



2021 Minn-Dak Seed Approval List

Fully Approved Varieties:

- ACH 659
- ACH 765
- ACH 771 (RZC)
- Beta 7727 (APH)
- Beta 7741 (APH)
- Beta 7748 (RZC)
- Beta 7845 (APH & RZC)
- SES/VdH 655 (CLS)
- SES/VdH 762
- SES/VdH 788

Conditionally Approved Varieties:

- None

Test Market Varieties:

- Beta 7931
- SES/VdH 696

Specialty Varieties:

- ACH 082 (CLS)
- ACH 910 (CLS)
- ACH 950 (CLS)
- ACH 973 (CLS & RZC)
- Beta 7029 (CLS)
- Beta 7974 (CLS & RZC)
- Beta 7996 (CLS)
- HIL 2325 (RZC)

Varieties That Did Not Make Approval But Are Still Available For Sale:

- Hilleshög 4302 - Failed to make Full Approval per RST, RSA, & RST + RSA requirements

MDFC Variety Approval Calculations - 2020

Approved Calculation Mean:

‡‡ 2020 - 8 varieties

‡‡ 2019 - 7 varieties

† 2018 - 7 varieties

		Sugar Content (%)			Root Yield (Tons per Acre)			Recoverable Sugar / Ton (lbs)			Recoverable Sugar / Acre (lbs)			RST + RSA % App	
		2020	3 Yr Mean	3 Yr % App	2020	3 Yr Mean	3 Yr % App	2020	3 Yr Mean	3 Yr % App	2020	3 Yr Mean	3 Yr % App		
Established Varieties	ACH 659	17.61	17.17	101.4	26.5	26.1	99.6	300.9	294.4	100.7	7,944	7,686	100.2	200.9	
	ACH 765	17.28	16.96	100.2	26.7	26.5	101.0	300.0	294.9	100.8	7,993	7,790	101.5	202.4	
	ACH 771	17.38	16.94	100.0	28.9	27.3	104.3	299.3	292.0	99.8	8,644	7,944	103.6	203.4	
	Beta 7727	17.27	17.09	101.0	26.7	26.4	100.7	297.1	295.9	101.2	7,912	7,776	101.4	202.5	
	Beta 7741	17.08	16.96	100.2	27.4	27.0	102.9	294.9	294.2	100.6	8,070	7,906	103.1	203.7	
	Beta 7748	17.79	17.38	102.7	26.9	26.1	99.6	305.1	299.2	102.3	8,210	7,783	101.5	203.8	
	SES/VdH 655	17.46	16.88	99.7	26.9	26.4	100.6	303.0	292.9	100.1	8,115	7,756	101.1	201.3	
	SES/VdH 762	17.35	16.74	98.9	27.6	27.3	104.2	300.9	290.6	99.3	8,289	7,960	103.8	203.1	
Established Variety Mean		17.40	17.01		27.2	26.6		300.2	294.3		8,147	7,825			
Candidate Varieties	Beta 7845	17.64	17.47	103.2	27.3	27.8	106.2	303.5	301.4	103.1	8,289	8,351	108.9	211.9	
	Hilleshög 4302	17.33	16.78	99.1	25.9	24.8	94.5	300.6	291.1	99.5	7,779	7,208	94.0	193.5	
	SES/VdH 788	17.44	17.13	101.2	28.3	27.3	104.0	303.3	298.8	102.2	8,581	8,169	106.5	208.7	
	SES/VdH 1986	17.37	17.11	101.1	26.8	26.5	101.0	300.2	297.9	101.9	8,021	7,900	103.0	204.8	
	Full Market Candidate Mean		17.45	17.12		27.1	26.6		301.9	297.3		8,168	7,907		
3 Yr. Approval Calculation Mean[†]				16.93			26.2			292.5			7,671		
Test Market Varieties	ACH 910	17.23	16.64	99.1	28.0	27.0	104.1	299.0	287.6	99.6	8,346	7,763	103.6	203.2	
	ACH 950	17.61	16.79	100.0	28.0	28.6	110.5	303.2	287.6	99.6	8,474	8,241	110.0	209.6	
	ACH 973	16.89	16.26	96.9	27.0	27.2	105.0	292.9	280.4	97.1	7,916	7,652	102.1	199.2	
	Beta 7931	17.35	16.79	100.0	27.7	27.9	107.6	303.8	291.3	100.9	8,401	8,113	108.3	209.2	
	Beta 7974	17.03	16.40	97.7	26.0	27.3	105.4	294.1	282.0	97.7	7,633	7,706	102.8	200.5	
	Beta 7996	17.06	16.34	97.3	29.2	28.4	109.6	296.0	281.3	97.4	8,632	8,022	107.0	204.5	
	Hilleshög 2321	17.51	16.78	99.9	25.3	24.6	94.8	302.5	288.8	100.0	7,618	7,121	95.0	195.0	
	Hilleshög 2325	17.14	16.45	98.0	26.6	25.7	99.1	296.7	282.6	97.9	7,898	7,321	97.7	195.6	
	Maribo 905	17.28	16.69	99.4	24.0	24.6	94.9	294.8	283.5	98.2	7,081	6,984	93.2	191.4	
	SES/VdH 696	17.31	16.76	99.8	26.8	27.2	105.1	300.7	289.1	100.1	8,070	7,876	105.1	205.2	
	Test Market Candidate Mean		17.24	16.59		26.9	26.9		298.4	285.4		8,007	7,680		
	2 Yr. Approval Calculation Mean[‡]				16.79			25.9			288.7			7,495	

