South Dakota State University

College of Agriculture, Food and Environmental Sciences |
SDSU Extension | South Dakota Agricultural Experiment Station

2025 South Dakota Winter Wheat Forage Trial Results

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Location: Brookings, SD(44.329602, -96.828354)
Soil type: Barnes clay loams, 0-2% slopes
Previous crop: Spring Wheat
Tillage: No-till
Row spacing: 8”
Seeding rate: 1.2 million PLS/acre
Fertilizer:
- Starter: 90 lbs/acre 30-10-10
- Other: 50 lbs of N as UAN in fall and 90 lbs of N as UAN in spring applied as liquid broadcast

Herbicide:
- Burndown: 36 oz/acre Tomahawk + 27 oz/acre 2,4-D
- Post: 1pt Perfectmatch

Fungicide: None
Date seeded: 10/3/2024
Date harvested: 6/24/2025

Location: Pierre, SD (Dakota Lakes Research Farm) (44.292795°, -99.990924°)
Soil Type: Millboro silt loam, 0-3% slopes
Previous crop: Flax
Tillage: no-till
Row spacing: 7.5”
Seeding Rate: 1.2 million PLS/acre
Fertilizer:
- Starter: 10 gal/acre 10-34-0
- Other: 26.1-0-0-2.6S @ 25gal/ac (UAN (90%)+ATS (10%))

Herbicide:
- Burndown: Glyphosate @ 26oz/ac Curtail-M @ 26oz/ac on 9/11/2023
- Post: 1pt Perfectmatch

Fungicide: none
Date seeded: 9/19/2024
Date harvested: 6/20/2025

Procedure:
- Wheat plots were harvested at milk to early-dough stage with a Swift LTD forage plot harvester.
- Plot sub-samples were weighed and dried for 72 hours at 140 °F
- Dried hay samples were sent to Dairyland Labs (Arcadia, WI) for NIR analysis.

S-0002-2025-01-WW

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2025 South Dakota Winter Wheat Forage Variety Trial Results Brookings

Table 1. 2025 winter wheat forage trial results (average of 3 replications) at Brookings, SD.

Variety Information				Yield & Nutritional Performance						
Variety	Origin†-Year	Height (inches)	DM[1] (T/A)	CP[2] (%DM)	ADF[3] (%DM)	NDF[4] (%DM)	NE L[5] (Mcal/cwt)	NE G[6] (Mcal/cwt)	NE M[7] (Mcal/cwt)	RFV[8] (Mcal/cwt)
WB4650[A]	2025	35	5.4	10.6	35.4	51.3	62.9	30.5	56.2	111.3
SD22D122-5[A]	SD	35	5.3	11.4	36.6	52.6	61.9	30.2	55.9	106.7
Tb1.Ray.mw[A]	MT	40	5.3	13.1	39.5	58.9	59.4	28.2	53.7	91.7
SD22D122-8[A]	SD	41	5.3	11.9	35.3	51.3	63.0	30.9	56.7	111.4
Winner	SD	36	5.2	11.2	36.2	53.2	62.2	29.9	55.6	106.2
APSunbird	2025	34	5.2	12.2	34.6	50.7	63.6	31.3	57.1	113.8
Midland	-	39	5.1	11.5	37.9	57.2	60.7	28.4	53.9	96.7
LCSCowieAX	-	38	4.8	11.7	38.1	55.7	60.6	29.0	54.7	98.9
Ray.DBDTP.15ug[A]	MT	38	4.8	11.5	38.8	57.8	60.0	28.1	53.7	94.6
Tb1.Ray.mm[A]	MT	38	4.8	13.5	38.3	57.5	60.4	28.9	54.5	95.5
LCSSteelAX	-	37	4.8	10.9	37.2	55.9	61.4	28.7	54.3	99.9
MTF1435.DBDTP.15ug[A]	MT	42	4.7	10.5	42.2	61.2	57.0	26.4	51.8	85.3
MTF1435.DBDTP.0ug[A]	MT	44	4.7	11.6	41.4	60.1	57.7	27.3	52.7	87.8
Ray.DBDTP.0ug[A]	MT	41	4.6	12.6	39.0	58.6	59.8	28.2	53.7	93.0
Ray.DBDTP.45ug[A]	MT	39	4.6	12.8	39.3	58.3	59.6	28.3	53.9	93.0
Tb1.Ray.wm[A]	MT	40	4.5	12.2	40.0	59.6	58.9	27.6	53.1	90.2
MTF1435	MT-2018	44	4.4	10.9	41.5	60.3	57.6	26.9	52.3	87.1
LCSCaballeroAX	-	35	4.3	11.0	38.3	57.1	60.4	28.2	53.8	96.3
APBaldy[A]	2022	33	4.3	11.0	35.4	52.6	62.9	30.1	55.8	108.6
Ray[A]	MT-2018	41	4.3	12.6	38.7	58.4	60.0	28.3	53.8	93.6
XJ4104[A]	-	33	4.2	11.3	37.9	55.3	60.7	29.1	54.7	100.0
WB4540[A]	-	33	4.2	11.7	36.3	52.6	62.2	30.3	56.0	107.2
MTF1435.DBDTP.45ug[A]	MT	43	3.8	12.2	41.1	60.0	58.0	27.4	52.9	88.2
WB4440[A]	2024	32	3.5	11.2	34.9	51.1	63.4	30.7	56.5	112.3
Trial Average	-	33	4.7	11.7	38.1	56.1	60.1	28.9	54.5	98.8
LSD (0.05)§	-	2.5	0.7	1.2	2.0	1.9	1.7	0.9	1.0	5.5
CV	-	3.9	9.3	6.0	3.2	2.1	1.7	2.0	1.1	3.4

