

Cooperative Cereal Grain Experiments

The following results are from experiments conducted in cooperation with the cereal project at OSU under the direction of Dr. Warren Kronstad.

Fertilizer rate. Table 12 shows the effect of nitrogen rates on the yield and bushel weight of nine varieties or selections of winter wheat. With nitrogen fertilizer at 25¢ per pound and wheat at \$4.00 per bushel, it would require a 10-bushel increase to pay for the fertilizer used.

It is interesting to observe that while all entries showed profitable increases to nitrogen fertilizer, the maximum increases, at least in this set of data, came at different levels of nitrogen fertilizers. Yamhill and HRW (Hard Red Winter) peaked at 80# of nitrogen, Nugaines, Hyslop and other lines peaked at 160# of nitrogen and McDermid, Hyslop 706 and two other lines gave their highest yield at 240# of nitrogen per acre. This peaking at a given fertilizer level could be interpreted as one variety being a more efficient user of nitrogen or it could mean that they are not capable of responding to a further improvement in their environment. Judging from their performance in Central Oregon, they are not capable of responding to improvement in environment. McDermid, at the other extreme, is capable of responding to environmental improvement (at least in relation to N) and therefore will be a more productive variety in Central Oregon.

In more general terms, it would appear that the optimum rate of nitrogen fertilization in the experiment would be between 80-160 pounds of N and that with the recognized adapted varieties such as Nugaines, Hyslop and McDermid, 160# of nitrogen rate resulted in profitable returns over the 80# rate.

While varieties reflected a difference in bushel weight, there were no N treatment differences in this experiment.

Seeding rate. An experiment was established evaluating the performance of three varieties of spring wheat seeded at three seeding rates, 30, 90, and 180# of seed per acre (Table 13). The seeding rate means indicate that the 90# seeding rate was approximately 10 bushels per acre higher in yield than the 30# rate and better or no different from the 180# seeding rate for the varieties compared. These values would probably vary depending on the date of seeding and if local experiences are correct. The later dates of seeding require higher rates of seeding to compensate for the reduction of tillering associated with the late seeding date.

This data does show, however, that at normal seeding dates there is no advantage to seeding rates above 90# of seed per acre.

Tables 14, 15, 16, 17, and 18 show the results obtained from the varietal yield trials of winter wheat, spring wheat, durum wheat and feed barley. The nurseries show the possibility of improvement in yield through a breeding program.

Table 12. The effect of nitrogen fertilizer rates on the yield and bushel weight of nine winter wheat cultivars, Madras, Oregon, 1974.

Variety or line	Yield in bushels per acre				Mean yield	Bushel weight				Mean bushel weight
	Pounds nitrogen per acre (1)					Pounds nitrogen per acre				
	0	80	160	240		0	80	160	240	
65-116-70MBW-2	107.90	95.18	113.90	131.10	112.02	56.5	56.5	56.6	57.3	56.7
Nugaines	89.80	106.90	129.10	115.80	110.40	58.4	57.7	58.4	57.5	58.0
Yamhill	92.80	108.30	105.00	103.60	102.43	55.1	54.8	54.4	54.8	54.8
Hyslop	109.30	113.80	121.30	114.40	114.70	57.2	56.4	56.1	57.7	56.9
McDermid	111.90	115.90	126.40	134.20	122.10	57.3	56.3	55.2	56.4	56.3
6720-27	110.30	97.30	120.60	111.40	109.90	55.2	54.0	55.3	54.5	54.8
HRW	89.90	129.80	111.70	107.60	109.75	57.4	57.3	57.5	57.9	57.5
67-237-69-S3H	102.60	118.30	117.60	125.90	116.10	56.9	56.5	56.6	56.4	56.6
Hyslop 706	108.40	112.90	116.60	124.80	115.68	57.3	57.1	57.4	57.5	57.3
Fert treat mean	102.54	110.93	118.02	118.75		56.8	56.3	56.4	56.7	

(1) Nitrogen applied as 33% Ammonium Nitrate.

Table 13. Wheat rate of seeding trial, Madras, 1974.

