

Hybrid Asparagus Yield Trials

John Bakker

Objectives:

To evaluate the yield, spear diameter, quality characteristics, and longevity of selected asparagus hybrids in soil previously planted to asparagus.

Methods:

<u>Year</u>	<u>Planting Date</u>	<u>Row Width</u>	<u>In-row Space</u>	<u>Transplants</u>	<u>Crowns</u>	<u>Reps</u>
2012	June 14	54"	12"	X		4
2015A	May 14	54"	9.4"		X	4
2015B*	July 2	54"	12"	X		4
2017A	July 14	54"	12"	X		3
2017C	July 11	54"	9"	X		4
2017B	May 13	54"	6", 9", 12"	X		4

*Note: Plant survival is evaluated the spring following the year of planting. The 2015B trial had some plots with < 90% survival as measured in the spring of 2016, and as such, is being evaluated for spear quality rather than total yield.

Crown plantings are generally harvested full season the 3rd year after planting and transplants are generally harvested full season the 4th year after planting.

Beginning in 2020 the weight, length, diameter of each spear harvested was measured and recorded using a Christiaens Agro-systems automated data collection system. In addition, quality measurements to assess straightness and tip quality were collected from each spear harvested.

Size Categories (inch) : Under < 3/16, Small 3/16 – 5/16, Standard 5/16 – 9/16, Large 9/16 – 3/4, Jumbo ¾ - 1 ¼ Over > 1/14

Due to the Covid 19 outbreak, travel from Europe was halted and the scheduled visit from the company technician did not happen. As a result, we were unable to validate tip quality measurements in 2020 and have decided to not share them for most trials. Tip quality measurements are given for only 1 trial, as an example, in 2020. (2017C) Note – the larger number = highest tip quality.

Results:

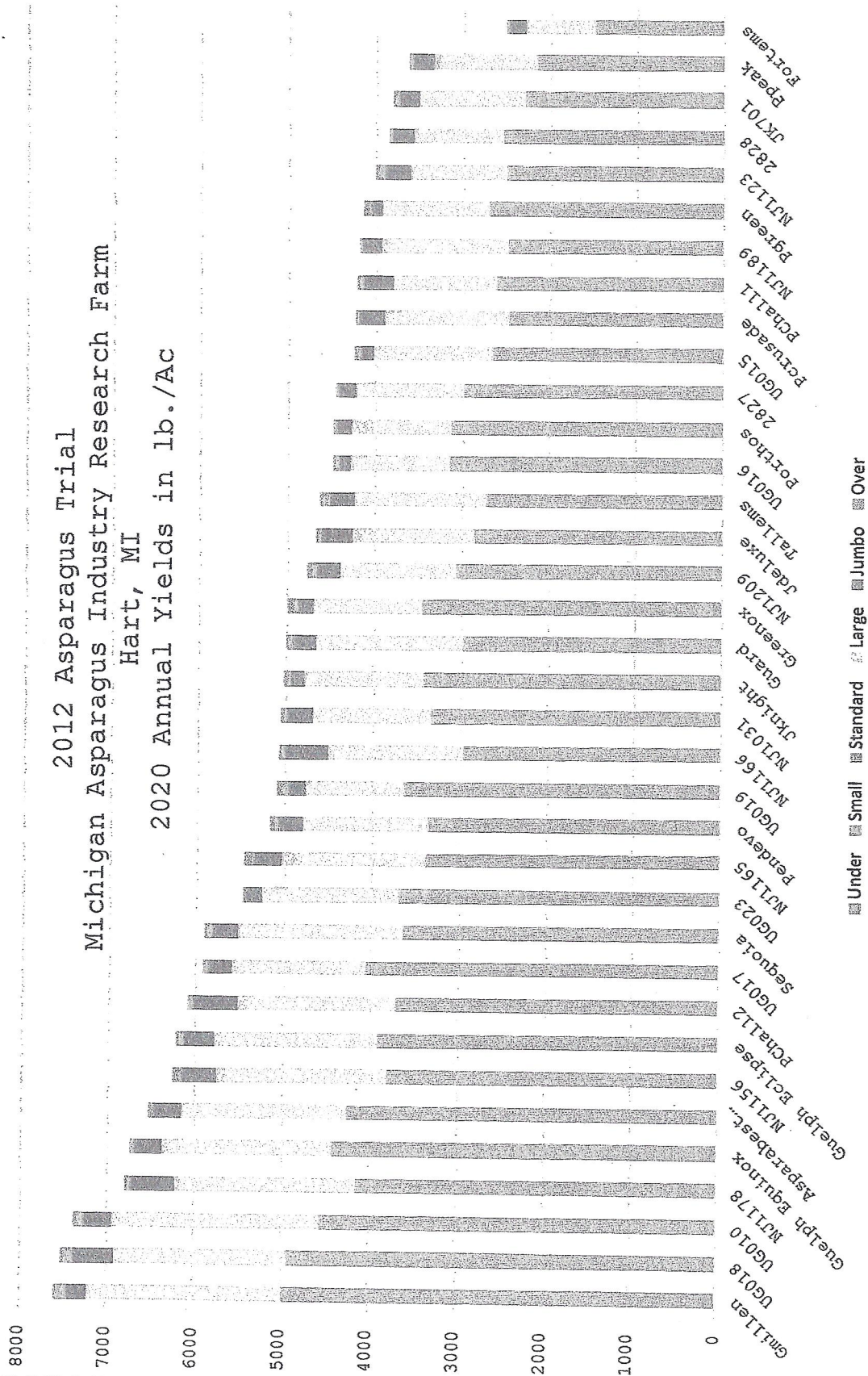
During the 2020 harvest season none of the entities were significantly more productive than Guelph Millennium.