[A]= awnless; † AP - AgriPro; ALS - LCS - Limagrain Cereal Seeds; MT - Montana; SD - South Dakota; WB- WestBred; and year release/tested.
§ Value required (≥LSD) to determine if varieties are significantly different from one another.
[1] Tons per acre of dry matter (DM).
[2] Crude protein as a percentage of DM.
[3] Acid detergent fiber as a % of dry matter. Generally samples with lower ADF are considered higher quality.
[4] Neutral detergent fiber as a % of dry matter. Generally samples with lower NDF are considered higher quality.
[5] Net energy, lactation - an estimate of energy value for dairy cattle diets. (Mcal/cwt, DM basis)
[6] Net energy, gain - an estimate of energy value to support beef cattle growth. (Mcal/cwt, DM basis)
[7] Net energy, maintenance - an estimate of energy value for meeting maintenance needs of beef cattle. (Mcal/cwt, DM basis).
[8] Relative feed value - a value representing how well a forage will be consumed and digested.

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2025 South Dakota Winter Wheat Forage Variety Trial Results Pierre

Table 2. 2025 winter wheat forage trial results (average of 3 replications) at Pierre, SD.

Variety Information				Yield & Nutritional Performance						
Variety	Origin†-Year	Height (inches)	DM[1] (T/A)	CP[2] (%DM)	ADF[3] (%DM)	NDF[4] (%DM)	NE L[5] (Mcal/cwt)	NE G[6] (Mcal/cwt)	NE M[7] (Mcal/cwt)	RFV[8] (Mcal/cwt)
MTF1435[A]	MT-2018	41	4.9	11.5	34.6	54.0	63.6	29.7	55.4	107.0
Midland	-	33	4.4	11.7	33.3	51.0	64.7	31.0	56.8	115.0
SD22D122-8[A]	SD	37	4.3	11.5	34.3	52.0	63.9	30.5	56.2	111.2
WB4650[A]	2025	32	4.3	11.6	32.4	47.1	65.5	32.6	58.5	126.1
LCSCowieAX	-	34	4.3	11.8	32.8	48.4	65.2	32.1	58.0	122.5
RayDBDTP0ug[A]	MT	35	4.2	13.1	33.9	54.1	64.2	30.2	55.9	107.3
Winner	SD	31	4.1	12.3	33.3	50.7	64.8	31.3	57.1	115.7
LCSSteelAX	-	34	4.0	12.0	33.0	49.9	65.0	31.5	57.4	118.0
MTF1435DBDTP0ug[A]	MT	42	4.0	11.1	37.2	57.6	61.3	28.1	53.6	97.0
Tb1Raymw[A]	MT	36	3.9	12.9	36.8	57.0	61.7	28.9	54.5	98.3
APSunbird	2025	33	3.9	12.9	30.9	47.6	66.8	32.8	58.7	126.8
MTF1435DBDTP15ug[A]	MT	40	3.9	12.9	36.7	56.6	61.8	29.1	54.7	99.1
WB4540[A]	2024	33	3.9	12.1	32.3	49.0	65.6	31.9	57.8	121.2
SD22D122-5[A]	SD	32	3.9	11.9	34.0	50.4	64.1	31.3	57.1	115.3
Tb1Raymm[A]	MT	35	3.8	13.1	36.2	56.4	62.2	29.2	54.8	100.3
MTF1435DBDTP45ug[A]	MT	41	3.8	12.5	37.1	57.3	61.4	28.7	54.2	97.3
RayDBDTP15ug[A]	MT	36	3.8	13.9	34.2	54.5	63.9	30.2	56.0	106.3
Ray[A]	MT-2018	38	3.8	14.0	34.3	54.6	63.9	30.3	56.0	106.0
Tb1Raywm[A]	MT	38	3.7	13.7	34.7	54.7	63.5	30.1	55.8	105.2
WB4440[A]	2024	32	3.7	12.0	31.1	47.2	66.7	32.7	58.6	127.8
RayDBDTP45ug[A]	MT	35	3.6	14.2	34.0	54.5	64.1	30.4	56.1	106.4
LCSCaballeroAX[A]	-	33	3.6	13.0	34.6	52.8	63.6	30.7	56.4	109.5
APBaldy[A]	2022	32	3.6	12.4	33.2	51.3	64.9	31.1	56.9	114.4
Trial Average	–	35	4.0	12.5	34.1	52.6	64.0	30.6	56.4	111.0
LSD (0.05)§	–	2.5	0.8	1.8	2.4	3.0	2.1	1.3	1.4	9.6
CV	–	4.3	12.3	8.8	4.2	3.4	2.0	2.6	1.5	5.3

[A]= awnless; † AP - AgriPro; ALS - LCS - Limagrain Cereal Seeds; MT - Montana; SD - South Dakota; WB- WestBred; and year release/tested.
§ Value required (≥LSD) to determine if varieties are significantly different from one another.
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