Variety	Seeding rate :	Yield bu/a	Rank
Twin	30#/A	64.8	3
Beaver	30#/A	50.3	8
Yecora	30#/A	56.0	7
	Ave	57.0	
Twin	90#/A	77.2	2
Beaver	90#/A	60.0	6
Yecora	90#/A	62.3	4
	Ave	66.5	
Twin	180#/A	77.8	1
Beaver	180#/A	50.3	9
Yecora	180#/A	62.2	5
	Ave	63.4	

Table 14. Advanced breeding yield trial of winter wheat, Madras, 1973-74

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodge %	Rank
White Holland	48.42	54.90	E1+	50	216
Redmond	77.25	55.40	E1	20	213
Ymh (Breeders)	105.16	55.54	E2+	0	179
Hys (Breeders)	115.38	56.80	E2-	0	114
Hys (Foundation)	107.60	55.68	"	0	168
Hys-smut free	119.22	57.02	"	0	90
Hys-Alum. susc	126.37	58.92	"	0	42
Hys-Alum. tolerant	122.85	57.51	E2	0	62
Luke	107.79	57.51	"	0	166
Paha	83.42	57.93	E2+	5	209
McDermid	111.66	57.23	E2	0	141
Nugaines	103.88	57.58	E2	0	182
OMW Rew	113.96	58.07	E1-	0	122
Wa 5989	105.98	57.16	E2+	0	176
Wa 5829	116.61	57.02	E2	0	107
Sprague	104.44	56.52	E2	0	180
Gaines	113.54	58.07	E2	0	125
6720	113.08	54.69	E2-	0	128
6720.68.4	112.82	53.43	"	"	131
6720.58.10	121.46	55.89	"	"	73
6720.68.38	111.60	56.95	"	"	142
6720.69.8	118.20	55.96	"	"	96
63.112.66.2S4H	112.70	56.80	E2	"	132
63.112.66.4	115.95	56.03	E2+	"	113
63.112.66.4S4H	103.63	56.80	"	"	183
63.130.66.7	109.25	55.61	E2+	0	156
63.130.67.1	107.32	56.73	"	"	171
65.116.70W	108.86	56.59	E1-	"	158
65.116.70MBW.2	114.69	56.80	E2+	"	118
67.237.69.33H	131.21	58.85	"	"	17
63.112.66.2.E.701	113.48	57.02	E2+	"	126
63.112.66.2..703	109.91	55.75	E2	"	153
63.112.66.MB.703	116.65	56.88	E2+	"	106
Hyslop 706	118.61	56.95	E2+	"	95
Hyslop 71	121.26	56.45	E1+	"	74
Hyslop-smut free-Pend.	119.30	57.51	E2+	"	87
70.4104	128.10		E1-		31
71 x 95	127.78	56.73	E1	5	33
71 x 114	109.17	56.95	E2+	0	157
71 x 6818	127.77	57.58	E1-	0	34
71 x 6900	124.41	56.66	E1-	0	52
71 x 8733	114.57	56.80	E1	0	119
71.9700	130.38	59.55			20
72.E32	128.76	57.72	E1-	0	28
72.E38	122.67	55.26	E1-	0	63
72.E89	112.43	56.31	E1	0	137
72.E146	118.87	57.02	E2+	10	94
72.E167	99.97	56.10	E1	0	191
Hyslop	117.10	57.09		0	105