2012 Asparagus Yield Trial
Michigan Asparagus Industry Research Farm
Hart, MI
2020 Results

Variety	2020 Average Yields in Pounds per Acre							% Std
	Under	Small	Standard	Large	Jumbo	Over	Total	
Gmillen	0	125	4855	2243	221	143	7587	64
UG018	0	138	4787	1991	464	136	7516	64
UG010	0	112	4442	2385	328	110	7375	60
NJ1178	0	100	4044	2081	503	63	6791	60
Guelph Equinox	0	65	4356	1958	309	42	6731	64
Asparabest (UG009)	0	80	4175	1900	328	45	6527	65
NJ1156	0	72	3725	1961	397	94	6249	59
Guelph Eclipse	0	75	3837	1876	344	87	6219	61
PChall2	0	98	3607	1821	500	60	6085	60
UG017	0	146	3912	1545	258	54	5915	66
Sequoia	0	94	3534	1898	291	84	5902	60
UG023	0	68	3615	1582	198	11	5473	66
NJ1165	0	105	3275	1660	319	103	5462	60
Pendevo	0	82	3271	1443	291	84	5170	65
UG019	0	124	3507	1143	193	130	5097	69
NJ1166	0	70	2896	1556	494	62	5077	57
NJ1031	0	69	3261	1367	294	65	5056	64
Jknight	0	70	3352	1377	149	82	5030	66
Guard	0	42	2934	1689	266	69	5000	59
Greenox	0	102	3342	1256	178	112	4990	67
NJ1209	0	63	2992	1345	263	104	4767	62
Jdeluxe	0	73	2781	1403	352	60	4669	61
Tallems	0	101	2619	1522	276	109	4627	57
UG016	0	89	3050	1145	124	69	4477	68
Porthos	0	69	3054	1150	177	25	4475	69
2827	0	113	2869	1248	200	21	4451	65
UG015	0	61	2590	1376	146	70	4243	61
Pcrusade	0	90	2375	1433	293	40	4230	57
PChall1	0	109	2497	1197	340	67	4210	60
NJ1189	0	71	2404	1456	229	21	4180	57
Pgreen	0	119	2575	1237	129	82	4143	62
NJ1123	0	69	2420	1120	284	105	3999	61
2828	0	40	2498	1033	252	26	3848	65
JK701	0	83	2202	1222	229	63	3800	57
Ppeak	0	59	2087	1190	244	41	3620	58
Fortems	0	30	1452	800	196	21	2500	61
LSD .05							1487	

