

Table 45 (3 pages)  
**2003 Aphanomyces Readings for Coded Test Entries**  
**Betaseed Nursery - Shakopee, MN**

UPDATED 11-11-03 2:30pm

All Ratings Adjusted		2003 Ratings				2 Yr Mean				3 Yr Mean				2002 Foliar*	2002 Rt.Indx**	2001 Foliar*	2001 Rt.Indx**	Trial Yrs	\$
		Foliar*		Root Index**		Foliar*		Root Index**		Foliar*		Root Index**							
		Rating	%App+	Rating	%App+	Rating	%App+	Rating	%App+	Rating	%Dis++	Rating	%Dis++						
765 Beta 3800 (Aph Std)		3.03	94	4.18	85	2.75	85.4	4.13	84.4	2.87	82.0	4.24	81.5	2.47	4.09	3.11	4.45		
771 Beta 3800 (Aph Std)		2.05	64	3.75	77	2.26	70.2	3.92	80.1	2.54	72.7	4.10	78.8	2.47	4.09	3.11	4.45		
767 Crystal 999 (Aph Std)		3.10	96	5.14	105	3.12	97.0	5.03	102.6	3.15	89.9	4.94	95.0	3.15	4.91	3.19	4.77		
773 Crystal 999 (Aph Std)		3.01	94	4.76	97	3.08	95.6	4.84	98.7	3.12	89.1	4.81	92.6	3.15	4.91	3.19	4.77		
768 Hilleshog Resist (Aph Std)		3.00	93	5.38	110	3.07	95.4	5.06	103.3	2.76	78.8	4.54	87.3	3.15	4.74	2.13	3.50		
774 Hilleshog Resist (Aph Std)		3.64	113	5.30	108	3.39	105.4	5.02	102.4	2.97	84.9	4.51	86.8	3.15	4.74	2.13	3.50		
769 Van der Have H46140 (Aph Std)		3.01	94	4.55	93	2.86	88.7	4.40	89.8	2.91	83.2	4.68	90.0	2.70	4.25	3.03	5.24		
775 Van der Have H46140 (Aph Std)		2.69	83	4.39	90	2.69	83.6	4.32	88.2	2.80	80.1	4.63	89.0	2.70	4.25	3.03	5.24		
718 Beta 3800(Aph)		2.67	83	4.47	91	2.68	83.4	4.44	90.7	2.83	80.8	4.45	85.5	2.70	4.42	3.11	4.45	6	
628 Beta 3820(Aph)		2.39	74	4.45	91	2.73	84.8	4.52	92.2	2.94	84.0	4.65	89.5	3.07	4.59	3.36	4.93	5	
648 Beta 3861(BX0961 Aph Spec)		3.43	106	4.30	88	2.95	91.6	4.36	89.0	3.17	90.5	4.60	88.5	2.47	4.42	3.61	5.08	4	
612 Beta 4811R(Aph & Rzm)		3.20	99	4.18	85	3.06	95.0	4.30	87.7	2.97	84.8	4.03	77.5	2.92	4.42	2.78	3.50	5	
685 Beta 4818R(Aph & Rzm)		3.74	116	4.43	91	3.29	102.3	4.51	92.0	3.23	92.4	4.33	83.3	2.85	4.59	3.11	3.98	5	
675 Beta 6225		2.74	85	4.97	101	2.91	90.3	5.10	104.1	3.25	92.8	5.41	104.1	3.07	5.23	3.93	6.03	5	
657 Beta 6233		2.77	86	4.88	100	2.85	88.4	4.90	99.9	3.10	88.6	5.17	99.4	2.92	4.91	3.61	5.72	4	
726 Beta 6400(Aph)		2.63	82	4.23	86	2.78	86.2	4.49	91.6	2.78	79.3	4.48	86.1	2.92	4.74	2.78	4.45	4	
745 Beta 6447		3.70	115	5.92	121	3.61	112.1	5.99	122.2	3.39	96.8	5.48	105.3	3.52	6.06	2.95	4.45	7	
640 Beta 6600		4.47	139	6.27	128	3.92	121.7	5.92	120.8	4.00	114.4	5.80	111.5	3.37	5.57	4.18	5.56	7	
755 Beta 6610		2.83	88	4.85	99	2.91	90.4	4.88	99.6	3.31	94.5	5.10	98.2	2.99	4.91	4.10	5.56	5	
742 Beta 6663(BX0963)		3.31	103	5.13	105	3.34	103.8	5.18	105.8	3.54	101.1	5.26	101.1	3.37	5.23	3.93	5.41	4	