Table 14. Advanced breeding yield trial of winter wheat, Madras, 1973-74

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodge %	Rank
Yamhill	107.46	56.59	mixed seed		170
72.E179	108.64	56.24	E1	0	163
72.E206	116.43	52.86	E1-	0	109
72.E317	112.27	57.72	E1-	0	138
72.E353	81.12	53.92	E2+	5	212
72.E375	90.20	55.89	E1-	0	203
72.E383	107.59	56.38	E1-	0	169
OWW69.057-3W5	127.55	55.61	E2+	0	37
72.E389	96.01	57.37	E1	10	197
72.E431	111.22	54.13	E1	0	145
72.E536	122.50	58.63	E1	0	64
72.1194	100.72	55.89	E1	0	189
72.1207	147.67	57.72	E1	0	1
72.1213	131.69	57.93	E1	0	16
72.1214	136.13	57.23	E1+	0	8
72.1216	127.55	58.14	E1-	0	36
72.1220	136.95	59.90			7
72.1232	116.28	55.54	E2+	0	111
72.1241	129.53	56.17	E1-	0	26
72.1242	122.50	56.45	E1-	0	65
27.1243	129.60	56.59	E1-	0	25
72.1245	128.79	56.52	E1-	0	27
72.1248	129.84	58.42	E1	0	22
72.1251	105.47	56.52	E1	0	177
72.1252	130.88	56.59	E1	0	19
72.1257	102.85		E1-	0	186
72.1287	134.62	58.21	E1	0	10
72.1332	110.06	56.17	E1+	0	151
72.1366	141.73	57.72	E1	0	2
72.1375	106.08				175
72.1429	123.91	56.17	E1+	0	58
72.1465	123.93	56.31	E1	0	57
72.1492	124.59	55.96	E1+	10	50
72.1538	128.05	55.96	E1-	0	32
67.237.33H.72	132.06	56.03	E1	0	14
67.237.69.7	122.28	52.93	E2+	0	68
Hein	114.06	56.80	E1+	30	121
FD 2915	117.65	54.48	E1	50	99
OWW69.016.1CB	117.61	56.80	E1	0	101
" 69.039.1CB	138.68	57.44	E1	0	3
" 69.059.1CB	132.38		E1-	0	13
" 69.175.1CB	93.08	53.21	E1+	25	201
" 69.181.1CB	111.37	53.07	E1-	0	144
" 69.205.1W5	115.36	56.31	E1+	0	115
" 69.205.2W5	114.31	57.37	E1+	0	120
" 69.205.3W5	106.95	21.54	E1+	0	173
" 69.204.1W5	124.92	55.04	E1-	0	49
" 69.204.2W5	112.49	56.45	E1	0	135
" 69.056W5	127.40	57.44	E1+	0	38

Table 14. Advanced breeding yield trial of winter wheat, Madras, 1973-74

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodge %	Rank
Hyslop	138.20	56.59	E1+	0	4
Yamhill	138.17	57.72	mixed		5
OWW69.068W5	120.13	63.07	E1+	0	80
" 69.059.1W5	125.71	58.14			46
" 69.059.2W5	137.00	58.63	E1+	0	6
67.237.69.24	119.31	54.34	E1-	0	86
7101	120.41	57.37	E1+	30	79
RN 5385.2A	119.50	57.79	E1	0	84
RN 5385.1A	111.14	56.88	E1	0	147
RN 5591.1A	99.26	59.20	E1+	0	192
Bezo I	126.19	52.86			43
OWW69.0441W5	120.42	56.59	E1	0	77
Aurora	94.83	58.56	E1+	0	200
Lov. 13	97.95	56.31	E1+	5	194
Rom. F. 8.70	112.48	57.51	E1	25	136
Rom. F. 9.70	109.27	57.30	E1	10	155
Rom. F. 49.70	97.84	55.40			195
Rom. F. 61.70	103.40	58.78	E1+		184
Cama	119.91	57.23	E1+	75	81
Bezo Outcross	95.95	57.86	E1+	75	198
71 x 69	122.41	56.80	E1+	25	66
67.136	103.27	55.75	E1	10	185
67.237.69.12	116.11	54.90	E1-	0	112
68.51.MB.701	119.44	57.58	E1-	0	85
69.142	117.24	55.12	E1-	0	104
71.938	111.16	54.48	E1	80	146
Lilifen	70.89	57.58	E1	0	215
72.1577	125.16	55.96	E1-	75	47
72.1557	124.39	55.61	E1		53
72.1048	124.02		E1	0	56
72.1268	132.55	56.59	E1	0	12
72.1355	116.35	54.55	E1-	0	110
71 x 118	127.62	56.95	E1	0	35
Czech	122.08	53.78	E1	0	69
Hys. Def.	132.05	57.86	E1-	0	15
Funone	110.08	55.82	E1	0	150
R37/Gohlis 1	101.92	56.03	E1+	0	187
Va 103	126.13	57.02	E1+	25	45
Houkei	82.81	55.89	E1	80	211
S46/69.Pole	87.50	55.19			206
S2080 70/71	89.25	59.13	E1+	0	205
OWW.70.001.1CB	111.52	56.03	E1+	25	143
" .69.056.1W5	123.44	55.89	E1		61
" .70.006.1CB	86.19	57.51	E1+	40	207
" .70.007.1CB	105.47	55.08	E1	25	178
" .70.010.1CB	99.17	52.72	E1	25	193
" .70.010.2CB	103.99	54.69	E1+	0	181
" .70.010.3CB	107.10	56.52	E1+	10	172
" .70.011.1CB	119.84	54.13	E1+	5	82
" .70.011.2CB	108.03	51.74	E1+	50	165