2012 Asparagus Trial
 Michigan Asparagus Industry Research Farm
 Hart, MI

2020 Annual Yields in lb./Ac

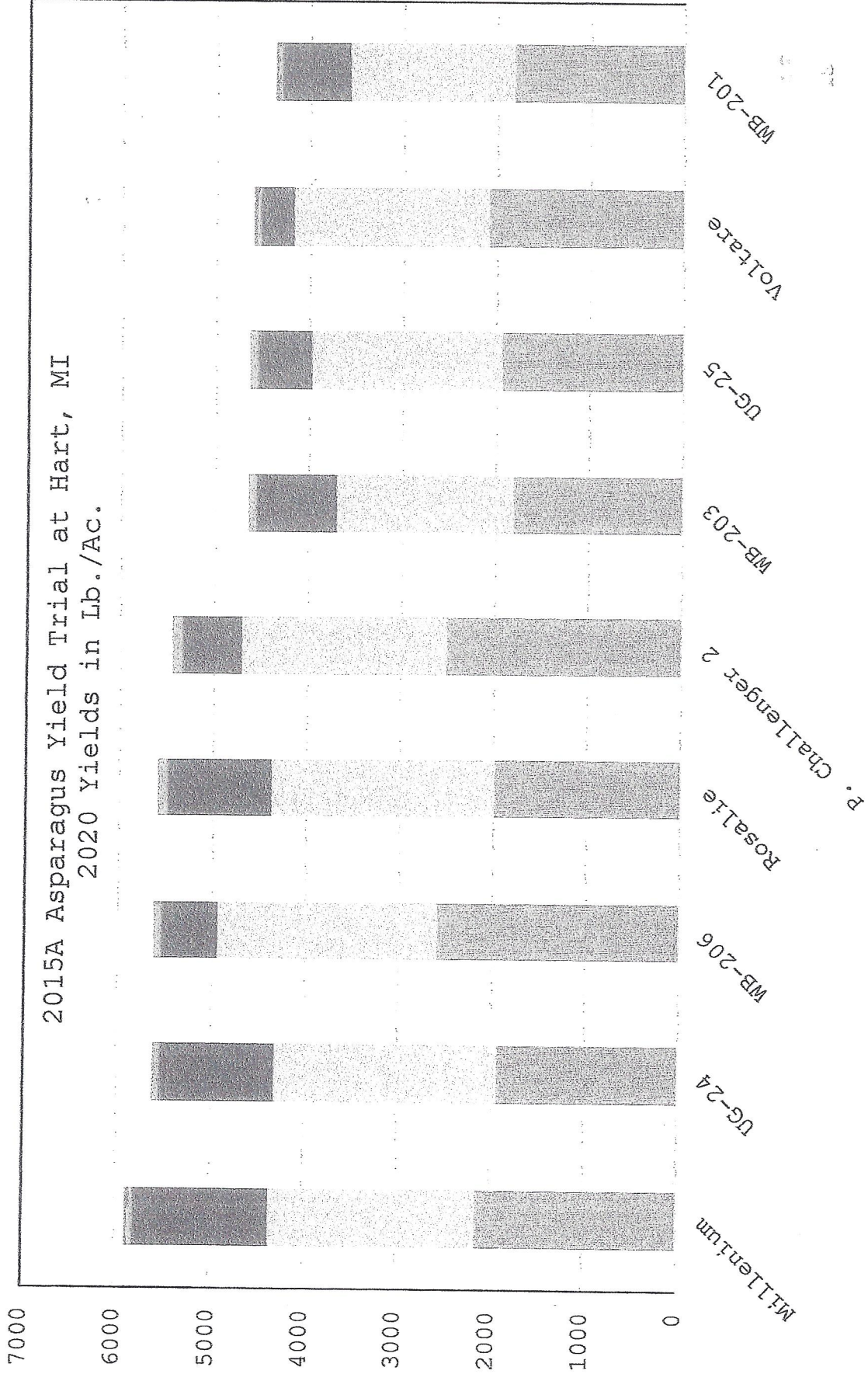


2012 International Asparagus Cultivar Trial
Hart, MI
Cumulative Yield 2014-2020

Cultivar	Annual Yields in Lb./Ac.							SUM
	2014	2015	2016	2017	2018	2019	2020	
NJ1178	376	4127	4831	5704	7761	7974	6791	37565
UG017	616	3939	5628	6184	7440	7623	5915	37345
UG010	799	4024	4641	5921	7472	6963	7375	37194
UG018	588	4254	4495	5477	6451	6655	7516	35436
Pacific Challenger 2	945	4147	4993	5748	6682	6545	6085	35145
Asparabest (UG009)	612	3375	4350	5519	6762	6868	6527	34013
NJ1156	435	3579	3988	5382	6580	7276	6249	33489
Guelph Millenium	442	3118	3411	4717	6466	7072	7587	32814
Sequoia	502	3738	4346	4669	6688	6683	5902	32528
Guelph Equinox	738	3447	3525	4995	6337	6066	6731	31840
NJ1031	507	4217	4333	4573	6648	6046	5056	31380
Pacific Endeavour	758	3251	4046	4965	5616	5743	5170	29549
Guelph Eclipse	514	3347	3662	4406	5233	5014	6219	28396
Tallems	549	3249	4416	4483	5690	5294	4627	28307
NJ1123	401	3723	4370	4512	5318	5060	3999	27384
NJ1209	414	3464	3543	4305	5256	5323	4767	27072
NJ1165	270	2351	3055	3746	4723	5167	5462	24773
UG023	526	3029	2993	3550	4139	4079	5473	23789
Porthos	336	2854	3425	3807	4179	4255	4475	23332
UG019	391	2161	2916	3628	4216	4654	5097	23063
NJ1166	580	3166	2851	3386	4050	3946	5077	23056
2827	460	2526	2901	3381	4601	4082	4451	22402
Jersey Deluxe	377	2484	2709	3393	3996	4522	4669	22150
UG015	596	3354	2897	3151	3778	3318	4243	21336
NJ1189	365	2424	2898	2949	3999	4282	4180	21098
Jersey Knight	243	2261	2514	3192	3644	4048	5030	20932
Pacific Crusader	679	3074	2826	2726	3778	3238	4230	20549
Greenox	280	2011	2584	3129	3671	3696	4990	20360
UG016	300	2019	2296	3096	3454	3645	4477	19287
Pacific Challenger 1	675	2571	2525	2508	3074	2946	4210	18509
Pacific Peak	574	2612	2441	2842	2764	2774	3620	17627
2828	407	3227	2106	2095	2675	2265	3848	16624
Pacific Green	628	2492	1981	1991	2194	1849	4143	15278
Fortems	299	1629	1709	1539	2791	2286	2500	12752
JK701	270	1295	1549	1451	2007	2135	3800	12506
LSD _{.05}	246	873	912	1132	1368	1367	1487	6122