618 Beta 991RR		3.70	115	5.26	107	3.31	102.8	5.25	107.1	3.30	94.2	5.30	101.9	2.92	5.23	3.27	5.41	4	
758 Beta 993RR(Rzm)		3.28	102	4.97	101	3.18	98.7	5.02	102.5					3.07	5.08			2	
684 Beta 995RR		2.76	86	5.47	112													1	
780 Aph Mod Susc		4.61	143	6.98	142	4.21	130.8	6.60	134.7	4.41	125.9	6.54	125.8	3.82	6.22	4.79	6.43		
785 Aph Mod Susc		4.28	133	6.66	136	4.05	125.8	6.44	131.4	4.30	122.8	6.44	123.8	3.82	6.22	4.79	6.43		
790 Aph Mod Susc		4.55	141	7.23	148	4.18	130.0	6.72	137.2	4.39	125.3	6.63	127.4	3.82	6.22	4.79	6.43		
795 Aph Mod Susc		4.37	136	6.51	133	4.09	127.1	6.36	129.9	4.33	123.6	6.39	122.8	3.82	6.22	4.79	6.43		
777 Aph Tolerant Hybrid		2.62	81	4.54	93	2.66	82.5	4.40	89.7	2.79	79.8	4.36	83.9	2.70	4.25	3.07	4.29		
782 Aph Tolerant Hybrid		2.99	93	4.43	91	2.84	88.2	4.34	88.6	2.92	83.4	4.33	83.2	2.70	4.25	3.07	4.29		
787 Aph Tolerant Hybrid		2.73	85	4.23	86	2.71	84.3	4.24	86.6	2.83	80.9	4.26	81.9	2.70	4.25	3.07	4.29		
792 Aph Tolerant Hybrid		2.53	79	4.64	95	2.61	81.2	4.44	90.7	2.77	79.0	4.39	84.5	2.70	4.25	3.07	4.29		
778 Aph Tolerant Source		4.79	149	6.36	130	3.86	119.8	5.63	115.0	3.72	106.2	5.53	106.4	2.92	4.91	3.44	5.33		
783 Aph Tolerant Source		4.11	128	6.23	127	3.52	109.2	5.57	113.6	3.49	99.7	5.49	105.5	2.92	4.91	3.44	5.33		
788 Aph Tolerant Source		4.51	140	6.44	131	3.71	115.3	5.67	115.8	3.62	103.5	5.56	106.9	2.92	4.91	3.44	5.33		
793 Aph Tolerant Source		4.66	145	6.45	132	3.79	117.8	5.68	115.9	3.67	105.0	5.56	107.0	2.92	4.91	3.44	5.33		
781 Aph Susceptible Hybrid (AST 02)		5.97	185	8.28	169	5.08	157.9	7.98	162.9	5.34	152.6	7.71	148.2	4.20	7.69	5.86	7.15		
786 Aph Susceptible Hybrid (AST 02)		6.03	187	8.28	169	5.11	158.8	7.98	162.9	5.36	153.2	7.71	148.2	4.20	7.69	5.86	7.15		
791 Aph Susceptible Hybrid (AST 02)		5.69	177	8.40	171	4.94	153.5	8.04	164.1	5.25	149.9	7.75	148.9	4.20	7.69	5.86	7.15		
796 Aph Susceptible Hybrid (AST 02)		5.60	174	8.63	176	4.90	152.2	8.16	166.5	5.22	149.1	7.82	150.5	4.20	7.69	5.86	7.15		
779 Aph Susceptible Hybrid (AST)		6.70	208	8.46	173	5.45	169.2	8.07	164.7	5.58	159.5	7.76	149.3	4.20	7.69	5.86	7.15		
784 Aph Susceptible Hybrid (AST)		7.85	244	9.38	191	6.02	187.0	8.53	174.1	5.97	170.5	8.07	155.2	4.20	7.69	5.86	7.15		
789 Aph Susceptible Hybrid (AST)		7.22	224	9.32	190	5.71	177.3	8.50	173.5	5.76	164.5	8.05	154.8	4.20	7.69	5.86	7.15		
794 Aph Susceptible Hybrid (AST)		7.69	239	8.79	179	5.94	184.6	8.24	168.1	5.92	169.0	7.87	151.4	4.20	7.69	5.86	7.15		