Table 14. Advanced breeding yield trial of winter wheat, Madras, 1973-74

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodge %	Rank
Hyslop	134.83	57.37	E1	5	9
Yamhill	109.73	55.75	E1+	25	154
OWW70.011.3CB	100.01	53.36			190
" 70.012.1CB	112.22	53.50	E1+	10	139
" 70.015.1CB	117.52	54.55	E1-	0	102
" 70.017.1CB	106.20	55.61	E1+	10	174
" 70.017.2CB	128.34	52.44	E1-	0	30
" 70.021.1CB	131.17	55.61	E1	0	18
" 70.021.2CB	110.92	56.03	E1+	0	148
" 70.033.1CB	123.54	57.30	E1+	10	59
" 70.033.2CB	123.48	55.33	E1-	0	60
" 70.033.3CB	120.55	49.20	E1-	0	76
" 70.033.4CB	129.82	56.10	E1	0	24
" 70.034.1CB	124.42	56.38	E1	0	51
" 70.034.2CB	122.05	55.40	E1-	0	70
" 70.034.3CB	119.00	55.82	E1-	0	92
" 70.119.1CB	126.18	55.12	E1	0	44
" 70.132.1CB	121.98		E1+	50	71
" 70.154.1CB	107.60	57.02	E1+	10	167
" 70.157.1CB	117.37	58.56	E1	0	103
" 70.120.1CB	112.82	56.59	E1+	5	130
" 70.130.1CB	119.24	55.12	E1	10	89
" 70.130.2CB	120.42	55.04	E1-	0	78
" 70.135.1CB	112.21	56.03	E1	0	140
" 70.135.2CB	121.06	56.10	E1	0	75
" 70.135.3CB	113.82	56.59	E1	0	123
" 70.135.4CB	112.57	53.07	E2+	0	134
" 70.135.5CB	128.49	58.56	E1-	0	29
" 70.135.6CB	132.84	55.47	E1-	0	11
" 70.135.7CB	127.26	56.31	E1	0	39
" 70.135.8CB	127.02	57.02	E1	0	40
" 70.135.9CB	122.29	55.40	E1	0	67
" 70.135.10CB	124.93	55.26	E1	0	48
" 70.135.11CB	114.90	55.54	E1-	0	117
" 70.135.12CB	109.96	54.62	E2+	0	152
" 70.135.13CB	117.62	55.61	E1-	0	100
" 70.135.14CB	119.75	54.90	E1-	0	83
" 70.135.15CB	108.66	56.31	E2+	0	162
" 70.135.16CB	108.83	54.90			159
" 70.135.17CB	119.27	57.51	E1-	0	88
" 70.135.18CB	110.32	54.20	E2	0	149
" 70.135.19CB	116.46	55.12	E2+	0	108
" 70.135.20CB	118.98	54.55	E2+	0	93
" 70.135.21CB	113.71	56.66	E1-	0	124
" 70.135.22CB	118.16	56.31	E2+	0	97
" 70.135.23CB	108.26	54.06	E1-	0	164
" 70.135.24CB	112.98	57.16	E1-	0	129
" .141.1CB	124.28	56.17	E1-	0	54
" .141.2CB	118.11	56.03	E2+	0	98
" .141.3CB	130.13	57.65	E2+	0	21

Table 14. Advanced breeding yield trial of winter wheat, Madras, 1973-74

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodg %	Rank
Hyslop	126.97	57.37	E2+	0	41
Yamhill	114.93	58.07	E1-	0	116
Lovvrim 10	83.09	57.30	E1	5	210
Pregordnaia	85.69	55.75	E1	5	208
Rom F.9.67	90.59	58.92	E1	10	202
Rom F.26.67	97.79	58.07	E1	5	196
Rom F. 50.68	101.71	56.73	E1	0	188
Brkulja.4	108.68	58.14	E1	0	161
Maris Huntsman	89.35	55.75	E1	0	204
OWW7145	121.91	51.03	E2	0	72
" 69.056.2W5	113.40	58.34	E1-	0	127
Druchamp	72.77	54.41			214
OWW69.057.1W5	112.64	57.23	E1-	0	133
" 69.057.2W5	124.04	58.49	E1	0	55
" 69.204.3W5	108.77	58.56	E1	0	160
" 69.204.4W5	95.60	58.07	E1	0	199
Hys F71.9	119.17	58.21	E1	0	91
OWW69.037-1W5	129.94	57.44	E1-	0	23

Table 15. Tri-state spring wheat nursery, Madras, 1974.