MDFC Variety Approval Calculations - 2020

		Years in Trials	Field Emergence %		Rhizoctonia Root Ratings			Aphanomyces Root Ratings			Cercospora Leaf Spot Ratings		
			2020	3 Yr Mean	2020	2 Yr Mean	3 Yr Mean	2020	2 Yr Mean	3 Yr Mean	2020	2 Yr Mean	3 Yr Mean
Established Varieties	ACH 659	5	66.4	69.7	4.51	4.24	4.10	4.10	3.96	4.12	4.38	4.17	4.12
	ACH 765	4	64.8	70.7	3.94	4.11	4.16	3.69	3.78	3.63	4.04	4.08	4.10
	ACH 771	4	72.7	70.2	3.95	3.80	3.59	3.88	3.92	3.87	4.72	4.49	4.38
	Beta 7727	4	62.3	65.4	3.91	3.89	3.93	3.17	3.03	3.08	4.01	4.10	4.14
	Beta 7741	4	62.7	68.3	4.31	4.18	4.06	3.38	3.31	3.31	3.80	3.86	3.85
	Beta 7748	4	62.3	68.2	3.95	3.90	3.74	4.43	4.18	4.05	3.94	3.83	3.83
	SES/VdH 655	6	69.4	68.5	3.98	3.99	4.08	3.82	3.74	3.87	3.39	3.30	3.68
	SES/VdH 762	5	73.3	69.8	3.93	4.02	4.05	3.71	3.86	3.78	3.55	3.69	3.90
Established Variety Mean			66.7	68.8	4.06	4.02	3.96	3.77	3.72	3.71	3.98	3.94	4.00
Candidate Varieties	Beta 7845	3	65.1	71.0	3.55	3.84	3.72	2.67	2.82	2.87	3.89	3.73	3.81
	Hilleshög 4302	7	66.6	66.1	3.66	3.74	3.68	3.94	4.25	4.17	4.02	3.95	4.03
	SES/VdH 788	3	72.2	70.0	4.09	3.81	3.85	3.49	3.86	3.72	4.22	4.18	4.33
	SES/VdH 1986	3	67.5	68.8	3.96	3.96	4.05	3.57	3.96	3.92	3.75	3.85	4.06
	Full Market Candidate Mean		67.8	69.0	3.81	3.84	3.82	3.42	3.72	3.67	3.97	3.93	4.06
Test Market Varieties	ACH 910	2	70.1	74.1	3.92	4.20		3.43	3.53		3.66	3.60	
	ACH 950	2	63.7	72.5	3.79	3.87		4.12	3.91		3.96	3.65	
	ACH 973	2	69.3	71.9	3.52	3.72		3.61	3.80		1.69	1.67	
	Beta 7931	2	68.1	70.9	3.77	4.05		3.28	3.41		4.15	4.04	
	Beta 7974	2	62.9	67.4	3.42	3.44		3.32	3.39		2.70	2.61	
	Beta 7996	2	67.8	68.8	3.76	4.19		3.89	4.21		1.93	1.91	
	Hilleshög 2321	2	67.8	63.8	3.76	3.83		3.40	3.97		3.92	3.76	
	Hilleshög 2325	2	72.1	66.8	3.89	3.64		3.69	3.81		3.88	3.81	
	Maribo 905	2	66.4	66.7	4.59	4.17		3.71	4.01		3.46	3.32	
	SES/VdH 696	2	68.8	71.4	4.36	4.27		3.68	3.42		3.63	4.16	
	Test Market Candidate Mean		67.7	69.4	3.88	3.94		3.61	3.75		3.30	3.25	

- Lower numbers indicate better disease tolerance.

2020 First Year Agronomic

Introductory Varieties	Years in Trials	Percent Sugar		Yield as Tons/Acre		Recoverable Sugar/Ton		Recoverable Sugar/Acre		RST + RSA
		2020	% of Established	2020	% of Established	2020	% of Established	2020	% of Established	% of Established
ACH 008	1	17.45	100.3	30.0	110.3	301.1	100.3	9,008	110.6	210.9
ACH 011	1	17.13	98.4	30.1	110.9	297.6	99.2	8,964	110.0	209.2
ACH 023	1	17.75	102.0	27.7	101.7	309.1	103.0	8,546	104.9	207.9
ACH 044	1	18.25	104.8	27.4	101.0	318.9	106.2	8,751	107.4	213.7
ACH 056	1	17.47	100.4	25.9	95.4	303.8	101.2	7,870	96.6	197.8
ACH 082	1	17.61	101.2	30.5	112.1	305.5	101.8	9,308	114.2	216.0
ACH 095	1	17.68	101.6	29.0	106.7	308.5	102.8	8,948	109.8	212.6
Beta 7021	1	17.76	102.0	28.7	105.7	309.9	103.2	8,891	109.1	212.4
Beta 7029	1	17.82	102.4	28.0	102.9	311.4	103.7	8,707	106.9	210.6
Beta 7033	1	17.76	102.0	30.2	111.1	308.3	102.7	9,305	114.2	216.9
Beta 7059	1	18.27	105.0	26.1	96.0	319.2	106.3	8,322	102.2	208.5
Beta 7062	1	17.53	100.7	29.4	108.1	307.7	102.5	9,029	110.8	213.3
Beta 7068	1	17.42	100.1	32.1	118.2	303.9	101.3	9,749	119.7	220.9
Beta 7085	1	18.11	104.0	28.4	104.3	315.8	105.2	8,962	110.0	215.2
Hilleshög 2371	1	17.01	97.8	27.3	100.3	295.0	98.3	8,025	98.5	196.8
Hilleshög 2372	1	17.45	100.3	27.8	102.1	303.8	101.2	8,434	103.5	204.7
Hilleshög 2373	1	17.65	101.4	26.4	97.1	309.3	103.1	8,168	100.3	203.3
Hilleshög 2374	1	17.64	101.4	28.9	106.2	308.9	102.9	8,918	109.5	212.4
Maribo 924	1	17.34	99.6	24.3	89.4	298.9	99.6	7,263	89.1	188.7
SES/VdH 701	1	17.65	101.4	27.8	102.4	307.4	102.4	8,561	105.1	207.5
SES/VdH 702	1	17.58	101.0	27.1	99.9	307.6	102.5	8,351	102.5	205.0
SES/VdH 703	1	17.25	99.1	26.8	98.4	298.4	99.4	7,986	98.0	197.4
SES/VdH 704	1	17.37	99.8	26.1	96.2	297.7	99.2	7,788	95.6	194.8
1-Year Mean		17.61		28.1		306.4		8,602		
2020 Established Variety Means		17.40		27.2		300.2		8,147		

