

# NAG Group Canola Systems Trial

## NAG Group

Martin Harries, DAFWA

### Key Messages

- Round-up ready yielded better than the other two herbicide groups, the varieties tested were all hybrids.
- TT canola yielded lower than the other two herbicide groups the varieties tested at both narrow and wide rows were OP's.
- Narrow rows out yielded wide rows 1641 to 1450 kg/ha

### Background:

We were interested in testing arrange of different canola herbicide system types at different row spacings.

A trial was implemented at the NAG main site with treatments including different herbicide types of canola and wide vs narrow rows. The trial was designed in block so they could be sprayed with the appropriate herbicide. There were three replicates of each treatment.

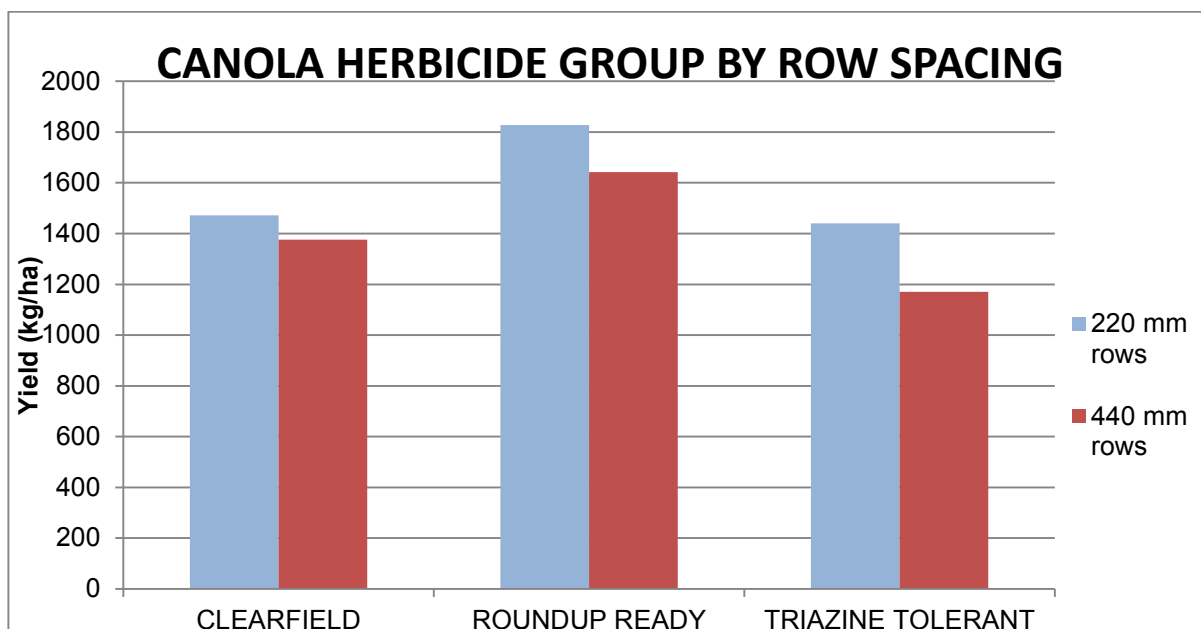
### Results

Because not all varieties were sown at wide and narrow spacings the results are presented in a few different ways.

We did an analysis of variance but some varieties were omitted from this analysis as they were only sown at the wide row spacing. When looking at these results it should be noted that Round-up Ready varieties were all hybrids while the TT varieties were all open pollinated, which would explain some of the yield difference.

