.5	57.1	50.0	45.9	100
SP2707DT	7.53	21.53	8.9	35.2	56.5	46.4	41.5	100
11372.00	7.37	21.07	10.0	33.4	55.8	49.4	49.1	100
ADVF7232	7.32	20.93	9.9	34.7	59.1	50.1	49.5	100
F45-D50s	7.24	20.68	8.8	31.9	55.6	52.1	49.0	100
F45-D30	7.11	20.31	9.6	32.4	52.7	51.4	46.9	100
ADVF7424	6.70	19.14	8.6	34.8	60.1	53.2	50.9	
Grand Mean	8.37	23.92	8.5	34.2	57.6	49.8	45.7	100
CV (%)	10.44	10.44						
LSD (p = .05)	1.25	3.56						

§Forage quality analysis for the first cut samples:

CP = crude protein

ADF = acid detergent fiber

aNDF = neutral detergent fiber after starch amylase digestion

NDFD30 = 30-hour neutral detergent fiber digestibility

TTNDFD = total tract NDFD

CV = coefficient of variation.

LSD = least significant difference.

All species were seeded on June 13, 2025.

Yields are given in tons per acre on a dry matter basis.

Novel Forage Species

On April 25, 2023, we seeded chicory at Rock Springs, achieving successful stand establishment. Our soil fertility program emphasizes phosphorus and potash maintenance applications tailored to meet soil requirements.

The following chicory trial was conducted using a three-cut harvest system. Fertilization adhered to Penn State soil test recommendations. Table 23 outlines the chicory varieties included in our testing program and currently marketed in Pennsylvania. Table 24 provides guidelines for evaluating the production potential of chicory varieties.

Table 23. Chicory Varieties Marketed in Pennsylvania and listed in this report.

Variety	Marketer	Table
Caliber	Mountain View Seeds	24
Endure	Mountain View Seeds	24
Trigger	Mountain View Seeds	24

Chicory Marketer Listed in This Report

Mountain View Seeds

8955 Sunnyview Rd NE

Salem, OR 97305

Phone: 503-588-7333

www.mtviewseeds.com

Table 24. 2023 seeded chicory Variety Trial--Rock Springs.

Variety	Yield 2025	Yield 2024	Yield Two-year Total	Stand2025
Endure	2.10	5.29	3.70	56.3
Trigger	1.90	4.86	3.38	12.5
Caliber	1.56	4.71	3.13	10.0
Grand Mean	1.85	4.95	3.40	26.3
CV(%)	31.76	14.59	17.79	32.5
LSD(p = .05)	1.02	1.25	1.05	14.8

CV = coefficient of variation.

LSD = least significant difference.

Trial was seeded on April 25, 2023.

Harvest events in 2025 occurred on 12 June, 20 July, and 9 September.

Yields are given in tons per acre on a dry matter basis.

See the [Forage Variety Trials Reports](https://extension.psu.edu/forage-variety-trials-reports)(<https://extension.psu.edu/forage-variety-trials-reports>) for previous year reports.

Prepared by Weiya Xue, Penn State Forage Variety Trials Coordinator and Research Technologist, reviewed by Guojie Wang, Penn State Forage Crop Systems Extension Specialist. Tyler Rice, former Penn State Forage Variety Trials Coordinator, oversaw all the trials before 2023 and provided instructional help during the 2023 growing season. Special thanks to Marin Hall, former Penn State Forage Crop Systems Extension Specialist, for his help and training during the 2023 growing season. We are indebted to Elijah Earnest, Adam Ream, Austin Albright, and technicians at the Penn State Farm for their technical support during the growing seasons.

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