2020 First Year Disease

Introductory Varieties	Years in Trials	Emergence (%)		Rhizoctonia Root Rating		Aphanomyces Root Rating		Cercospora Leaf Spot Rating	
		2020	% of Established	2020	% of Established	2020	% of Established	2020	% of Established
ACH 008	1	70.3	105.4	3.77	107.7	3.52	107.0	4.69	84.8
ACH 011	1	70.8	106.0	3.39	119.7	3.53	106.7	2.56	155.6
ACH 023	1	66.9	100.3	3.75	108.4	2.82	133.6	3.93	101.2
ACH 044	1	66.9	100.2	4.07	99.8	3.48	108.3	3.69	107.7
ACH 056	1	66.3	99.3	3.56	114.0	3.48	108.2	2.92	136.3
ACH 082	1	74.0	110.9	4.10	99.0	3.54	106.5	2.13	186.9
ACH 095	1	66.9	100.2	3.93	103.3	3.11	121.1	4.04	98.5
Beta 7021	1	66.5	99.7	4.16	97.6	3.51	107.5	3.86	103.1
Beta 7029	1	71.1	106.6	3.98	101.9	3.80	99.3	1.75	227.3
Beta 7033	1	68.4	102.6	3.51	115.7	3.47	108.8	4.29	92.7
Beta 7059	1	65.8	98.5	4.32	94.0	3.80	99.1	3.54	112.4
Beta 7062	1	71.1	106.6	3.38	120.1	3.17	118.9	4.04	98.5
Beta 7068	1	71.2	106.7	3.17	128.1	3.32	113.7	2.18	182.7
Beta 7085	1	68.1	102.1	3.50	116.0	3.03	124.6	4.05	98.4
Hilleshög 2371	1	69.9	104.7	3.76	108.0	3.84	98.3	4.61	86.3
Hilleshög 2372	1	71.9	107.8	4.14	98.0	3.52	107.2	4.19	95.0
Hilleshög 2373	1	69.2	103.7	4.14	98.0	3.30	114.2	4.63	86.0
Hilleshög 2374	1	69.8	104.5	3.79	107.0	3.78	99.7	3.85	103.3
Maribo 924	1	69.6	104.3	4.28	94.9	4.21	89.6	2.77	143.8
SES/VdH 701	1	69.4	104.1	4.32	93.9	3.73	101.2	3.63	109.8
SES/VdH 702	1	68.9	103.2	4.13	98.2	3.53	106.9	3.81	104.4
SES/VdH 703	1	71.8	107.6	4.04	100.5	3.53	106.9	3.22	123.7
SES/VdH 704	1	69.5	104.2	4.40	92.3	3.69	102.1	2.61	152.3
1-Year Mean		69.3		3.90		3.51		3.52	
2020 Established Variety Means		66.7		4.06		3.77		3.98	

2020 Minn-Dak Official Variety Trial ~ Commercial

Christine, ND

Commercial Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 659	6	45.0	0	1.32	17.23	90.46	29.2	295.5	99.6	8,620	107.2
ACH 765	18	47.5	0	1.17	16.95	91.89	26.9	296.4	99.9	7,980	99.2
ACH 771	17	62.8	0	1.26	17.27	91.03	29.8	298.7	100.7	8,885	110.5
ACH 910	13	57.0	0	1.40	16.82	91.57	30.2	292.9	98.7	8,826	109.7
ACH 950	5	43.5	0	1.45	17.06	90.80	27.4	294.0	99.1	8,060	100.2
ACH 973	21	54.0	0	1.50	16.50	91.48	23.5	286.7	96.6	6,766	84.1
Beta 7727	2	47.5	0	1.62	16.75	90.74	26.2	288.0	97.1	7,538	93.7
Beta 7741	15	51.5	0	1.08	16.91	91.18	27.1	292.8	98.7	7,927	98.6
Beta 7748	19	45.5	0	1.45	17.58	90.60	27.7	302.3	101.9	8,369	104.0
Beta 7845	9	51.3	0	1.50	17.45	90.69	28.5	300.5	101.3	8,560	106.4
Beta 7931	3	53.0	0	1.52	17.29	92.63	28.9	305.7	103.0	8,839	109.9
Beta 7974	11	49.0	0	1.19	16.50	90.71	25.9	283.5	95.6	7,344	91.3
Beta 7996	4	49.8	0	0.98	16.78	91.73	30.4	292.7	98.7	8,886	110.5
Hilleshög 2321	1	56.0	0	1.36	17.46	91.72	25.9	305.0	102.8	7,871	97.9
Hilleshög 2325	16	55.0	55	1.55	16.68	91.27	25.9	289.1	97.5	7,506	93.3
Hilleshög 4302	10	55.5	0	1.60	17.54	91.64	24.1	306.3	103.2	7,377	91.7
Maribo 905	20	56.8	0	1.35	17.23	90.23	24.5	294.5	99.2	7,227	89.8
SES/VdH 655	7	51.8	0	1.29	17.49	91.74	26.2	305.7	103.0	7,992	99.4
SES/VdH 696	12	53.5	0	1.41	17.34	91.95	25.7	303.8	102.4	7,790	96.8
SES/VdH 762	14	58.0	0	1.64	17.22	91.87	27.8	301.2	101.5	8,357	103.9
SES/VdH 788	8	63.3	0	1.18	16.97	91.49	28.2	295.2	99.5	8,322	103.5
SES/VdH 1986	22	56.0	0	1.43	17.12	91.27	26.7	296.8	100.0	7,915	98.4
Experiment Mean		52.86		1.38	17.10	91.30	27.12	296.7		8,043	
Coeff. of Var. (%)		19.36		30.49	2.28	0.79	13.87	2.97		13.55	
LSD (0.05)		11.72		0.48	0.48	0.82	4.3	10.1		1,248	
LSD (0.10)		9.81		0.40	0.37	0.69	3.6	8.5		1,044	