**Table 1. Varieties sown at both 220 and 440 mm row spacing that were included in the comparison between narrow and wide rows.**

Variety	Type of Canola	OP or hybrid
43C80	CLEARFIELD	OP
43Y85	CLEARFIELD	Hybrid
44Y87	CLEARFIELD	Hybrid
GT50	ROUNDUP READY	Hybrid
43Y23	ROUNDUP READY	Hybrid
44Y24	ROUNDUP READY	Hybrid
HYOLA 525	ROUNDUP READY	Hybrid
IH30	ROUNDUP READY	Hybrid
IH50	ROUNDUP READY	Hybrid
GT41	ROUNDUP READY	Hybrid
STURT	TRIAZINE TOLERANT	OP
BONITO	TRIAZINE TOLERANT	OP
SNAPPER	TRIAZINE TOLERANT	OP
NT 0252	TRIAZINE TOLERANT	



**Figure 1. The response of the different herbicide groups to row spacing.**

**Table 1. Analysis of variance of grain yield (kg/ha)**

OVERALL yield	1546	
CLEARFIELD (9)	1424	
ROUNDUP READY (21)	1735	
TRIAZINE TOLERANT (12)	1305	
Row Spacing 220 mm	1641	
Row Spacing 440 mm	1450	
	Row Spacing	
	220 mm	440 mm
CLEARFIELD	1472	1376
ROUNDUPREADY	1828	1642
TRIAZINE TOLERANT	1440	1171
	P	LSD
Type_of_Canola	<.001	103
Row_Spacing	<.001	134
Type_of_Canola x Row_Spacing	0.442	NS
CV%		14

We also graphed the responses of all varieties included in the trial with error bars for each treatment from the three replicates, below.

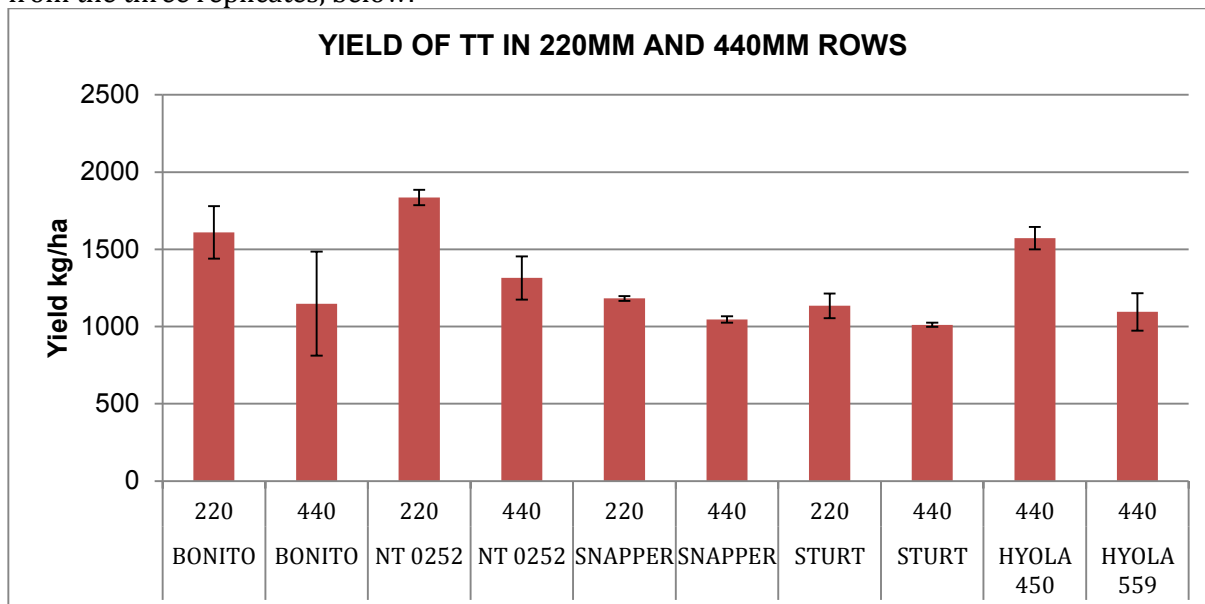


Figure 2. Yield response of TT varieties to wide and narrow rows.