666 Beta BX1101(Aph)		2.67	83	4.22	86	2.80	86.9	4.32	88.2					2.92	4.42			2	
736 Beta BX1103		3.65	113	5.47	112	3.44	106.7	5.19	105.9					3.22	4.91			2	
762 Beta BX1108(Rzm)		4.45	138	5.71	116	3.95	122.6	5.39	110.0					3.44	5.08			2	
604 Beta BX1194(Aph)		2.92	91	5.06	103	2.92	90.6	5.07	103.4					2.92	5.08			2	
764 Beta BX1196(Rzm)		4.61	143	6.53	133	4.18	129.7	6.37	130.1					3.75	6.22			2	
663 Beta BX1197(Rzm)		3.14	98	4.61	94	3.00	93.0	4.60	93.8					2.85	4.59			2	
743 Beta BX1198(Rzm)		2.93	91	4.26	87	3.26	101.3	4.83	98.6					3.59	5.40			2	
737 Beta BX1301(Rhc & Rzm)		3.50	109	4.79	98													1	
634 Beta BX1302(Aph)		3.67	114	4.93	101													1	
727 Beta BX1303(Rzm)		2.46	76	4.13	84													1	
719 Beta BX1304(Rzm)		2.97	92	4.38	89													1	
658 Beta BX1305(Rzm)		2.66	83	4.21	86													1	
697 Beta BX1306(Rzm)		4.38	136	6.06	124													1	
609 Beta BX1307(Rzm)		3.46	107	5.38	110													1	
682 Beta BX1308(Rzm)		3.17	98	5.07	103													1	
649 Beta BX1309(Rzm)		3.46	107	5.35	109													1	
678 Beta BX1310(Rzm)		2.73	85	4.67	95													1	
668 Beta BX1311(Rhc)		4.24	132	5.99	122													1	
751 Beta BX1314(Rzm)		2.92	91	4.60	94													1	
603 Beta BX1315(Aph)		2.19	68	3.82	78													1	
686 Beta BX1316(Rzm)		2.90	90	4.45	91													1	
646 Beta BX1317(Rzm)		2.50	78	4.20	86													1	
705 Beta BX1318(Rzm)		3.43	106	5.50	112													1	
633 Beta BX1319		4.14	129	6.05	123													1	
717 Croplan Genetics CL101		4.01	125	5.65	115	3.84	119.2	5.77	117.8	3.87	110.5	5.59	107.6	3.67	5.89	3.93	5.24	8	
672 Croplan Genetics CL102		3.73	116	5.25	107	3.70	114.8	5.41	110.4	3.80	108.6	5.30	101.9	3.67	5.57	4.01	5.08	8	
741 Croplan Genetics CL311 (111)		3.64	113	5.73	117													3	
611 Croplan Genetics CL314 (114)		3.48	108	4.89	100													3	
735 Crystal 723		3.00	93	4.59	94	3.11	96.5	4.83	98.6					3.22	5.08			4	
676 Crystal 725		2.79	87	4.02	82	2.82	87.5	4.30	87.8	2.97	84.8	4.51	86.8	2.85	4.59	3.27	4.93	4	
730 Crystal 817		4.58	142	6.49	132	4.28	132.8	6.35	129.6	4.43	126.6	6.25	120.1	3.97	6.22	4.75	6.03	6	
613 Crystal 820		2.74	85	4.10	84	2.83	88.0	4.42	90.3	2.82	80.4	4.43	85.2	2.92	4.74	2.78	4.45	4	
706 Crystal 822		2.42	75	4.46	91	2.52	78.3	4.52	92.3	2.58	7								



Table 45 (3 pages)  
**2003 Aphanomyces Readings for Coded Test Entries**  
**Betaseed Nursery - Shakopee, MN**

UPDATED 11-11-03 2:30pm

All Ratings Adjusted		2003 Ratings				2 Yr Mean				3 Yr Mean				2002		2001		Trial Yrs	\$\$\$
