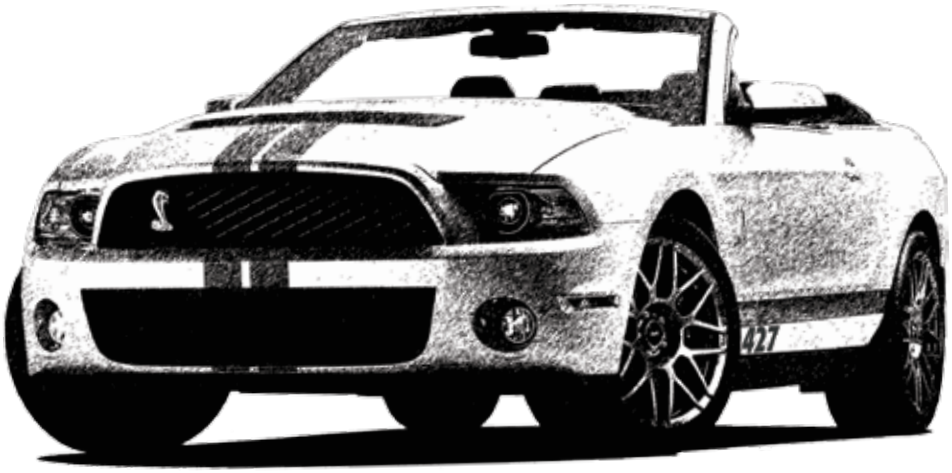
2011

Shelby 427 A Racehoarse Oat

Lon Hall
South Dakota State

SHELBY427
A RACEHORSE OAT



Lon Hall, Project Leader,
SDSU Oat Breeding Program

ORIGIN:
'Shelby427', a white-hulled spring oat, was developed by the South Dakota Agricultural Experiment Station (SDAES) and released in 2010. Shelby427 was tested as experimental line SD031128-330. SD031128-330 was an F10 derived line developed from the two-parent population SD99674/SD960951. The complete pedigree: Don/5/Dal/Allen/2/MN78142/4/Spear/Kelsey/3/Wright/Nodaway70//ND770015/7/ND891838/6/Hytest/4/WI14/Spear/3/SD6422/Froker//Kelsey/5/Don/8/ND960851.

AGRONOMIC TRAITS:
Shelby427 has a high yield potential, test weight, and groat percentage. The disease ratings include resistance to smut, crown rust, and BYDV, and moderate resistance to stem rust. Shelby427 also has excellent lodging resistance, a medium plant height, and an early maturity. It is a multi-purpose variety that may be used for feed grain, milling oat, companion crop, forage, and/or straw production.

RECOMMENDED CULTURAL PRACTICES:
Do not over fertilize with nitrogen. Total available units of nitrogen should not exceed 120 lbs/acre; this includes legume credits. If liquid nitrogen is applied, the ratio of water to 28% nitrogen should be 2 to 1. The growth stage should be no later than the five-leaf stage. Check labels before tank mixing herbicides with 28% nitrogen. Do not use 2,4-D or dicamba. Do not plant at a high seeding rate; keep the seeding rate at a maximum of 28 pure live seeds per square foot—excessively high seeding rates increase lodging.

CROP PERFORMANCE TESTING AND UEO REGIONAL TRIALS DATA:

Table 1. Mean comparisons of traits for selected varieties in the 2008–2010 South Dakota Standard Variety Oat Performance Trials.

Variety	24loc/yrs* Yield bu/a	24loc/yrs Test Wt. lbs/bu	13loc/yrs Lodging 1=best 1–5	6loc/yrs Head Date June	24loc/yrs Plant Height inches	2loc/yrs Crown Rust	23loc/yrs Protein %	2010 IL BYDV** 0–9
Shelby 427	114.1	38.0	2.3	22.4	39.5	0	14.3	2.0
Stallion	103.0	36.6	3.6	26.3	40.4	42	14.7	na
Don	95.1	35.4	3.5	21.2	33.2	87	14.2	na
Jerry	93.3	36.4	3.5	24.3	39.6	83	14.8	na
Reeves	92.0	37.1	4.1	21.3	39.4	83	15.1	5.6

*loc/yrs = number of environments tested; calculated by locations multiplied by years.
** BYDV = Barley Yellow Dwarf Virus; 0 is the best rating.

Table 2. 2008–2009 USA Cooperative Uniform Early Oat Performance Nursery data.

Test Entries 2008 (22) 2009 (21)	16loc/yrs Yield bu/a	16loc/yrs Yield bu/a	14loc/yrs Head Date Julian	14loc/yrs Plant Ht. inch	9loc/yrs Lodg %	13loc/yrs Groat %	13loc/yrs Protein %	13loc/yrs Oil %	8loc/yrs Beta-glucan %	2loc/yrs MN Crown rust***	3loc/yrs SD Crown rust%	5loc/yrs BYDV 0–9	2loc/yrs Smut %
Shelby427	123.7	39.4	165.2	38.6	12	72.6	16.0	7.0	4.2	18MR	0	3.9	0.0
Don	98.7	35.7	165.8	31.8	21	70.0	15.8	7.7	5.1	70S	91	4.4	0.0
DON	110.4	37.0	165.6	36.0	23	71.5	15.9	6.4	4.5		30	5.2	8.0

*** "S" is a large pustule, and "MR" is a small pustule; the number is percent of leaf infected.

Application for Plant Variety Protection is pending.

Foundation seed is available to interested growers by contacting Jack Ingemansen, manager of South Dakota Foundation Seed Stocks:

Phone: (605) 688-5418
email: jack.ingemansen@sdstsate.edu
Address: Jack Ingemansen, SD Foundation Seed Stocks, Plant Science Department, SDSU, Brookings, SD 57007

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