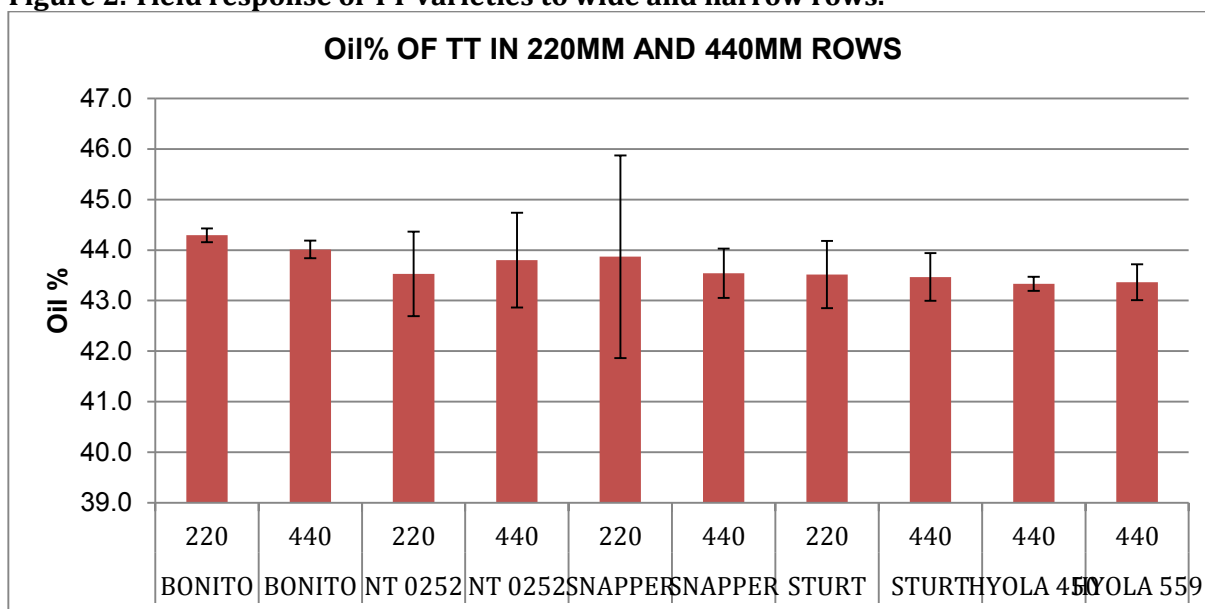


Figure 3. Oil response of TT varieties to wide and narrow rows.