Variety	Yield bu/a	Test wt lb/bu	Plant height	Lodging	Rank
ID 0097	77.3	58.9	E1+		9
ID 0095	71.2	56.7	E1+		18
ID 0096	83.9	56.7	E1		4
ID 0098	72.8	59.1	E1-	10	16
ID 0099	85.5	57.0	E1	30	3
ID 0093	70.3	59.5	E1-	10	19
Springfield	83.5	55.7	E1-	30	5
Wared (Era Sib 2)	65.6	58.8	E1-	20	24
Anza	67.9	59.3	E1-	0	21
Maxigene 1651	66.0	60.0	E2+	40	22
MT 7156	74.2	58.6	E1-		13
Yecora 70	71.5	58.4	E2-	10	17
WA 7022	59.4	56.8	E1+	20	27
ID 0087	93.1	60.2	E1-	10	1
ID 0036	79.4	57.1	E1-	70	7
Sicco	74.0	56.1	E1+	0	14
Adams	68.1	59.1	E1-	40	20
Peak 72	65.0	59.6	E1-	10	25
ID 0094	78.5	58.8	E1-	0	8
Pitic 62	74.3	54.9	E1-	0	12
Beaver	64.3	57.2	E1	30	26
Borah 043	82.4	57.9	E2+	0	6
Fielder 044	86.2	60.1	E2+	0	2
N2 - 67	75.0	58.0	E1-	0	11
RPB 9-70	76.6	58.9	E2+	0	10
RPB 9-68	65.7	55.3	E1	0	23
N1 - 67	73.8	58.4	E1	10	15
Wandell (filler)		58.9			

Table 16. 1973-74 Spring bread wheat yield trial, Madras.

Variety	Yield bu/a	Test wt lbs/bu
Twin	79.48	59.48
Peak	62.32	58.28
F5#2-1	68.34	58.71
-2	67.40	57.72
-3	68.34	59.55
-4	66.50	57.65
-5	60.37	59.34
F5#3-1	53.61	60.40
-2	60.21	59.48
-3	58.58	59.48
-4	56.18	59.27
F5#4	64.9	59.34
F5#5-1	55.04	60.04
-2	60.04	60.82
-3	59.37	61.03
-4	60.24	63.21
-5	44.15	62.65
F5#6-1	57.09	59.97
-2	58.54	60.18
-3	65.27	60.40
-4	72.96	60.33
-5	55.24	59.62
-6	77.67	59.34
-7	80.29	60.47
Twin	85.34	57.66
Peak	59.83	58.92
F5#6-8	63.05	59.48
-9	82.80	60.75
-10	73.38	59.62
-11	76.07	59.62
F5#7	77.17	59.41
F5#8-1	63.08	60.11
-2	67.73	57.30
F5#9-1	58.54	57.09
-2	62.57	54.76
-3	63.13	55.33
-4	63.18	52.79
-5	56.66	55.47
F5#10-1	61.79	59.62
-2	55.79	62.23
-3	55.99	59.34
-4	69.25	59.20
F5#11	72.39	59.13
F5#12-1	76.59	61.03
-2	73.77	58.92
-3	72.58	59.20
-4	55.70	58.78

Table 16. 1973-74 Spring bread wheat yield trial, Madras, cont.