2015A Asparagus Yield Trial
Michigan Asparagus Industry Research Farm
Hart, MI
2020 Yield Data

Variety	2020 Average Yields in Pounds per Acre							% Std	A.S.W.
	Under	Small	Std.	Large	Jumbo	Over	Total		
Millenium	0	19	2126	2220	1445	75	5884	36.2	1.10
UG-24	0	33	1892	2395	1223	69	5612	34.8	1.07
WB-206	0	39	2543	2358	597	74	5610	45.5	0.93
Rosalie	0	16	1966	2393	1111	96	5580	37.1	1.07
P. Chall. 2	0	30	2479	2197	636	103	5445	46.6	0.93
WB-203	0	25	1778	1900	856	81	4639	39.3	1.06
UG-25	0	16	1913	2050	571	82	4632	40.1	1.01
Voltare	0	34	2043	2101	351	66	4595	44.6	0.93
WB-201	0	27	1786	1760	734	61	4368	42.4	0.98
LSD _{.05}							1830		

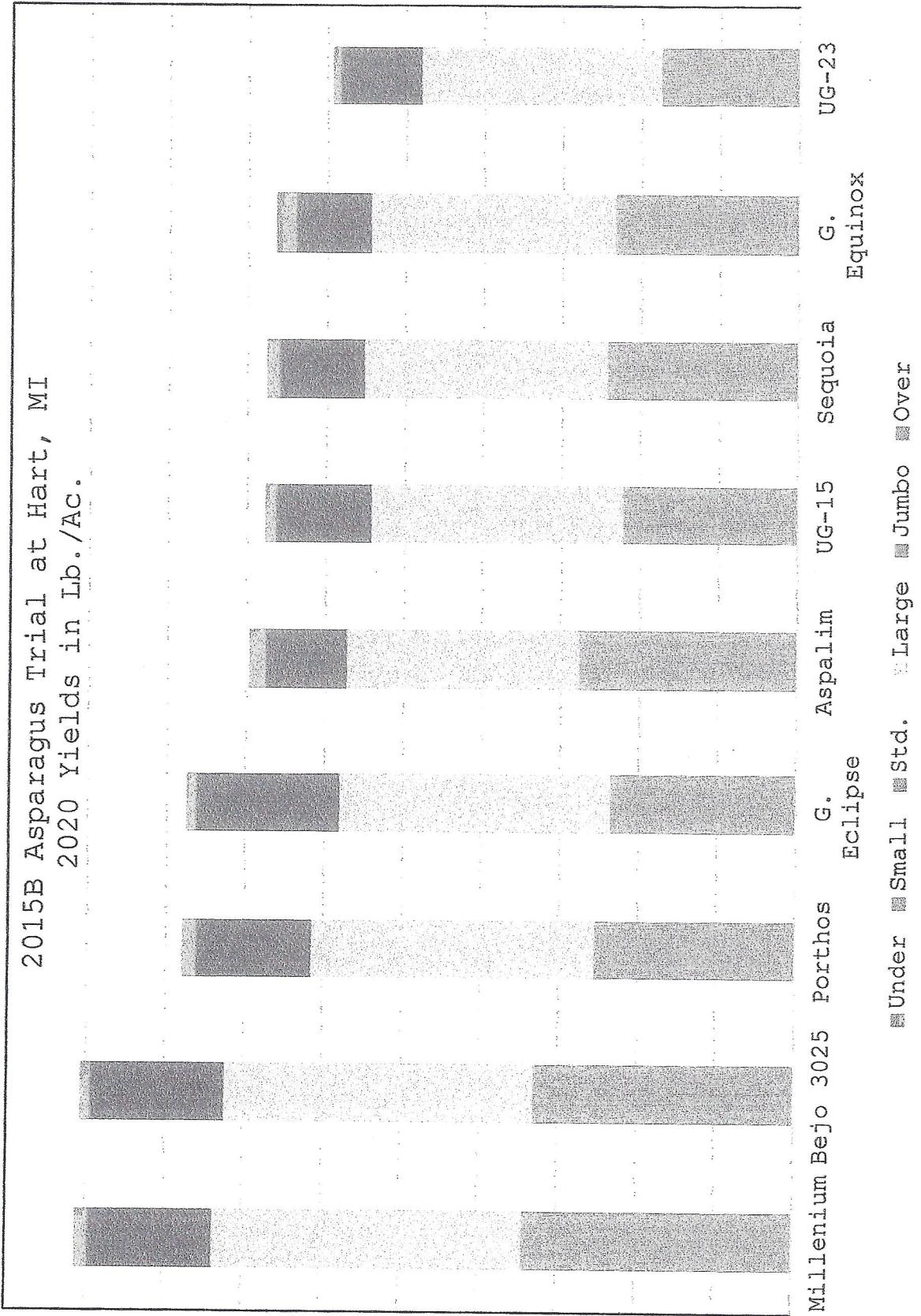


2015B Asparagus Yield Trial
Michigan Asparagus Industry Research Farm