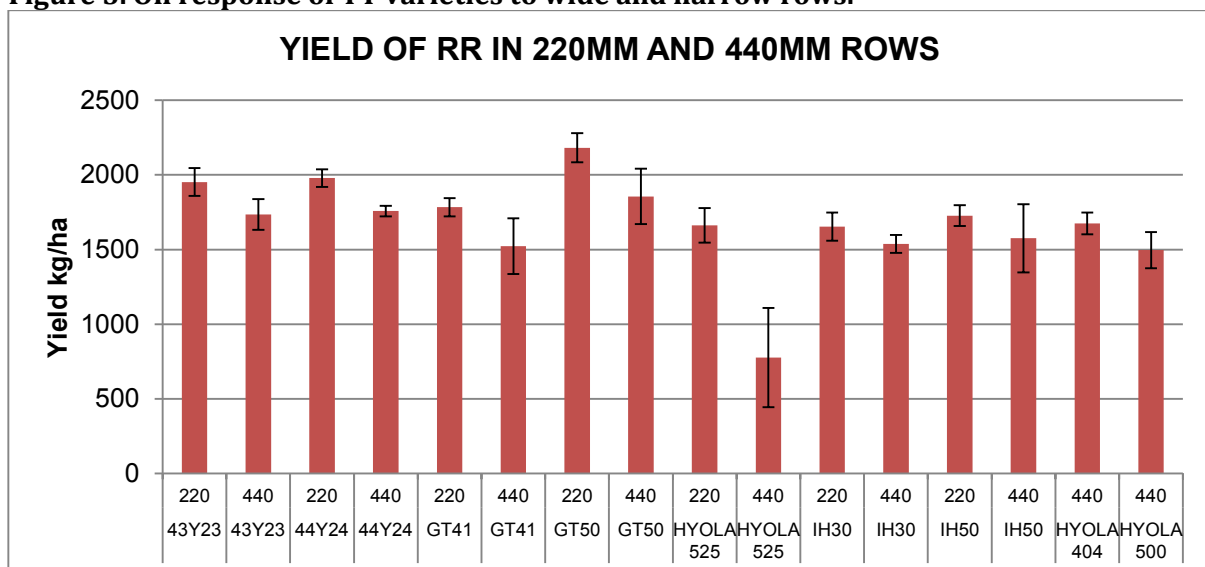


Figure 4. Yield response of roundup ready varieties to wide and narrow rows.

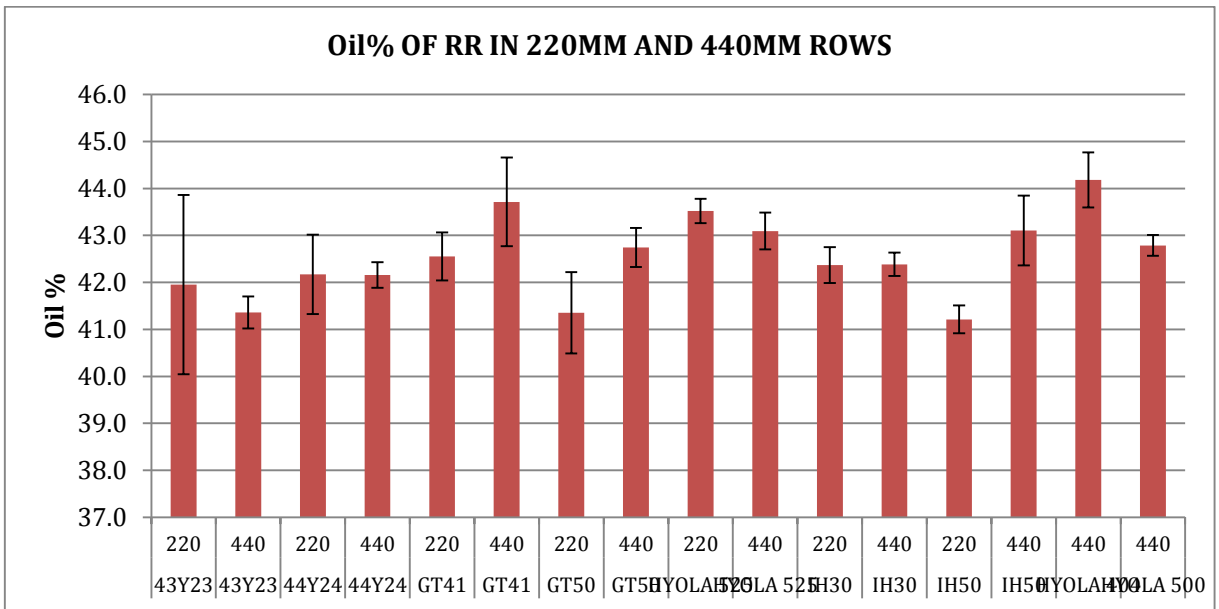


Figure 5. Oil response of roundup ready varieties to wide and narrow rows.