2020 Minn-Dak Official Variety Trial ~ Introductory

Christine, ND

Introductory Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 008	29	58.3	0	1.28	17.89	91.40	29.9	311.4	98.1	9,299	101.6
ACH 011	30	68.5	0	1.33	17.41	91.64	31.2	303.7	95.7	9,454	103.3
ACH 023	35	58.3	0	1.03	17.88	91.72	29.5	312.7	98.5	9,250	101.1
ACH 044	39	59.0	0	1.48	18.45	92.44	29.3	326.2	102.8	9,563	104.5
ACH 056	24	52.0	0	1.34	18.02	92.24	26.5	317.5	100.0	8,422	92.0
ACH 082	27	59.8	0	1.78	18.20	91.73	31.4	318.6	100.4	10,013	109.4
ACH 095	38	58.0	0	1.11	18.17	92.70	29.5	322.2	101.5	9,488	103.7
Beta 7021	25	53.3	0	1.31	18.37	92.42	28.4	324.7	102.3	9,225	100.8
Beta 7029	34	61.3	0	1.21	17.79	92.00	27.8	312.3	98.4	8,657	94.6
Beta 7033	23	57.3	0	1.94	18.21	92.22	31.4	320.8	101.1	10,078	110.1
Beta 7059	40	60.0	0	1.47	18.67	91.85	27.4	327.7	103.2	8,967	98.0
Beta 7062	43	61.5	0	1.27	17.79	92.57	30.2	314.7	99.1	9,506	103.9
Beta 7068	45	53.3	0	1.53	18.03	92.55	32.2	319.0	100.5	10,282	112.4
Beta 7085	41	63.5	0	1.39	18.67	92.30	29.3	329.7	103.8	9,662	105.6
Hilleshög 2371	37	57.3	0	1.05	18.11	92.65	25.9	320.8	101.1	8,345	91.2
Hilleshög 2372	33	61.0	0	1.08	18.25	92.54	28.1	323.0	101.7	9,092	99.4
Hilleshög 2373	28	62.8	0	1.14	18.45	92.73	26.4	327.4	103.1	8,669	94.7
Hilleshög 2374	36	63.0	0	1.26	17.84	92.23	29.7	314.1	98.9	9,321	101.8
Maribo 924	44	62.8	0	1.49	17.72	91.03	25.4	306.8	96.6	7,824	85.5
SES/VdH 701	42	68.0	0	1.04	18.04	91.59	29.7	315.1	99.2	9,367	102.4
SES/VdH 702	26	63.8	0	1.23	18.13	92.53	26.5	320.7	101.0	8,500	92.9
SES/VdH 703	31	67.5	0	1.88	17.63	91.43	29.2	306.9	96.7	8,968	98.0
SES/VdH 704	32	59.0	0	1.63	17.67	91.02	27.8	306.0	96.4	8,535	93.3
Experiment Mean		60.38		1.36	18.06	92.07	28.8	317.5		9,152	
Coeff. of Var. (%)		18.02		31.01	2.01	0.83	10.29	2.82		10.17	
LSD (0.05)		12.45		0.48	0.48	0.87	3.4	10.3		1,065	
LSD (0.10)		10.42		0.40	0.35	0.73	2.8	8.6		892	

2020 Minn-Dak Official Variety Trial ~ Commercial

Nashua, MN

Commercial Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 659	6	77.0	0	2.98	17.75	88.09	26.0	294.2	99.4	7,643	92.9
ACH 765	18	72.0	0	1.81	17.61	89.73	26.2	298.9	101.0	7,816	95.0
ACH 771	17	80.0	0	2.53	17.48	89.59	28.9	296.2	100.1	8,558	104.0
ACH 910	13	73.5	0	1.93	17.76	89.57	28.3	301.1	101.7	8,525	103.6
ACH 950	5	71.8	0	2.44	18.05	88.98	29.9	303.4	102.5	9,078	110.3
ACH 973	21	67.8	0	1.84	17.47	88.77	28.7	292.1	98.7	8,377	101.8
Beta 7727	2	64.5	0	2.75	17.39	88.93	26.9	291.6	98.5	7,855	95.4
Beta 7741	15	75.8	0	1.86	17.53	89.47	28.3	296.5	100.2	8,385	101.9
Beta 7748	19	70.0	0	2.59	18.06	88.52	27.5	301.4	101.8	8,292	100.8
Beta 7845	9	71.3	0	2.66	17.64	88.10	28.4	292.2	98.7	8,285	100.7
Beta 7931	3	76.0	0	1.81	17.68	89.87	29.6	300.9	101.7	8,899	108.1
Beta 7974	11	63.5	0	2.38	17.68	90.01	27.2	301.6	101.9	8,206	99.7
Beta 7996	4	73.5	0	1.93	17.26	89.50	29.3	291.8	98.6	8,555	103.9
Hilleshög 2321	1	69.3	0	2.39	17.76	88.64	26.4	296.7	100.2	7,838	95.2
Hilleshög 2325	16	76.3	0	2.23	17.13	88.40	28.1	284.9	96.2	8,012	97.3
Hilleshög 4302	10	69.0	0	2.15	17.18	89.46	26.2	290.1	98.0	7,612	92.5
Maribo 905	20	69.3	0	2.40	17.20	88.51	23.1	286.5	96.8	6,599	80.2
SES/VdH 655	7	74.8	0	3.36	17.48	89.49	28.5	295.7	99.9	8,416	102.3
SES/VdH 696	12	71.3	0	2.38	17.49	89.01	28.7	293.6	99.2	8,434	102.5
SES/VdH 762	14	74.8	0	2.33	17.56	89.38	28.2	296.6	100.2	8,365	101.6
SES/VdH 788	8	74.8	0	2.31	17.95	89.48	29.1	304.0	102.7	8,839	107.4
SES/VdH 1986	22	72.5	0	2.12	17.92	89.15	28.1	301.8	102.0	8,478	103.0
Experiment Mean		72.19		2.33	17.59	89.12	27.80	296.0		8,230	
Coeff. of Var. (%)		7.88		19.54	2.92	1.13	5.28	3.86		6.08	
LSD (0.05)		6.51		0.52	0.59	1.16	1.7	13.1		573	
LSD (0.10)		5.45		0.44	0.49	0.97	1.4	11.0		480	