Hart, MI
2020 Yield Data

Variety	2020 Average Yields in Pounds per Acre							% Std.	A.S.W
	Under	Small	Std.	Large	Jumbo	Over	Total		
Millenium	0	33	1680	1973	791	80	4557	37.2	1.02
Bejo 3025	0	24	1624	1971	848	62	4529	36.4	1.05
Porthos	0	38	1231	1806	729	87	3891	33.2	1.06
G. Eclipse	0	20	1155	1726	908	58	3867	29.9	1.12
Aspalim	0	13	1366	1483	514	101	3478	39.7	1.01
UG-15	0	27	1080	1604	604	64	3379	31.9	1.09
Sequoia	0	12	1195	1554	538	77	3376	36.3	1.01
G. Equinox	0	10	1152	1560	476	121	3319	34.8	1.04
UG-23	0	17	852	1532	514	46	2961	29.0	1.05
LSD _{.05}							1217		

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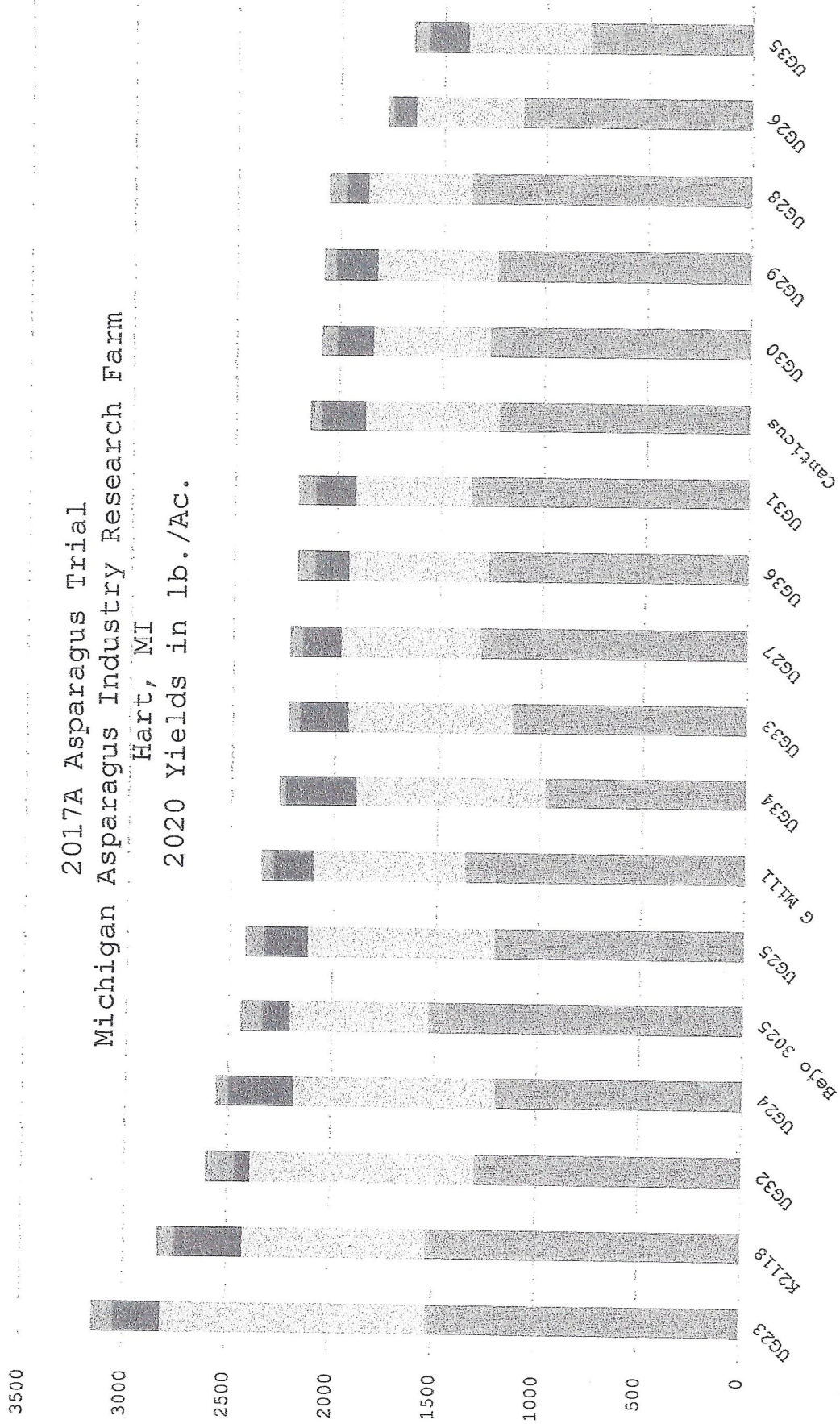
2015B Asparagus Trial at Hart, MI
2020 Yields in Lb./Ac.