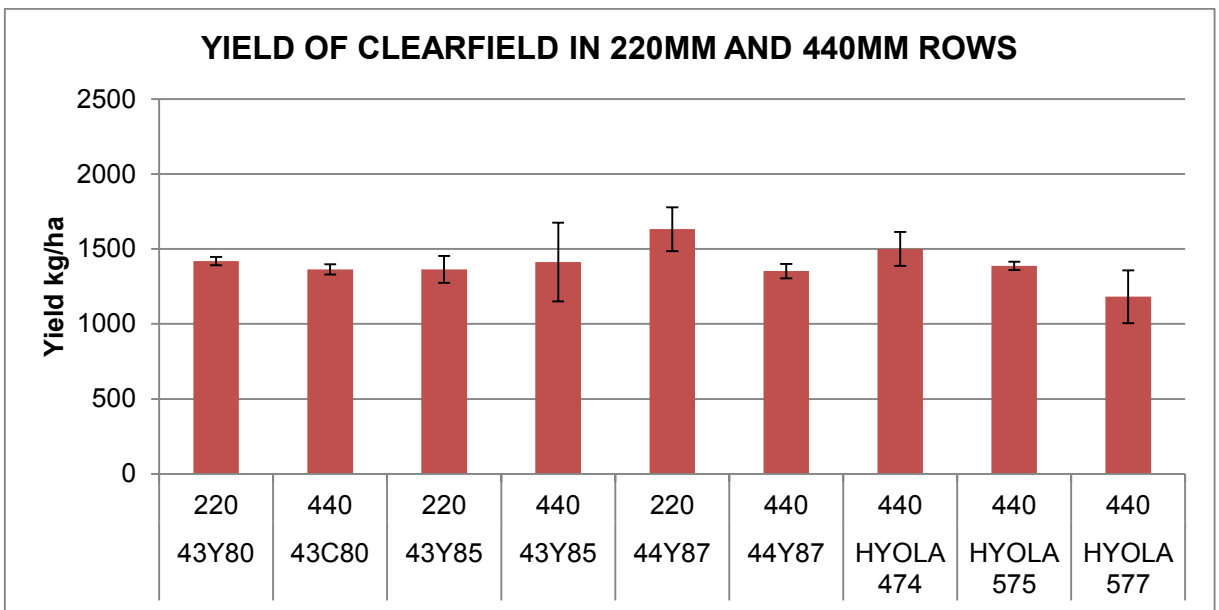


Figure 5. The response of IT varieties to wide and narrow rows.

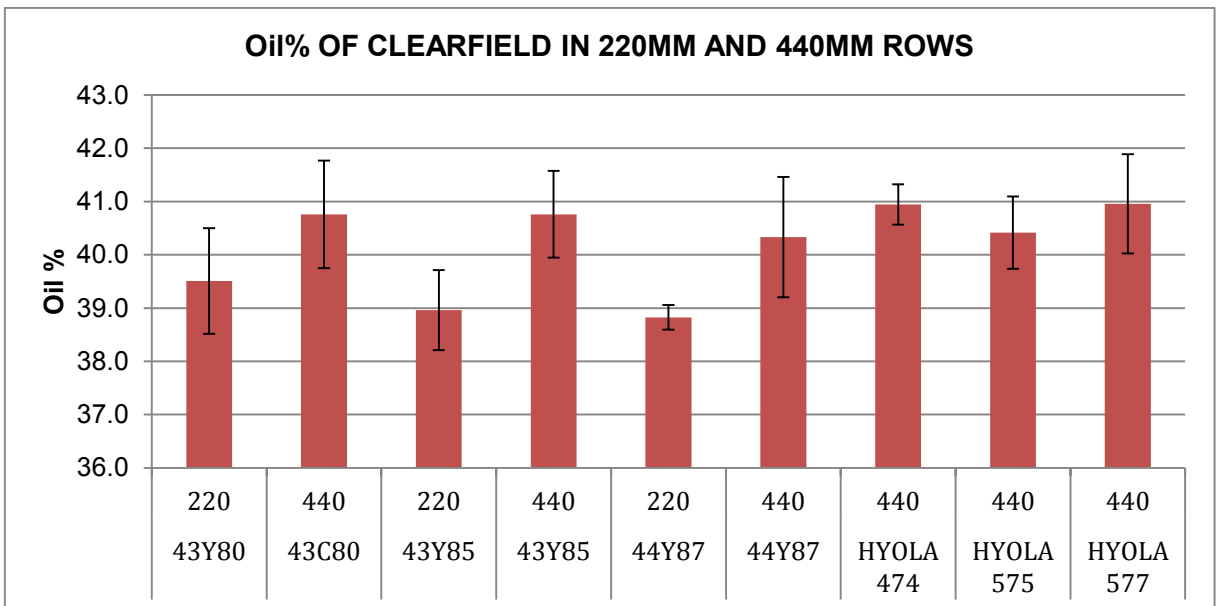


Figure 6. The response of IT varieties to wide and narrow rows.