Variety	Yield bu/a	Test wt lbs/bu
F5#13-1	57.39	61.45
-2	80.70	61.94
Twin	85.45	59.27
Peak	70.08	59.62
F5#13-3	71.25	63.08
-4	65.74	60.96
-5	65.75	60.18
F5#14-1	84.81	60.18
-2	59.43	59.83
-3	76.99	58.99
-4	65.51	59.69
F5#16-1	74.17	59.90
-2	76.66	60.75
-3	77.29	60.82
F5#18-1	65.57	60.82
-2	77.72	61.52
-3	80.70	58.78
#19	78.28	59.41
#20	68.64	60.32
#21	85.57	58.57
#22	95.27	59.55
#23-1	84.05	61.59
-2	82.68	61.24
-3	75.62	60.89
#24-1	80.22	58.71
-2	83.03	58.07
-3	78.24	59.13
Twin	92.33	56.81
Peak	75.27	59.90
F5#26-1	80.45	62.51
-2	73.44	59.83
-3	69.23	62.01
-4	83.92	60.61
-5	94.94	60.32
-6	84.73	60.82
-7	82.81	61.03
-8	64.52	61.52
F5#27-1	60.36	57.51
-2	78.92	59.76
-3	64.05	57.37
-4	77.22	59.97
F5#28-1	77.85	60.11
-2	79.15	60.32
F5#29-1	72.57	60.11
-2	73.43	60.61
F5#30	96.82	61.10
F5#31-1	81.92	62.86
-2	78.87	58.71
-3	88.82	59.90

Table 16. 1973-74 Spring bread wheat yield trial, Madras, cont.

Variety	Yield bu/a	Test wt lbs/bu
F5#33-1	70.79	61.52
-2	76.91	61.03
#36-1	89.93	61.80
Twin	93.31	56.88
Peak	75.14	58.42
#36-2	76.03	57.72
-3	66.05	60.68
F5#39	80.16	55.40
#41	92.70	59.76
#43	75.31	59.48
#45-1	85.47	60.32
-2	78.16	59.83
-3	82.68	58.56
#46	83.75	60.89
#48-1	73.46	60.18
-2	66.30	58.92
-3	73.13	60.25
F5#50-1	74.20	58.56
F5#52	74.98	60.54
#53-1	84.10	60.11
-2	75.70	59.97
#54	67.58	60.04
#55	58.59	55.40
#56	58.08	59.69
#58-1	52.26	54.90
-2	62.65	52.09
-3	47.39	52.72
#59	64.52	59.55
Twin	81.61	58.07
Peak	60.56	59.97
#60	68.34	58.99
#65-1	72.75	58.64
#67-1	72.44	60.11
-2	80.65	58.78
#68-1	84.68	59.97
-2	75.60	60.32
#69-1	71.58	60.61
#71-1	71.02	58.63
-2	63.23	60.68
-3	55.71	61.10
#72-1	74.77	60.26
-2	79.83	59.98
-3	80.14	61.17
-4	77.14	60.61
-5	73.13	61.88
-6	79.40	61.60
-7	78.73	63.36

Table 16. 1973-74 Spring bread wheat yield trial, Madras, cont.

Variety	Yield bu/a	Test wt lbs/bu
F5#73-1	70.49	60.12
-2	69.24	60.19
-3	77.75	61.10
#77-1	72.27	61.45
-2	84.17	60.61
-3	73.03	63.00
Twin	87.45	59.62
Peak	73.33	59.84
#79-1	84.52	59.91
F5#72-2	68.91	60.26
#81-1	71.45	60.12
-2	81.28	61.88
-3	83.51	59.98
#84-1	76.65	59.69
-2	78.54	60.82
-3	74.49	58.15
-4	97.60	61.17
#85-1	68.71	58.50
#86-1	77.11	59.41
#90-1	59.90	60.96
-2	61.30	61.52
#91-1	58.33	59.69
-2	80.97	61.74
-3	60.76	60.89
#96-1	90.03	60.26
-2	87.12	60.82
-3	87.17	60.54
-4	72.74	60.68
-5	87.16	60.82
-6	89.96	60.82
-7	93.15	59.77
Twin	88.58	58.29
Peak	76.61	59.27
F5#102-1	82.44	57.65
#106-1	49.83	58.99
#134-1	81.81	58.08
#139-1	80.23	60.12
-2	87.87	59.41
-3	64.92	59.77
-4	63.12	59.34
-5	74.96	59.13
#141-1	99.35	59.34
-2	86.55	59.34
-3	89.29	60.68
-4	76.81	62.37
-5	88.77	59.62
-6	83.99	60.12

Table 16. 1973-74 Spring bread wheat yield trial, Madras, concl.