2017A Asparagus Yield Trial
 Michigan Asparagus Industry Research Farm
 Hart, MI
 2020 Yield Data

Variety name	2020 Average Yields in Pounds per Acre						Total	% Std.	Avg wt.
	Under	Small	Std.	Large	Jumbo	Over			
UG23	1	42	1482	1291	228	103	3146	47	0.84
K2118	1	17	1514	891	330	81	2834	53	0.81
UG32	0	32	1265	1091	73	137	2598	49	0.85
UG24	1	30	1168	983	315	55	2551	46	0.94
Bejo 3025	1	38	1488	676	128	109	2440	61	0.72
UG25	0	49	1162	909	212	90	2422	48	0.89
G Mill	0	32	1330	737	190	57	2346	59	0.74
UG34	0	39	934	922	339	28	2263	43	0.89
UG33	0	33	1104	802	230	54	2223	49	0.79
UG27	2	19	1279	678	182	59	2219	62	0.65
UG36	1	31	1230	683	160	82	2186	57	0.79
UG31	1	25	1326	563	189	82	2186	60	0.75
Canticus	1	21	1197	653	209	54	2134	57	0.68
UG30	1	14	1250	572	174	72	2081	60	0.82
UG29	1	31	1198	589	199	55	2073	58	0.77
UG28	0	35	1326	506	102	83	2052	64	0.79
UG26	0	33	1077	528	108	25	1772	61	0.67
UG35	0	19	769	598	189	72	1648	48	0.82
LSD _{.05}							847		

2017A Asparagus Trial
 Michigan Asparagus Industry Research Farm
 Hart, MI
 2020 Yields in lb./Ac.