		Foliar*		Root Index**		Foliar*		Root Index**		Foliar*		Root Index**		Foliar*	Rt.Indx**	Foliar*	Rt.Indx**		
		Rating	%App+	Rating	%App+	Rating	%App+	Rating	%App+	Rating	%Dis++	Rating	%Dis++	Foliar*	Rt.Indx**	Foliar*	Rt.Indx**		
Code	Description																		
616	Seedex SX0826	4.18	130	6.29	128													2	
623	Seedex SX0828(Aph & Rzm)	3.01	94	5.05	103	3.00	93.3	5.39	109.9				2.99	5.72				2	
681	Seedex SX0830(Aph & Rhc)	5.93	184	7.51	153													1	
645	Seedex SX0831(Aph & Rzm)	3.09	96	4.27	87													1	
701	Seedex 0924(SX0924 Aph & Rzm)	2.64	82	4.35	89	2.71	84.0	4.30	87.8	2.87	82.0	4.30	82.7	2.77	4.25	3.19	4.29	3	
655	Seedex SX0928(Aph & Rzm)	3.27	102	5.41	110	3.13	97.3	5.41	110.3				2.99	5.40				2	
757	Seedex SX0930	5.79	180	6.86	140													1	
602	Seedex SX0931(Aph & Rzm)	1.85	57	3.47	71													1	
747	Seedex SX0932(Aph & Rhc)	6.10	189	7.21	147													1	
641	Seedex Aspen (SX0917)	3.98	124	5.33	109	3.68	114.2	5.12	104.5				3.37	4.91				4	
734	Seedex Aurora(SX823 925 Aph)	3.63	113	4.65	95	3.24	100.5	4.69	95.8	3.09	88.1	4.61	88.7	2.85	4.74	2.78	4.45	3	
759	Seedex Gladiator	3.92	122	5.93	121	3.46	107.4	5.75	117.3	3.64	104.1	5.69	109.3	2.99	5.57	4.01	5.56	4	
643	Seedex Magnum(SX0816 0922)	4.04	125	5.47	112	3.74	116.2	5.68	116.0				3.44	5.89				12	
733	Seedex Monarch	4.58	142	6.73	137	4.01	124.5	6.07	123.8	3.93	112.2	5.79	111.4	3.44	5.40	3.76	5.24	4	
740	Seedex Thunder	3.81	118	5.92	121	3.51	109.1	5.58	113.8	3.71	106.0	5.62	108.2	3.22	5.23	4.10	5.72	7	
654	Seedex Titan	4.71	146	5.37	110	4.00	124.3	5.71	116.6	4.00	114.4	5.71	109.9	3.30	6.06	4.01	5.72	0	
713	Van der Have H46177(Aph & Rzm)	2.94	91	4.64	95	2.86	88.7	4.44	90.7	2.83	80.9	4.34	83.4	2.77	4.25	2.78	4.13	0	
699	Van der Have H46519(Rzm)	3.36	104	4.30	88													1	
626	Van der Have H46521(Aph & Rhc)	5.53	172	6.89	141	4.37	135.8	5.98	122.1				3.22	5.08				1	
722	Van der Have H46522(Aph&Rzm&Rhc)	5.13	159	6.99	143													1	
673	Van der Have H47150(Rzm)	3.24	101	4.67	95													1	
753	Van der Have H47151(Rzm&Aph)	3.13	97	4.13	84													1	
635	Van der Have H49150(Aph)	2.39	74	4.93	101													1	
680	Van der Have H49151(Aph)	2.19	68	4.92	100													1	
746	Van der Have H66240	3.38	105	5.01	102	3.30	102.5	5.04	102.9	3.45	98.7	5.01	96.3	3.22	5.08	3.76	4.93	8	
629	Van der Have H66453	4.75	148	6.82	139	4.21	130.7	6.35	129.7	4.17	119.2	6.20	119.2	3.67	5.89	4.10	5.88	1	
750	Van der Have H66556	3.67	114	5.24	107	3.60	111.7	5.16	105.2				3.52	5.08				4	
