



# ND DAWN

## YELLOW FIELD PEA



### Characteristics

<b>Yield</b>	High Potential
<b>Standability</b>	Strong
<b>Maturity</b>	Medium
<b>Height</b>	Medium

### ND DAWN

ND Dawn was released in 2020 as the first field pea released by NDSU by the North Dakota Agricultural Experiment Station. The North Dakota Crop Improvement and Seed Association (NDCISA) has rights to production and distribution of seed. ND Dawn was derived from DS Admiral x PS0010836. DS Admiral is the industry standard for yellow pea and being used as a 'check' variety at many agriculture experiment stations. PS0010836 is a smooth yellow pea germplasm known for its large seed size.

Based on 2015-2017 data comprised of 18 nurseries (Table 1-4), ND Dawn has high yield potential in ND environment. ND Dawn has seed yield (2,536.8 lb/a) not significantly different from standard cultivars, Agassiz, Copper and Admiral, and outperforms other cultivars such as CDC Golden, Striker, and Aragorn (Table 1). It has early maturity (about 95 days), favorable in ND growing conditions, is tolerant to lodging and has a good standability.

Similar to DS Admiral, ND Dawn produces a very uniform round seed processors can pick out from any other variety. Seed size for ND Dawn is similar to Navarro (large yellow pea) and a bit larger than a medium yellow check cultivar, Agassiz (Table 5). It has total protein content of (24.1%) which is ideal for processors to get premium price for high-protein peas.

### STRENGTHS

- Medium Maturity
- Average Protein
- High Yield Potential
- Strong Straw Strength



### Evaluation Of Seed Size For ND Dawn Based On 2019 Data

VARIETY	MARKET CLASS	SEED SIZE			
		17/64 IN.	15/64 IN.	13/64 IN.	11/16 IN.
		%	%	%	%
ND Dawn	LARGE YELLOW	92.98	6.63	0.34	0.05
NAVARRO	LARGE YELLOW	95.44	4.34	0.22	0.00
AGASSIZ	MEDIUM YELLOW	70.76	28.92	0.25	0.07
CDC Striker	SMALL YELLOW	74.39	25.35	0.20	0.07

## Seed Yield For Advanced Field Pea Yield Trial Across Six Locations in 2017

VARIETY	CARRINGTON		HETTINGER		LANGDON		MINOT		MINOT NO TILL		WILLISTON		ALL LOCATIONS		SIGNIFICANT DIFFERENCE
	LB/A	BU/A	LB/A	BU/A	LB/A	BU/A	LB/A	BU/A	LB/A	BU/A	LB/A	BU/A	LB/A	BU/A	
AGASSIZ	2329	38.8	754	12.6	5097	84.9	1467	24.5	1450	24.2	3216	53.6	2385	39.8	A
ND Dawn	2792	46.5	635	10.6	4917	82.0	1370	22.8	1399	23.3	2969	49.5	23.47	39.1	A
Cooper	2655	44.3	534	8.9	5085	84.7	1677	27.9	1257	20.9	2743	45.7	2325	38.8	A
CDC Striker	2498	41.6	469	7.8	5161	86.0	960	16.0	1445	24.1	29.26	48.8	2243	37.4	A
CDC Golden	2329	38.8	765	12.7	4984	83.1	993	16.5	1245	20.7	2714	45.2	2127	36.2	A
ARAGORN	2529	42.2	502	8.4	4245	70.7	1081	18.0	1085	18.1	2708	45.1	20.25	33.8	B
AVERAGE	2555	42.6	591	9.8	4512	75.2	1175	19.6	1252	20.9	2815	46.9	2150	35.8	
C.V.	11.7	11.7	17.2	17.2	9.3	9.3	25.2	25.2	15.8	15.8	15.0	15.0	13.5	13.5	
LSD 5%	353	5.9	120	2.0	496	8.3	350	5.8	234	3.9	50.1	8.3	217	3.6	

<sup>1</sup> Seed yields with different letters are significantly ( $p < 0.05$ ) different.

Note: A linear mixed model was fitted within and across locations. Tabulated seed yield are BLUEs and BLUPs generated within and across locations, respectively.

