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Wheat crop competitions

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WHEAT CROP COMPETITIONS

W.A. Flour Millowners' Assn. Series 1951/52

By I. THOMAS, Superintendent of Wheat Farming
and

H. G. CARISS, B.Sc. (Agric.), Agricultural Adviser

THE last issue of the Journal gave a review of the results of the 50-acre wheat crop competitions sponsored by the W.A. Flour Millowners' Association in 1948/49, 1949/50 and 1950/51, together with the championship awards for 1951/52. In this issue are set out the results for the individual zones in the 1951/52 competition, together with the judges' reports and details of each competitor's cultural operations.

ZONE 1

In Zone 1, Messrs. N. F. Hyde and Sons were successful in gaining first prize for the zone and third place in the Championship with a crop of Wongoondy calculated to yield 39 bushels per acre. This crop was sown during the third week in May, 60lb. of seed and 112lb. of super per acre being used. The paddock was originally timbered with Salmon gum and Gimlet. It was ploughed with a disk plough in June, 1950, under good conditions to a depth of 3in. and cultivated back in August. The crop was very even and stood well although

some shedding had occurred. It was free from disease and admixture.

The second prize was won by a crop of Mr. H. L. Kelsall. This crop, of the variety Kondut, was calculated to yield 40 bushels per acre. It was sown (on old land which originally carried York gum), during the first week in May using 48lb. of seed and 92lb. of super per acre. The paddock had been ploughed in July with a mouldboard plough to a depth of 3½in. to 4in. and was spring-tyne cultivated in September and disk cultivated in May prior to seeding. Some bad patches of take-all were

ZONE 1.

Field Judge—G. H. Neil, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
N. F. Hyde & Sons	Waddi Forest	Wongoondy	39	9	9	29	86
H. L. Kelsall	Moora	Kondut	40	8	7	29	84
A. J. Young	Three Springs	Bungulla	40	7	9	25	81
A. & G. H. Broad	Three Springs	Gabo	33	8	9	30	80
B. L. House & Co.	Watheroo	Kondut	36	8	8	28	80
E. Smart	Mingenew	Bungulla	37	9	9	25	80
C. Rayner	Carnamah	Bungulla	36	8	8	26	80
Sharp & Son	Carnamah	Bungulla	32	8	9	26	78
R. F. White	Miling	Bungulla	29	7	9	25	75
C. H. Gronow	Waddi Forest	Kondut	33	8	8	25	70
F. Wooton	Waddi Forest	Kondut	37	9	8	...	*
T. Morcombe	Waddi Forest	Kondut	36	9	8	...	*

* Baking strength of flour below minimum strength figure of 5 minutes.

ZONE 1.—CULTURAL DETAILS.

Competitor	Hyde, N. F. & Sons.	Kelsall, H. L.	Young, A. J.	Broad, A. & G. H.	House, B. L. & Co.	Smart, E.
Original Vegetation	Salmon and Gimlet	York Gum	Salmon Gum	York Gum	Salmon and Gimlet	York Gum and Jam
Years Cleared	Old land	Old land	Old land	Old land	Old land	Old land
Rotation	Fallow, crop, pasture	No crop for 10 years	Not cropped for a long time	Fallow, crop, oats, pasture	4 years pasture, fallow, crop	Fallow, crop, pasture
Ploughed	June, 1950	July	Aug.	July	Aug.	July
Condition of Land	Good	Good	Dry	Too dry	Good	Good
Implement	Disc	Mouldboard	Disc	Scarifier	Mouldboard	Disc
Depth	3in.	3½in. to 4in.	3½in.	3in. to 4in.	3½in.	3in.
Subsequent Cultivations	Disc cultivated Aug.	Spring tyne cultivated Sept., disc cultivated May	Scarified Sept., Oct., Apl.	Disc cultivated Oct., scarified Jan.	Combine cultivated Sept., and Jan.	Combine cultivated Sept., May
Planted	3rd week May	1st week May	4th week May	4th week May	2nd week May	last week May
Rate of Seed	60lb.	48lb.	50lb.	60lb.	43lb.	65lb.
Rate of Super	112lb.	92lb.	90lb.	72lb.	112lb.	90lb.
Disease		Take-all			Take-all	
Variety	Wongoondy	Kondut	Bungulla	Gabo	Kondut	Bungulla

Competitor	Rayner, C.	Sharp & Son.	White, R. F.	Gronow, C. H.	Wooton, G.	Morcombe, J.
Original Vegetation	Salmon Gum, York Gum	York Gum	Jam, York Gum	Salmon Gum, Gimlet	Salmon Gum, Gimlet	Salmon Gum, Gimlet
Years Cleared	Old land	Old land	Old clover land	Old land	Old land	Old land
Rotation	Fallow, crop	Crop, pasture, pasture	Not cropped since 1946	Fallow, crop, pasture, pasture	Crop, pasture, pasture, peas	Oats, pasture, fallow, crop
Ploughed	Aug.	Early May, 1951	May, 1951	June	Apl., 1951	June
Condition of Land	Good	Good	Good	Good	Good	Good
Implement	Disc	Scarifier	Disc	Scarifier	Scarifier	Scarifier
Depth	3in.	3in. to 4in.	3in.	3in.	3in.	3in.
Subsequent Cultivations	Scarified Apl, May	Disc cultivated mid-May	Disc cultivated June	Scarified Aug., disc cultivated May		Disc cultivated Sept., harrowed Feb., scarified Feb., harrowed Apl.
Planted	End May	4th week May	1st week June	Mid-May	1st week June	1st week May
Rate of Seed	60lb.	47lb.	55lb.	65lb.	60lb.	60lb.
Rate of Super	90lb.	100lb.	90lb.	120lb.	95lb.	112lb.
Disease	Take-all			Slight rust	Slight rust	Rust
Variety	Bungulla	Bungulla	Bungulla	Kondut	Kondut	Kondut

found in the crop together with some admixture.