2020 Minn-Dak Official Variety Trial ~ Introductory

Nashua, MN

Introductory Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 008	29	71.8	0	1.84	16.66	89.56	30.6	281.6	95.3	8,626	102.4
ACH 011	30	69.5	0	1.58	16.68	90.35	29.3	285.4	96.6	8,327	98.8
ACH 023	35	71.3	0	1.49	17.48	90.34	28.2	299.5	101.4	8,449	100.3
ACH 044	39	66.0	0	1.76	18.44	91.11	26.6	320.1	108.4	8,492	100.8
ACH 056	24	76.0	0	1.79	17.01	90.45	26.2	291.6	98.7	7,646	90.7
ACH 082	27	73.8	0	2.43	17.09	89.90	31.4	290.5	98.3	9,131	108.3
ACH 095	38	71.3	0	1.92	17.25	90.70	30.5	297.0	100.5	9,060	107.5
Beta 7021	25	73.5	0	1.63	17.41	90.41	29.5	298.6	101.1	8,785	104.2
Beta 7029	34	74.3	0	2.00	17.87	90.64	28.9	307.7	104.2	8,878	105.3
Beta 7033	23	70.0	0	1.93	17.27	90.20	31.5	295.2	99.9	9,291	110.2
Beta 7059	40	67.5	0	1.85	18.37	90.86	26.0	317.7	107.5	8,218	97.5
Beta 7062	43	75.5	0	1.68	17.30	91.26	30.5	300.3	101.7	9,155	108.6
Beta 7068	45	77.5	0	1.83	16.82	90.01	33.6	286.3	96.9	9,590	113.8
Beta 7085	41	71.5	0	1.62	18.03	90.77	28.6	311.3	105.4	8,903	105.6
Hilleshög 2371	37	70.3	0	1.81	15.97	89.44	27.9	268.9	91.0	7,506	89.1
Hilleshög 2372	33	72.5	0	1.83	17.02	90.55	27.4	292.1	98.9	7,991	94.8
Hilleshög 2373	28	67.5	0	2.13	16.66	90.53	26.3	285.7	96.7	7,535	89.4
Hilleshög 2374	36	74.3	0	1.59	17.46	91.14	29.0	302.7	102.5	8,769	104.1
Maribo 924	44	64.8	0	3.26	16.92	89.49	25.0	285.9	96.8	7,154	84.9
SES/VdH 701	42	63.5	0	2.07	17.65	90.32	28.0	302.3	102.3	8,483	100.7
SES/VdH 702	26	68.8	0	2.09	17.17	90.84	29.0	296.1	100.2	8,575	101.8
SES/VdH 703	31	73.8	0	2.78	16.83	90.19	26.5	287.3	97.3	7,615	90.4
SES/VdH 704	32	68.3	0	2.98	17.24	89.28	26.4	290.7	98.4	7,655	90.8
Experiment Mean		70.99		2.00	17.24	90.36	28.6	295.4		8,428	
Coeff. of Var. (%)		9.80		22.11	3.28	0.85	6.13	3.87		7.05	
LSD (0.05)		7.96		0.50	0.65	0.88	2.0	13.1		680	
LSD (0.10)		6.66		0.42	0.54	0.74	1.7	11.0		569	