VARIETY	DAYS TO FLOWER	DAYS TO MATURITY	VINE LENGHT	CANOPY HEIGHT	PLANT HEIGHT INDEX	LOGDING	PROTEIN	1000 SEED WEIGHT	SEEDS/ POUNDS	TEST WEIGHT
	DAP <sup>1</sup>	DAP <sup>1</sup>	IN	IN	0-1	(0-9) <sup>2</sup>	&	G	#	LB/BU
AGASSIZ	60.46	95.96	31.8	18.3	0.666	3.6	25.3	220.00	2112.7	62.46
ND Dawn	61.17	94.44	29.5	17.3	0.664	4	24.1	230.54	2012.1	62.289
Cooper	65.48	100.41	29.8	18.6	0.695	3.7	24.6	249.38	1848.5	61.755
DS Admiral	65	98	31.5	17.3	1	4.4	25.0	239	1918	62.5
CDC Golden	62.11	95.47	29.9	17.6	0.659	4.2	25.1	207.91	2223.4	63.174
CDC Striker	60.27	94.94	26.8	13.6	0.597	5.8	24.9	202.74	2298.7	62.435
ARAGORN	58.65	93.6	29.9	15.3	0.596	5.4	26.1	205.38	2258.6	61.746
AVERAGE	61.35	95.8	29.6	16.8	0.646	4.5	25	219.34	2125.7	62.31
C.V.	2.02	1.91	8.6	14.9	14.117	24.1	2.7	8.11	5.7	1.14
LSD	0.34	0.5	1.8	1.8	0.027	0.3	0.3	5.12	34.1	0.203

<sup>1</sup> Days after planting, <sup>2</sup> Seed yields with different letters are significantly ( $p < 0.05$ ) different.

Note: DS Admiral data is from 2015-2016 only and protein data for all genotypes is from 2015-2016

## Evaluation Of ND Dawn For Resistance To Fusarium Root Rot (Carrington, ND 2019).

TREATMENT	PLANT POPULATION	VIGOR	ROOT ROT INCIDENCE	ROOT ROT SEVERITY	YIELD	TEST WEIGHT
	JUNE 7   5-6 NODES	JUNE 14   10-11 NODES	JULY 12-15   FULL BLOOM, MID POD-FILL		13.5% MOISTURE	
	PLANTS / AC	%	%	%	BU/AC	LBS/BU
1 ND Dawn	284385 A*	79 BC*	54B*	10 B*	62 B*	61.8 A*
2 NDP100144g	309276 A	87 A	38 AB	5 A	70 A	61.2 B
3 CDC Striker	286251 A	73 A	30 A	5 A	70 A	61.2 B
4 AGASSIZ	288429 A	82 AB	54 B	13 B	68 A	60.8 B
F:	1.11	9.94	5.69	13.25	14.39	17.49
P > F	0.3768	0.0007	0.0083	0.0002	0.0001	< 0.0001
CV	9.2	5.9	28.1	33.0	3.8	0.4

\* Within- column means followed by different letters are significantly different (P < 0.05, Tukey multiple comparison procedure).

## Evaluation Of ND Dawn For Resistance To Aschochyta Blight (Carrington, ND 2019).

TREATMENT	ASCOCHYTA	YIELD	TEST WEIGHT
	JULY 27, LATE POD-FILL	13.5% MOISTURE	
	% NECROSIS	BU/AC	LBS/BU
AGASSIZ	10 B*	46 A*	59.1 B*
NDP-100144	5 A	46 A	60.0 A
CDC Striker	14 BC	47 A	59.1 B
NDP-121587	29 C	48 A	59.5 AB
F	13.39	0.21	4.06
P > F	0.0004	0.8859	0.0332
CV	18.5	11.7	0.8

\* Within- column means followed by different letters are significantly different (P < 0.05, Tukey multiple comparison procedure).

To meet model assumptions of normality and/or homoskedasticity, analysis of variance was conducted on data subjected to a systematic natural - log transformation. for ease of interpretation, treatments means are presented for the non-transformed data.