Plot	Variety	Rep	Type of Canola	Row Spacing	plot yield kg/ha	Protein %	Moist. %	Oil %	oil 10% grain moisture.
1001	43C80	1	CLEARFIELD	220	1377	23.6	10.0	37.9	37.9
3003	43C80	3	CLEARFIELD	220	1429	24.2	9.5	40.4	40.2
1001	43C80	1	CLEARFIELD	440	1341	26.1	10.1	39.1	39.1
2006	43C80	2	CLEARFIELD	440	1330	23.8	9.7	42.0	41.9
3003	43C80	3	CLEARFIELD	440	1420	23.6	10.8	40.9	41.3
2002	43Y80	2	CLEARFIELD	220	1455	23.5	11.0	40.0	40.4
1002	43Y85	1	CLEARFIELD	220	1506	24.4	10.2	38.5	38.6
2003	43Y85	2	CLEARFIELD	220	1260	25.9	10.8	37.8	38.1
3001	43Y85	3	CLEARFIELD	220	1325	24.6	10.8	39.8	40.2
1004	43Y85	1	CLEARFIELD	440	1091	24.9	9.0	39.9	39.5
2003	43Y85	2	CLEARFIELD	440	1818	24.3	10.8	40.8	41.2
3001	43Y85	3	CLEARFIELD	440	1330	23.7	9.9	41.7	41.7
1003	44Y87	1	CLEARFIELD	220	1403	24.2	9.9	39.0	39.0
2001	44Y87	2	CLEARFIELD	220	1805	23.9	11.3	37.9	38.5
3002	44Y87	3	CLEARFIELD	220	1688	23.9	11.3	38.5	39.1
1002	44Y87	1	CLEARFIELD	440	1284	26.4	9.8	41.0	40.9
2004	44Y87	2	CLEARFIELD	440	1352	23.9	11.0	38.1	38.5
3006	44Y87	3	CLEARFIELD	440	1420	25.0	11.0	41.1	41.6
1005	HYOLA 474	1	CLEARFIELD	440	1318	26.0	10.5	40.2	40.4
2001	HYOLA 474	2	CLEARFIELD	440	1568	23.9	8.9	42.0	41.5
3004	HYOLA 474	3	CLEARFIELD	440	1614	24.0	10.9	40.5	40.9
1006	HYOLA 575	1	CLEARFIELD	440	1409	24.1	10.7	40.3	40.6
2005	HYOLA 575	2	CLEARFIELD	440	1341	23.6	8.6	41.9	41.3
3002	HYOLA 575	3	CLEARFIELD	440	1409	23.6	11.3	38.8	39.4
1003	HYOLA 577	1	CLEARFIELD	440	909	25.1	9.7	41.5	41.4
2002	HYOLA 577	2	CLEARFIELD	440	1239	23.6	11.1	39.0	39.5
3005	HYOLA 577	3	CLEARFIELD	440	1398	24.2	10.9	41.6	42.0
3007	43Y13	3	ROUNDUPREADY	440	1795	21.7	7.9	42.7	41.7
1002	43Y23	1	ROUNDUPREADY	220	1831	22.4	10.3	39.3	39.4
2005	43Y23	2	ROUNDUPREADY	220	1935	10.8	9.4	41.9	41.6
3002	43Y23	3	ROUNDUPREADY	220	2091	20.7	7.6	46.0	44.8
1001	43Y23	1	ROUNDUPREADY	440	1568	21.3	9.0	42.0	41.5
2006	43Y23	2	ROUNDUPREADY	440	1841	21.2	9.6	41.0	40.8
1003	44Y24	1	ROUNDUPREADY	220	1974	22.5	9.8	41.5	41.4
2001	44Y24	2	ROUNDUPREADY	220	1896	23.4	8.6	42.2	41.6
3006	44Y24	3	ROUNDUPREADY	220	2065	21.7	10.1	43.5	43.5
1007	44Y24	1	ROUNDUPREADY	440	1761	22.8	9.0	42.2	41.7
2002	44Y24	2	ROUNDUPREADY	440	1807	22.2	8.5	43.2	42.5
3006	44Y24	3	ROUNDUPREADY	440	1705	21.8	11.8	41.4	42.2
1007	GT41	1	ROUNDUPREADY	220	1727	23.5	9.0	42.3	41.8