669	Van der Have H66561	4.22	131	5.87	120	3.87	120.3	5.80	118.3				3.52	5.72				3	
606	Van der Have H66626	4.07	126	5.76	117													3	
711	Van der Have H66629	4.35	135	6.26	128													2	
653	Van der Have H66725(Aph)	3.46	107	5.81	119	3.19	99.0	5.61	114.4				2.92	5.40				2	
700	Van der Have H66726(Rzm)	3.51	109	5.14	105													2	
664	Van der Have H66727	3.81	118	5.04	103													2	
625	Van der Have H66728	3.74	116	5.72	117													2	
690	Van der Have H66729	4.25	132	5.44	111													2	
642	Van der Have H66733(Rzm & Aph)	2.33	72	4.27	87													2	
679	Van der Have H66850	3.43	106	5.67	116													1	
724	Van der Have H66851	4.66	145	7.11	145													1	
605	Van der Have H66852	3.87	120	5.90	120													1	
674	Van der Have H66853	4.29	133	5.80	118													1	
617	Van der Have H66854	2.87	89	5.24	107													6	
712	Van der Have H85001RR	3.48	108	5.05	103	3.20	99.4	5.06	103.3	3.42	97.7	5.12	98.5	2.92	5.08	3.85	5.24	2	
734	Seedex Aurora (SX0925 MinnDak only)	3.63	113	4.65	91	3.31	102.8	4.69	95.8	3.24	92.7	4.66	89.7	2.99	4.74	3.11	4.60		
	Coef. of Var. (%)	20.63		12.52									11.97	11.19	19.89	15.80			
	Mean LSD (0.05)	0.88		0.80									0.49	0.67	0.87	1.00			
	Mean LSD (0.01)	1.17		1.05									0.64	0.88	1.15	1.31			
	Check Mean	2.80		4.45		2.80		4.45		2.80		4.45		2.80	4.45	2.80	4.45		
	<b>Approval Criteria</b>	3.22		4.90		3.220		4.90		3.22		4.90		3.22	4.90	3.22	4.90		
	<b>Disapproval Criteria</b>	3.50		5.20		3.50		5.20		3.500		5.20		3.50	5.20	3.50	5.20		

+ Approval is based upon the two year foliar rating \* 115% and other comparisons are for general information. In 2004 approval will be based on root rating of 4.90.  
++ Disapproval is based upon the three year foliar rating \* 125% and other comparisons are for general information (approval policy change 1-14-02). In 2004 continued approval will be at 5.20.  
Check varieties are Beta 3800, Crystal 960, Crystal 999, Hilleshog Resist & van der Have H46140 (entries 765 to 769 and 771 to 775).  
\* 2003 Foliar rating is the Aph Foliar mean rating (7/16 & 8/6) from the unidentified data. Adjusted by multiplying 2003 ratings by 1.4220, 2002 ratings by 0.8986 and 2001 ratings by 0.9825.  
\*\* 2003 Root rating of Aph symptoms was done on 9/17 (1=healthy, 9=severe damage). Adjusted by multiplying 2003 ratings by 1.1794, 2002 ratings by 0.9819 and 2001 ratings by 0.9533.  
\$\$\$ Trial years indicates how many years the entry has been in the official trials (not Aph Nursery years).