2020 Minn-Dak Official Variety Trial ~ Commercial

Rothsay, MN

Commercial Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 659	6	86.3	0	2.17	18.19	90.94	23.7	314.7	102.8	7,442	99.3
ACH 765	18	80.3	0	1.50	17.52	91.73	24.3	306.2	100.0	7,438	99.3
ACH 771	17	82.0	0	1.91	17.86	90.79	26.8	308.3	100.7	8,267	110.4
ACH 910	13	83.3	0	1.53	17.64	92.15	23.4	310.2	101.3	7,262	96.9
ACH 950	5	75.8	0	1.93	17.88	91.26	24.1	310.7	101.5	7,488	100.0
ACH 973	21	79.8	0	1.75	16.82	92.05	26.4	294.7	96.2	7,761	103.6
Beta 7727	2	77.0	0	1.68	17.79	91.47	24.6	310.0	101.2	7,631	101.9
Beta 7741	15	76.0	0	1.62	16.98	91.36	24.7	295.0	96.3	7,287	97.3
Beta 7748	19	83.3	0	2.42	18.04	90.92	25.6	312.0	101.9	7,968	106.4
Beta 7845	9	81.3	0	2.18	18.04	91.74	25.7	315.8	103.1	8,127	108.5
Beta 7931	3	79.3	0	1.93	17.52	93.08	23.6	311.8	101.8	7,356	98.2
Beta 7974	11	76.5	0	2.27	17.09	91.27	24.1	296.4	96.8	7,130	95.2
Beta 7996	4	79.5	0	1.58	17.23	91.80	26.8	301.2	98.4	8,051	107.5
Hilleshög 2321	1	81.8	0	1.57	17.91	91.79	21.3	313.6	102.4	6,695	89.4
Hilleshög 2325	16	83.5	0	2.34	17.58	92.13	24.2	309.0	100.9	7,489	100.0
Hilleshög 4302	10	79.0	0	1.94	17.52	91.91	25.0	306.9	100.2	7,650	102.1
Maribo 905	20	75.8	0	2.55	17.31	90.40	21.3	296.6	96.9	6,300	84.1
SES/VdH 655	7	80.8	0	2.47	17.48	91.36	23.7	303.8	99.2	7,176	95.8
SES/VdH 696	12	82.0	0	1.94	17.27	91.86	23.6	302.3	98.7	7,156	95.5
SES/VdH 762	14	89.0	0	1.89	17.57	91.61	24.5	306.6	100.1	7,501	100.1
SES/VdH 788	8	83.3	0	2.09	17.50	91.97	27.0	306.9	100.2	8,285	110.6
SES/VdH 1986	22	82.0	0	1.71	17.45	91.67	24.2	304.6	99.5	7,350	98.1
Experiment Mean		80.77		1.95	17.55	91.60	24.47	306.2		7,491	
Coeff. of Var. (%)		7.97		27.69	2.72	0.59	10.56	3.28		10.75	
LSD (0.05)		7.37		0.62	0.55	0.62	3.0	11.5		922	
LSD (0.10)		6.17		0.52	0.46	0.52	2.5	9.6		771	

2020 Minn-Dak Official Variety Trial ~ Introductory

Rothsay, MN

Introductory Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 008	29	83.5	0	1.61	17.64	91.44	27.5	307.2	100.3	8,441	105.4
ACH 011	30	83.3	0	1.37	17.23	91.47	28.4	299.8	97.9	8,523	106.4
ACH 023	35	78.0	0	1.41	18.06	91.92	25.9	316.8	103.5	8,195	102.3
ACH 044	39	81.8	0	1.49	18.18	91.73	25.4	318.3	104.0	8,075	100.8
ACH 056	24	79.3	0	1.26	17.65	91.50	24.0	307.5	100.5	7,383	92.2
ACH 082	27	87.5	0	2.27	17.32	90.86	28.2	298.9	97.6	8,441	105.4
ACH 095	38	78.5	0	1.30	17.75	91.30	27.3	308.5	100.8	8,416	105.1
Beta 7021	25	79.8	0	1.61	17.64	91.66	27.6	308.0	100.6	8,495	106.1
Beta 7029	34	82.5	0	1.94	17.89	91.86	26.8	313.4	102.4	8,390	104.7
Beta 7033	23	83.5	0	1.88	17.66	91.39	27.7	307.4	100.4	8,511	106.2
Beta 7059	40	77.0	0	1.66	18.30	91.67	24.5	320.1	104.5	7,819	97.6
Beta 7062	43	80.0	0	1.12	17.71	92.20	27.7	311.6	101.8	8,614	107.5
Beta 7068	45	83.8	0	1.90	17.20	91.22	30.8	298.3	97.4	9,171	114.5
Beta 7085	41	75.5	0	1.34	17.79	91.20	26.0	308.8	100.9	8,021	100.1
Hilleshög 2371	37	83.3	0	1.39	17.04	91.40	24.7	296.1	96.7	7,311	91.3
Hilleshög 2372	33	85.3	0	1.48	17.49	91.17	25.7	303.2	99.0	7,807	97.5
Hilleshög 2373	28	78.0	0	1.57	17.75	91.92	24.9	311.3	101.7	7,743	96.7
Hilleshög 2374	36	76.5	0	1.58	17.66	91.99	26.7	309.7	101.2	8,273	103.3
Maribo 924	44	79.3	0	2.81	17.34	90.71	22.9	298.6	97.5	6,831	85.3
SES/VdH 701	42	79.0	0	1.65	17.36	91.58	26.0	302.7	98.9	7,863	98.2
SES/VdH 702	26	76.3	0	1.87	17.10	91.20	25.4	296.2	96.8	7,521	93.9
SES/VdH 703	31	81.8	0	2.36	17.37	91.30	23.4	301.6	98.5	7,041	87.9
SES/VdH 704	32	84.5	0	3.28	17.31	90.58	24.8	297.6	97.2	7,349	91.7
Experiment Mean		80.76		1.75	17.58	91.45	26.2	306.2		8,010	
Coeff. of Var. (%)		7.21		29.17	1.87	0.55	7.22	2.36		7.13	
LSD (0.05)		6.66		0.58	0.38	0.58	2.2	8.3		654	
LSD (0.10)		5.58		0.49	0.31	0.48	1.8	6.9		547	