Variety	Yield bu/a	Test wt lbs/bu
F5#141-7	87.80	61.38
-8	76.05	59.62
-9	89.90	60.12
-10	85.69	61.24
F5#145-1	77.42	61.17
#164-1	67.72	58.50
-2	78.18	58.71
#65-2	82.92	60.61
#177-1	60.79	59.20
Twin	92.60	57.58
Peak	77.39	60.33
189-1	91.22	59.06
-2	79.50	60.82
-3	90.46	61.10
-4	76.83	60.12
191-1	104.58	59.20
-2	81.32	59.55
-3	97.45	60.82
-4	93.82	61.60
-5	82.41	59.77
-6	93.99	60.82
194-1	76.73	58.92
200-1	72.22	60.33
-2	82.04	59.84
-3	84.30	60.47
Twin	88.08	57.79

Table 17. Durum yield trial, Madras, 1974.

Variety	Yield bu/a	Test wt lbs/bu
0132	36.8	56.9
0158	53.0	55.4
5	53.1	55.0
0312	40.6	52.2
4790	48.2	54.9
4578	57.0	56.9
5	53.9	55.8
0158	40.1	53.9
132	44.8	58.1
10	48.6	55.5
74	51.2	55.2
110	67.5	58.0
100	71.6	56.6
10	62.4	57.5
31	54.1	59.0
25	59.4	55.9
41	72.9	58.0
31	55.3	57.2
25	70.3	54.7
Wandell	46.0	54.7
91	45.2	53.6
25	49.7	54.9
28	38.4	57.5
28	42.7	55.6
28	52.8	58.4
Selection X	65.5	58.6
10	64.0	59.6
5	79.2	58.5
Selection Z	73.2	60.3
10	81.1	58.3
28	78.7	57.4
Durum	73.5	59.0
Durum	66.5	60.1
10	93.3	58.7
Selection Q	66.7	56.6
28	77.8	55.6
25	74.6	55.4
25	66.6	56.5
25	71.9	59.3
Gerardo 574	71.7	60.0
T7205089	63.5	56.9
Gerardo 565	67.5	56.4
T7205088	63.9	56.5

Table 18. Feed barley advanced breeding yield trial, Madras, 1974.

Variety	Yield bu/a	Test wt lbs/bu
Zepher	103.54	54.8
Steptoe	99.93	50.3
Fb III	85.29	52.5
Klages	101.52	51.5
Foma	100.96	51.7
Mim 64.93	88.40	50.0
ID681241	91.60	48.5
Wocus (Or BIK) 69	88.89	48.1
Wocus69	91.30	48.2
Wocus71	90.40	48.2
Wocus/Grande	70.39	48.0
Grande/Pirolina	84.11	47.9
Wocus Bulk68-K	95.39	47.0
" " 68-K-6	81.71	47.7
" " 68-K-19	88.56	48.1
" " 68-K-21	74.73	46.5
65-143-1002	79.36	47.4
66-289-1507	71.89	47.9
10641 885-14-23 (hullless)	84.59	58.2
34956 RPB2	104.20	50.6
WA641566	107.49	48.9
CI1328	65.69	48.3
Butte	98.94	53.4
Aristan	92.52	49.3
MT72132	95.27	52.4
Burton	78.50	46.8
Vireo	110.05	52.4
Cygnat	103.71	53.1
ID153	102.15	50.1
Late Titan	97.49	50.6
61AB4745	90.52	50.5
Ingrid	98.19	52.8

Table 19. The effect of rate of nitrogen application on the yield and bushel weight of several cultivars of winter wheat. Madras, 1974.

Cultivar	Nitrogen fertilizer treatment pounds N per acre ⁽¹⁾					Ave. bu. wt.
	0	80	160	240	ave.	
	-----bushel per acre-----					
65-116-7OMBW-2	107.9	95.2	113.9	131.1	112.0	56.7
Nugaines	89.8	106.9	129.1	115.8	110.4	58.1
Yamhill	92.8	108.3	105.0	103.6	102.4	54.8
Hyslop	109.3	113.8	121.3	114.4	114.7	56.9
McDermid	111.9	115.9	126.4	134.2	122.1	56.3
6720-27	110.3	97.3	120.6	111.4	109.9	54.7
HRW (Hard Red Winter)	89.9	129.8	111.7	107.6	109.8	57.5
67-237-69-S3H	102.6	118.3	117.6	125.9	116.1	56.6
Hyslop 706	108.4	112.9	116.6	124.8	115.7	57.3
Ave. yield	102.4	110.8	117.9	118.6		
Ave. bu. wt.	56.8	56.2	56.3	56.6		

(1) Nitrogen applied as 33.5% ammonium nitrate.