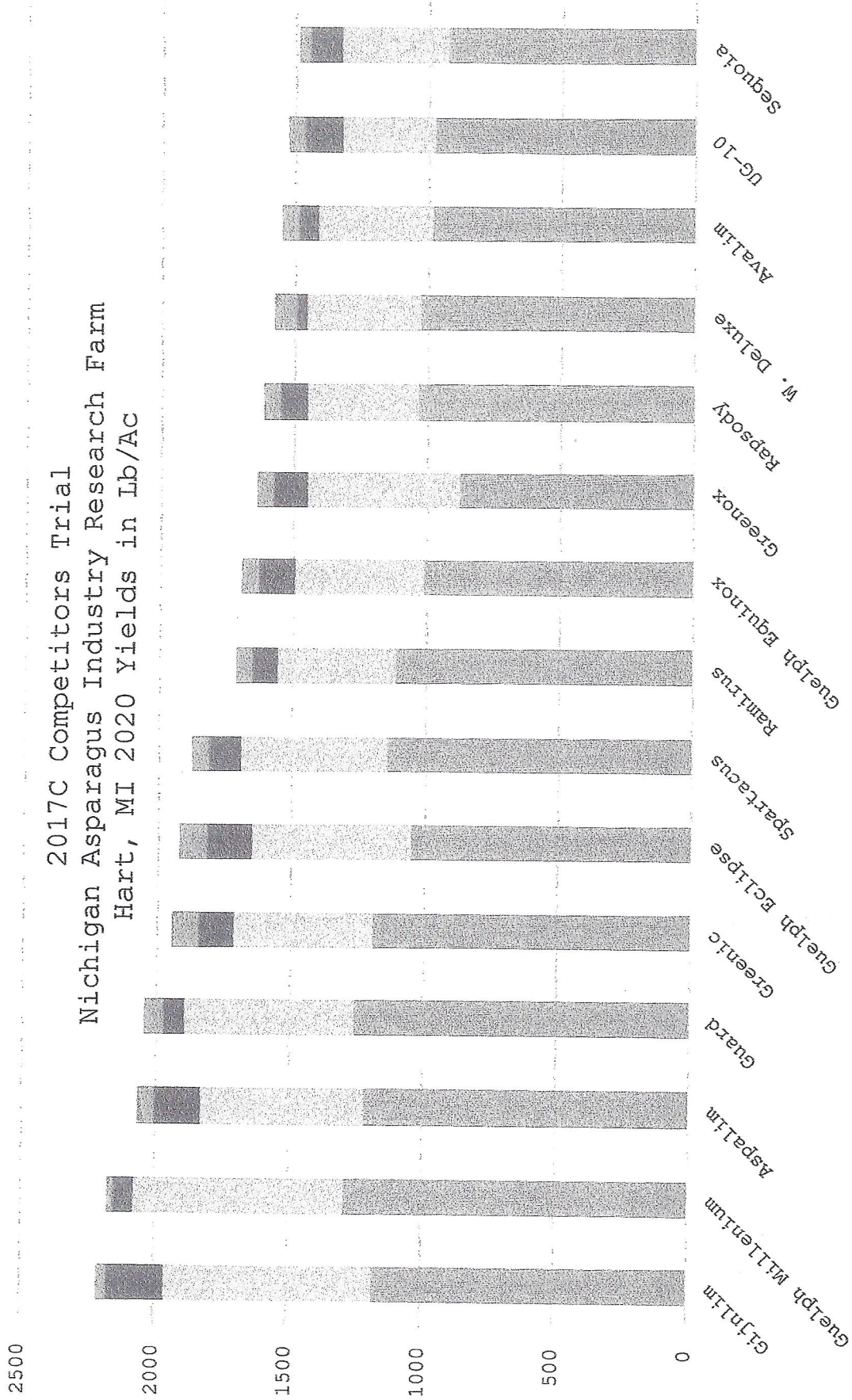


Legend: Under, Small, Std., Large, Jumbo, Over

2017C Asparagus Competitors Yield Trial
 Michigan Asparagus Industry Research Farm
 Hart, MI
 2020 Yield Data

Variety Name	2020 Average Yields in Pounds per Acre							% Std.Avg.	Wt.
	Under	Small	Std.	Large	Jumbo	Over	Total		
Gijnlim	2	88	1088	783	211	38	2211	50	0.73
Guelph Millenium	2	106	1181	791	73	22	2175	54	0.68
Aspalim	4	82	1132	612	174	61	2066	56	0.76
Guard	0	126	1132	636	79	71	2044	53	0.65
Greenic	0	60	1128	524	128	102	1943	58	0.70
Guelph Eclipse	0	71	978	599	166	104	1917	53	0.73
Spartacus	2	89	1052	549	118	62	1872	56	0.69
Ramirus	1	63	1049	444	94	60	1710	62	0.68
Guelph Equinox	0	71	937	486	134	64	1692	58	0.70
Greenox	1	65	811	573	127	59	1636	51	0.72
Rapsody	1	48	984	419	100	63	1614	62	0.68
W. Deluxe	0	62	964	428	37	84	1575	63	0.68
Avalim	0	52	931	431	71	64	1548	60	0.75
UG-10	3	70	902	351	138	61	1524	60	0.67
Sequoia	1	65	861	401	115	41	1484	59	0.67
LSD. _{.05}								n.s.	

2017C Competitors Trial
 Michigan Asparagus Industry Research Farm
 Hart, MI 2020 Yields in Lb/Ac