2020 Minn-Dak Official Variety Trial ~ Commercial

Tyler, ND

Commercial Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 659	6	57.5	0	1.86	17.27	91.15	27.0	299.3	99.9	8,070	94.0
ACH 765	18	59.3	0	1.12	17.03	92.02	29.3	298.4	99.6	8,737	101.8
ACH 771	17	66.0	0	1.24	16.91	91.49	30.3	294.0	98.1	8,868	103.3
ACH 910	13	66.8	0	1.33	16.68	91.92	30.1	291.7	97.3	8,770	102.2
ACH 950	5	63.8	0	1.55	17.44	91.74	30.4	304.7	101.7	9,271	108.0
ACH 973	21	75.8	0	1.49	16.79	93.02	29.4	298.2	99.5	8,760	102.1
Beta 7727	2	60.3	0	1.31	17.15	91.62	28.9	299.0	99.8	8,624	100.5
Beta 7741	15	47.5	0	1.14	16.91	91.78	29.5	295.4	98.6	8,682	101.1
Beta 7748	19	50.5	0	1.61	17.49	91.55	27.0	304.7	101.7	8,210	95.6
Beta 7845	9	56.5	0	1.34	17.43	91.95	26.8	305.5	101.9	8,184	95.3
Beta 7931	3	64.3	0	1.24	16.92	92.01	28.8	296.6	99.0	8,510	99.1
Beta 7974	11	62.8	0	1.08	16.87	91.78	26.8	294.8	98.4	7,851	91.5
Beta 7996	4	68.5	0	1.28	16.96	92.24	30.3	298.1	99.5	9,037	105.3
Hilleshög 2321	1	64.3	0	1.15	16.90	91.66	27.5	294.7	98.3	8,070	94.0
Hilleshög 2325	16	73.5	0	1.25	17.15	92.76	28.3	303.8	101.4	8,585	100.0
Hilleshög 4302	10	62.8	0	1.15	17.07	92.01	28.4	299.1	99.8	8,479	98.8
Maribo 905	20	63.8	0	1.25	17.39	91.26	27.2	301.7	100.7	8,198	95.5
SES/VdH 655	7	70.3	0	1.78	17.41	92.29	29.0	306.7	102.3	8,876	103.4
SES/VdH 696	12	68.5	0	1.29	17.15	92.57	29.4	303.0	101.1	8,899	103.7
SES/VdH 762	14	71.3	0	1.27	17.07	92.03	29.8	299.2	99.8	8,934	104.1
SES/VdH 788	8	67.5	0	1.25	17.35	92.71	28.9	307.1	102.5	8,879	103.4
SES/VdH 1986	22	59.5	0	1.11	17.01	91.90	28.0	297.6	99.3	8,341	97.2
Experiment Mean		63.66		1.32	17.11	91.98	28.69	299.7		8,583	
Coeff. of Var. (%)		14.38		31.05	3.32	1.11	7.64	4.39		7.39	
LSD (0.05)		10.48		0.47	0.65	1.17	2.5	15.1		726	
LSD (0.10)		8.77		0.39	0.54	0.98	2.1	12.6		607	

2020 Minn-Dak Official Variety Trial ~ Introductory

Tyler, ND

Introductory Trial	Entry Code	Emerg. %	Bolter #/A	Tare %	Sugar %	Purity %	Yield TPA	RST		RSA	
								lbs	% Mean	lbs	% Mean
ACH 008	29	67.8	0	1.19	17.62	90.85	31.8	304.2	99.2	9,668	109.6
ACH 011	30	61.8	0	1.08	17.20	92.05	31.6	301.6	98.3	9,551	108.3
ACH 023	35	60.3	0	0.89	17.57	91.86	27.0	307.5	100.3	8,290	94.0
ACH 044	39	60.8	0	1.22	17.91	91.21	28.5	311.0	101.4	8,875	100.6
ACH 056	24	57.8	0	0.92	17.22	91.28	27.0	298.8	97.4	8,027	91.0
ACH 082	27	75.0	0	1.65	17.83	92.21	30.7	313.8	102.3	9,647	109.4
ACH 095	38	59.8	0	1.05	17.57	91.56	28.8	306.3	99.9	8,829	100.1
Beta 7021	25	59.5	0	0.81	17.62	91.85	29.4	308.3	100.5	9,060	102.7
Beta 7029	34	66.5	0	1.03	17.76	92.17	28.5	312.3	101.8	8,903	100.9
Beta 7033	23	63.0	0	1.32	17.88	91.06	30.2	309.7	101.0	9,339	105.9
Beta 7059	40	58.5	0	1.06	17.75	92.03	26.6	311.4	101.5	8,286	93.9
Beta 7062	43	67.5	0	0.83	17.32	92.13	29.1	304.2	99.2	8,842	100.2
Beta 7068	45	70.3	0	1.11	17.63	92.66	31.9	312.0	101.7	9,955	112.9
Beta 7085	41	62.0	0	0.99	17.93	91.74	29.6	313.6	102.3	9,262	105.0
Hilleshög 2371	37	68.8	0	0.96	16.94	91.37	30.4	294.2	95.9	8,940	101.4
Hilleshög 2372	33	69.0	0	0.90	17.06	91.52	29.8	297.0	96.8	8,844	100.3
Hilleshög 2373	28	68.5	0	1.02	17.74	92.41	27.9	313.1	102.1	8,724	98.9
Hilleshög 2374	36	65.3	0	0.93	17.60	92.13	30.1	309.3	100.9	9,311	105.6
Maribo 924	44	71.5	0	1.62	17.38	91.87	23.8	304.1	99.1	7,244	82.1
SES/VdH 701	42	67.3	0	0.98	17.53	92.42	27.6	309.3	100.8	8,530	96.7
SES/VdH 702	26	66.8	0	1.18	17.92	92.71	27.7	317.5	103.5	8,807	99.8
SES/VdH 703	31	64.3	0	0.99	17.18	91.26	27.9	297.8	97.1	8,320	94.3
SES/VdH 704	32	66.3	0	1.69	17.25	90.69	25.7	296.7	96.8	7,614	86.3
Experiment Mean		65.12		1.11	17.54	91.78	28.8	306.7		8,820	
Coeff. of Var. (%)		16.49		28.31	2.63	1.38	7.74	3.53		8.51	
LSD (0.05)		12.29		0.36	0.53	1.45	2.6	12.4		859	
LSD (0.10)		10.28		0.30	0.44	1.22	2.1	10.4		719	