2004	GT41	2	ROUNDUPREADY	220	1740	21.4	8.6	43.2	42.5
3007	GT41	3	ROUNDUPREADY	220	1883	21.9	8.5	44.0	43.3
1009	GT41	1	ROUNDUPREADY	440	1602	22.0	8.0	44.0	43.0
2004	GT41	2	ROUNDUPREADY	440	1227	22.4	8.0	43.8	42.8
3005	GT41	3	ROUNDUPREADY	440	1739	20.9	10.5	45.0	45.3
1001	GT50	1	ROUNDUPREADY	220	2052	21.5	9.2	40.3	39.9
2003	GT50	2	ROUNDUPREADY	220	2169	22.2	9.7	42.3	42.2
3005	GT50	3	ROUNDUPREADY	220	2325	21.4	9.9	42.0	42.0
1008	GT50	1	ROUNDUPREADY	440	1818	21.7	9.2	43.8	43.4
2009	GT50	2	ROUNDUPREADY	440	1614	20.7	9.8	42.6	42.5
3008	GT50	3	ROUNDUPREADY	440	2136	21.0	9.6	42.5	42.3
1003	HYOLA 404	1	ROUNDUPREADY	440	1784	21.3	7.5	45.6	44.4
2001	HYOLA 404	2	ROUNDUPREADY	440	1580	21.5	7.0	46.4	44.9
3003	HYOLA 404	3	ROUNDUPREADY	440	1659	20.9	8.7	43.9	43.3
1006	HYOLA 500	1	ROUNDUPREADY	440	1693	21.6	11.1	42.6	43.1
2005	HYOLA 500	2	ROUNDUPREADY	440	1375	20.9	9.4	42.8	42.5
3001	HYOLA 500	3	ROUNDUPREADY	440	1420	21.2	9.4	43.0	42.7
1004	HYOLA 525	1	ROUNDUPREADY	220	1506	22.3	9.0	43.6	43.1
2006	HYOLA 525	2	ROUNDUPREADY	220	1649	21.5	7.8	44.9	43.8
3001	HYOLA 525	3	ROUNDUPREADY	220	1831	22.4	9.2	44.0	43.6
1004	HYOLA 525	1	ROUNDUPREADY	440	489	22.2	7.9	43.9	42.9
2007	HYOLA 525	2	ROUNDUPREADY	440	523	21.5	11.6	41.9	42.7
3004	HYOLA 525	3	ROUNDUPREADY	440	1318	21.4	8.8	44.3	43.7
1005	IH30	1	ROUNDUPREADY	220	1558	21.8	8.7	42.5	41.9
2007	IH30	2	ROUNDUPREADY	220	1597	21.0	9.7	43.1	43.0
3003	IH30	3	ROUNDUPREADY	220	1805	22.6	8.2	43.1	42.3
1005	IH30	1	ROUNDUPREADY	440	1568	22.1	8.7	42.7	42.1
2003	IH30	2	ROUNDUPREADY	440	1443	21.7	8.7	42.9	42.3
3002	IH30	3	ROUNDUPREADY	440	1602	21.4	9.1	43.2	42.8
1006	IH50	1	ROUNDUPREADY	220	1636	22.2	11.4	40.4	41.0
2002	IH50	2	ROUNDUPREADY	220	1714	22.0	8.9	42.2	41.7
3004	IH50	3	ROUNDUPREADY	220	1831	22.9	10.9	40.5	40.9
1002	IH50	1	ROUNDUPREADY	440	1205	21.4	8.0	44.6	43.6
2008	IH50	2	ROUNDUPREADY	440	1784	21.0	10.6	43.5	43.8
3009	IH50	3	ROUNDUPREADY	440	1739	21.1	8.7	42.5	41.9
1002	BONITO	1	TRIAZINE TOLERANT	220	1377	20.6	9.6	44.7	44.5
2004	BONITO	2	TRIAZINE TOLERANT	220	1597	21.2	7.6	45.3	44.1
3003	BONITO	3	TRIAZINE TOLERANT	220	1857	20.2	9.7	44.4	44.3