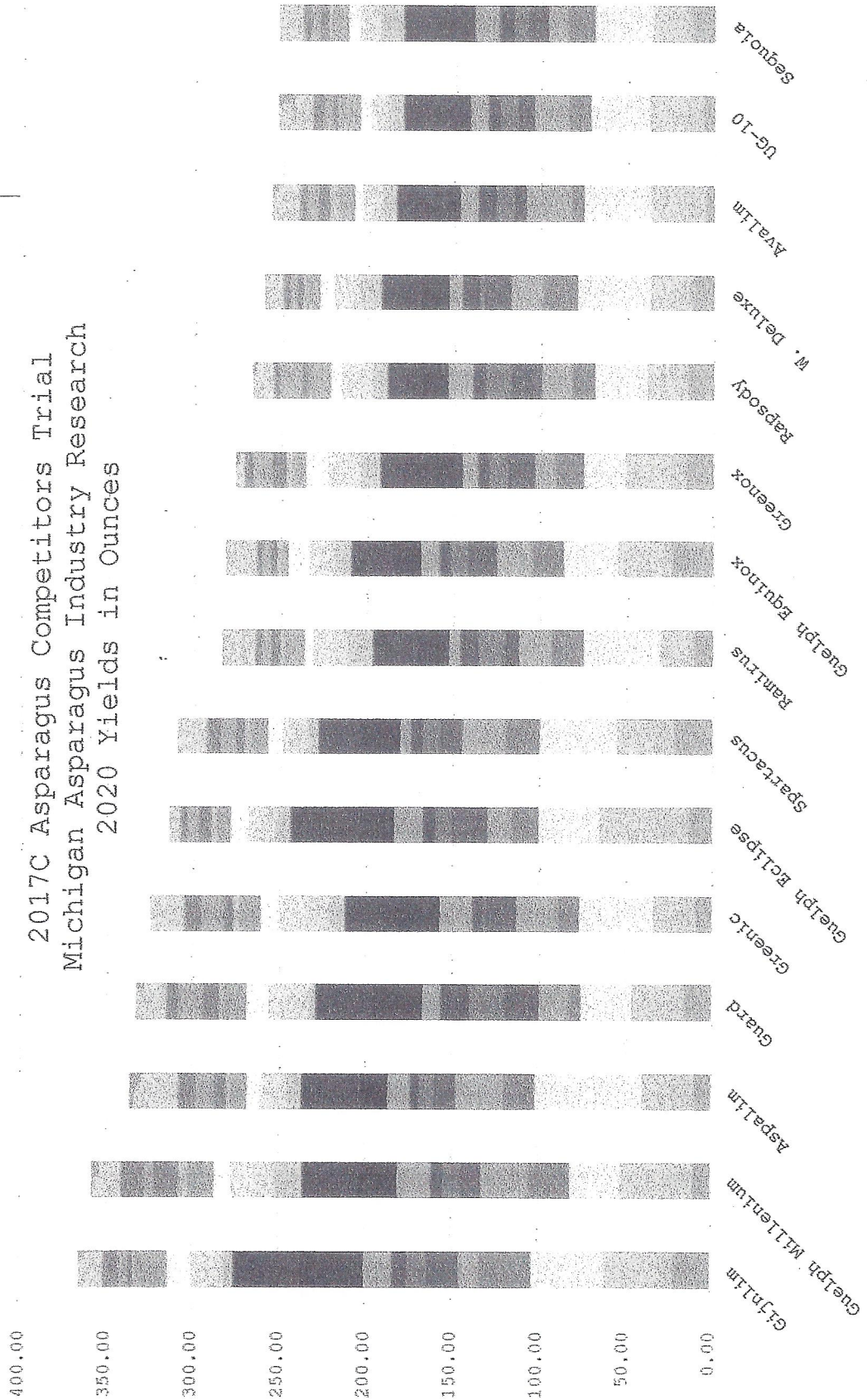
■ Under ■ Small ■ Large ■ Jumbo ■ Over

2017C Asparagus Competitors Trial
Michigan Asparagus Industry Research Farm
Hart, MI
2020 Quality Results

Variety Name	Mean Flower Factor
UG-10	26.37
Greenox	26.98
Greenic	27.61
Gijnlim	27.64
Ramirus	28.92
Guard	29.14
Avalim	30.24
Rapsody	30.65
Aspalim	30.87
Sequoia	30.95
Spartacus	31.36
Guelph Eclipse	31.42
Guelph Millenium	31.66
Guelph Equinox	32.05
W. Deluxe	33.76

Harvest Volume Shown by Daily Yield 520 = May 20

2017C Asparagus Competitors Trial
Michigan Asparagus Industry Research
2020 Yields in Ounces



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Guelph Eclipse Plant Population Study

John Bakker

Objectives:

To evaluate the effect of planting density on yield and spear size in a planting of asparagus variety Guelph Eclipse.

Methods:

The trial was established in 2017 with year old crowns of Guelph Eclipse planted on 13 May, 2017. The crowns are spaced 6, 9 or 12 inches apart in 54" rows. Each plot is 25" feet long. Plots with plant spacing of 6" apart consist of 50 crowns, 9" spacing have 33 crowns, and 12" spacing contain 25 crowns per plot. The planting density for the 3 treatments are 19,360, 14,520, and 9,680 crowns per acre, respectively. Fresh weight, spear number and spear size, based on diameter are measured and recorded for each harvest.

Results:

During the 2020 harvest season there were no significant differences in total yield between the three treatments. This was the second picking for this trial and it was harvested 25 times. The 6 inch and 9 inch spacing treatments had a higher percent of spears graded as "standard" based on spear diameter, compared to the plots with 12 inch spacing.

2017B Asparagus Spacing Study
 Michigan Asparagus Industry Research Farm
 Hart, MI
 2020 Yield Data

Treatment	2020 Average Yields in Pounds per Acre							Total %	Std.Avg. wt.
	Under	Small	Std.	Large	Jumbo	Over			
12 in. spacing	0	101	1949	1496	144	111	3803	52	0.86
6 in. spacing	0	77	1834	1092	131	42	3177	58	0.78
9 in. spacing	1	91	1741	1001	69	106	3009	58	0.83
LSD _{.05}							n.s.	6	