PLANTING RATE CHART

ACH SEEDS / BETASEED / HILLESOG [ACRES PLANTED PER BOX]

22" ROWS	SEED SPACING	MINI PELLETS	REGULAR PELLETS	ELS / PRO 200 / S2
	<i>Units/Box</i>	4	4	4
	<i>Packages/Box</i>	1 (Bulk)	1 (Bulk)	1 (Bulk)
	3" Spacing	4.2	4.2	4.2
	4" Spacing	5.6	5.6	5.6
	5" Spacing	7.0	7.0	7.0
30" ROWS	SEED SPACING	MINI PELLETS	REGULAR PELLETS	ELS / PRO 200 / S2
	3" Spacing	5.7	5.7	5.7
	4" Spacing	7.6	7.6	7.6
	5" Spacing	9.6	9.6	9.6

SES / VANDERHAVE [ACRES PLANTED PER BOX]

22" ROWS	SEED SPACING	MINI PELLETS	REGULAR PELLETS
	<i>Units/Box</i>	6	4
	<i>Packages/Box</i>	2	2
	3" Spacing	6.3	4.2
	4" Spacing	8.4	5.6
	5" Spacing	10.5	7.0
30" ROWS	SEED SPACING	MINI PELLETS	REGULAR PELLETS
	3" Spacing	8.6	5.7
	4" Spacing	11.5	7.6
	5" Spacing	14.3	9.6

ACRES PLANTED PER UNIT

SEED SPACING	22" ROWS	30" ROWS
(INCHES)	(ACRES)	(ACRES)
3.0	1.05	1.43
3.5	1.23	1.67
4.0	1.40	1.91
4.5	1.58	2.15
5.0	1.75	2.39
5.5	1.93	2.63
6.0	2.10	2.87

2021 BEET SEED PRICES PER UNIT

APPROX. COST / ACRE @ 4.5" SPACING WITH 22" ROWS (63,360 Seeds/Acre)

VARIETY	\$/UNIT	\$/ACRE
ACH Seeds		
MINI PELLETT/REGULAR PELLETT/ELS		
Crystal D082	\$390	\$248
Crystal D973	\$390	\$248
Crystal D910	\$335	\$213
Crystal D950	\$335	\$213
Crystal D771	\$325	\$206
Crystal D765	\$325	\$206
Crystal D659	\$325	\$206
Betaseed		
MINI PELLETT/REGULAR PELLETT/PRO 200		
BTS 7996	\$395	\$251
BTS 7029	\$395	\$251
BTS 7931	\$340	\$216
BTS 7974	\$340	\$216
BTS 7845	\$340	\$216
BTS 7727	\$332	\$211
BTS 7741	\$332	\$211
BTS 7748	\$332	\$211
Hilleshög		
2M/4M/S2		
HM 4302RR	\$290	\$184
HIL2325	\$338	\$215
SESVanderHave		
MINI PELLETT		
SV655	\$300	\$190
SV788	\$300	\$190
SV696	\$300	\$190
SV762	\$288	\$183
SESVanderHave		
REGULAR PELLETT		
SV655	\$330	\$210
SV788	\$330	\$210
SV696	\$330	\$210
SV762	\$318	\$202

2021 SEED TREATMENT PRICING

SPECIALTY SEED TREATMENTS	AVAILABLE ON*	APPROXIMATE CHARGE / UNIT
<p style="text-align: center;"><u>ACH SEEDS</u></p> <p style="text-align: center;">T45 Poncho Beta Poncho-Beta + T45</p>	<p>RP RP RP</p>	<p>\$20 \$48 \$68</p>
<p style="text-align: center;"><u>BETASEED</u></p> <p style="text-align: center;">T45 Poncho-Beta Poncho-Beta + T45</p>	<p>RP RP RP</p>	<p>\$20 \$48 \$68</p>
<p style="text-align: center;"><u>HILLESHÖG</u></p> <p style="text-align: center;">T45 CruiserMaxx CruiserMaxx + T45</p>	<p>RP RP RP</p>	<p>\$18 \$48 \$66</p>
<p style="text-align: center;"><u>SES/VDH</u></p> <p style="text-align: center;">T45 NipsIT SUITE NipsIT SUITE + T45</p>	<p>RP RP RP</p>	<p>\$21.25 \$48.50 \$69.75</p>

* RP=Regular Pellet

Note: Early Order Discounts Applied When Available

2021 EARLY DISCOUNT

ACH SEEDS	JANUARY 15 FEBRUARY 20	3% Early Order 3% Early Pay
BETASEED	JANUARY 10 FEBRUARY 20	4% Early Order 3% Early Pay
HILLESHÖG	JANUARY 15 FEBRUARY 20	4% Early Order 5% Early Pay
SES / VDH	JANUARY 10 JANUARY 10	3% Early Order 3% Early Pay

2021 REPLANT DISCOUNT & RETURN POLICY

****Maximum return allowed will be 5% of your original seed order***

ACH SEEDS	50% replant discount when Crystal brand seed used over any sugarbeet seed brand. No Return on Tach or Poncho Treatments
BETASEED	50% replant discount when Betaseed brand seed used over any sugarbeet seed brand. No Return on Tach or Poncho Treatments
HILLESHÖG	50% replant discount for Hilleleshög brand seed used over any sugarbeet seed brand. Tachigaren treated seed is Non-Returnable
SES / VDH	50% replant discount when SES/VdH brand seed used over any sugarbeet seed brand.