1006	BONITO	1	TRIAZINE TOLERANT	440	602	21.8	8.1	44.7	43.8
2002	BONITO	2	TRIAZINE TOLERANT	440	1364	20.9	7.9	45.3	44.3
3001	BONITO	3	TRIAZINE TOLERANT	440	1477	20.6	10.8	43.6	44.0
1004	HYOLA 450	1	TRIAZINE TOLERANT	440	1477	22.4	7.5	44.4	43.2
2006	HYOLA 450	2	TRIAZINE TOLERANT	440	1557	21.1	10.7	42.9	43.2
3005	HYOLA 450	3	TRIAZINE TOLERANT	440	1682	22.3	9.7	43.7	43.6
1003	HYOLA 559	1	TRIAZINE TOLERANT	440	932	21.3	9.9	43.8	43.8
2004	HYOLA 559	2	TRIAZINE TOLERANT	440	1273	22.3	8.1	43.7	42.8
3006	HYOLA 559	3	TRIAZINE TOLERANT	440	1080	21.6	10.1	43.5	43.5
1004	NT 0252	1	TRIAZINE TOLERANT	220	1831	20.4	9.8	43.4	43.3
2003	NT 0252	2	TRIAZINE TOLERANT	220	1766	21.9	8.0	45.8	44.8
3001	NT 0252	3	TRIAZINE TOLERANT	220	1909	21.3	10.8	42.1	42.5
1005	NT 0252	1	TRIAZINE TOLERANT	440	1091	22.1	8.0	45.0	44.0
2003	NT 0252	2	TRIAZINE TOLERANT	440	1386	20.9	10.8	42.0	42.4
3004	NT 0252	3	TRIAZINE TOLERANT	440	1466	20.3	10.4	44.8	45.0
1003	SNAPPER	1	TRIAZINE TOLERANT	220	1195	20.6	9.8	45.0	44.9
2001	SNAPPER	2	TRIAZINE TOLERANT	220	1156	20.9	9.7	46.2	46.0
3002	SNAPPER	3	TRIAZINE TOLERANT	220	1195	22.7	8.8	41.2	40.7
1002	SNAPPER	1	TRIAZINE TOLERANT	440	1011	21.8	9.5	43.0	42.8
2001	SNAPPER	2	TRIAZINE TOLERANT	440	1068	22.1	8.3	44.9	44.1
3003	SNAPPER	3	TRIAZINE TOLERANT	440	1057	22.5	10.0	43.8	43.8
1001	STURT	1	TRIAZINE TOLERANT	220	1104	20.1	9.9	44.1	44.1
2002	STURT	2	TRIAZINE TOLERANT	220	1039	21.5	8.5	44.8	44.1
3004	STURT	3	TRIAZINE TOLERANT	220	1260	21.7	9.0	42.9	42.4
1001	STURT	1	TRIAZINE TOLERANT	440	1000	22.0	9.8	42.8	42.7
2005	STURT	2	TRIAZINE TOLERANT	440	1034	20.7	10.5	43.5	43.7
3002	STURT	3	TRIAZINE TOLERANT	440	1000	20.0	9.9	44.0	44.0