The average for all crops judged in this zone was 35.4 bushels (range 28-

40) per acre, a good season being experienced.

The rainfall data for the centres concerned for 1951 is as follows:—

ZONE 1.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apl.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Waddi Forrest	137	154	22	314	77	283	258	176	143	40	977	...	51	1,655
Moora	9	75	7	378	128	375	253	180	67	60	1,063	46	139	1,717
Three Springs	94	118	9	295	87	563	338	158	179	55	1,380	5	57	1,938
Watheroo	104	111	7	377	149	385	319	164	94	47	1,158	25	134	1,916
Mingenew	51	65	9	275	126	622	321	178	157	78	1,482	2	38	1,922
Carnamah	117	126	19	215	84	502	278	136	187	44	1,231	9	152	1,869
Miling	30	71	2	219	128	365	216	173	107	68	1,057	3	209	1,591

The seasonal conditions in this zone were good, the season opening in April when well above average falls were recorded. Throughout the growing period satisfactory rains were received, those for both June and July being above average. Though October recordings

were below average most crops finished satisfactorily.

ZONE 2

The crop submitted by Mr. L. Carter of Morawa besides winning this zone, gained second place in the State cham-

pionship. His crop of Bungulla, was calculated to yield 45 bushels per acre. This crop was planted on country that had originally carried York gum, Jam and Salmon gum and had not been

cropped for at least seven years. The crop was very dense, well stooled, but rather uneven and had lodged in places. A trace of rust was found with some small patches of take-all. The crop was

ZONE 2.

Field Judge—J. A. C. Smith, Agricultural Adviser.

Twelve entries were received in this Zone and of these, nine were inspected. Points were awarded as follows :—

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
L. Carter	Morawa	Bungulla	45	9	8	25	87
N. F. Hyde & Sons	Latham	Wongoondy	36	9	9	26	80
O. J. Butcher & Son	Pithara	Wongoondy	32	9	9	27	77
G. R. Bartlett	Perenjori	Bungulla	31	9	8	25	73
G. B. Hebiton	Mendel	Bungulla	28	9	9	26	72
D. S. Hebiton & Sons	Wongoondy	Bungulla	29	9	8	25	71
M. L. Davies	Dalwallinu	Bungulla	34	8	9	.....	*
E. G. Heitman	Morawa	Bungulla	32	9	8	.....	*
S. G. Cole	Morawa	Kondut	31	8	9	.....	*

* Baking strength of flour below minimum strength figure of 5 minutes.

ZONE 2.—CULTURAL DETAILS.

Competitor	L. Carter.	Hyde, N. F. & Sons.	Butcher, O. J. & Sons.	Bartlet, G. R.
Original Vegetation	York Gum, Jam and Salmon Gum	Salmon Gum and Gimlet	Salmon Gum and Gimlet	Salmon, Gimlet and York Gum
Years Cleared	Old land	30 years	27 years	3 years
Rotation	Not cropped for at least 7 years	Fallow, wheat, pasture	Fallow, wheat, oats, pasture	Fallow, wheat, pasture
Ploughed	August	August	July	July
Condition of Land	Ideal	Hard	Ideal	Ideal
Implement	Disc	Scarifier	Disc	Disc
Depth	4 in.	2 in. to 3 in.	3 in. to 4 in.	5 in.
Subsequent Cultivations	Scarified Sept., Apr. 51, May, 51. Harrowed after planting in June	Cultivated Sept., Harrowed Jan., 51, Cultivated Feb., Harrowed after planting in May	Scarified Sept., Cultivated Apr., May	Ploughed back Aug., Cultivated Apr., 51
Planted	Mid June	1st week May	2nd week May	Early May
Rate of Seed	40 lb.	60 lb.	49 lb.	45 lb.
Rate of Super	90 lb.	112 lb.	113 lb.	70 lb.
Disease	Slight infection of rust			Take-all
Variety	Bungulla	Wongoondy	Wongoondy	Bungulla

Competitor	Hebiton, G. B.	Hebiton, D. S. & Sons.	Davies, M. L.	Heitman, E. G.	Cole, S. G.
Original Vegetation	Salmon Gum	Salmon Gum and Jam	Salmon Gum, Gimlet, Morrel, Ti-tree	Salmon Gum and Morrel	Salmon Gum
Years Cleared	Over 20 years	Over 20 years	40 years	40 years	30 years
Rotation	Fallow, wheat, wheat, oats, pasture, pasture	Fallow, wheat, wheat, oats	Fallow, wheat, pasture	Fallow, wheat, wheat, pasture	Fallow, wheat, pasture
Ploughed	Apr., 1951		June, 1950	April, 1951	July
Condition of Land	Very dry		Good	Dry	Good
Implement	Disc	Sunder seeder	Scarifier	Disc	Disc
Depth	3 in. to 4 in.		3 in.	2½ in. to 3 in.	3 in.
Subsequent Cultivation		Harrowed in June after planting	Scarified Aug., Apr., 51. Harrowed with planting	Harrowed with planting	Discd Sept., Cultivated late April, 1951
Planted	Mid-May	Late May	Mid-May	1st week June	End of Apr. beginning of May
Rate of Seed	60 lb	60 lb.	45 lb.	45 lb.	52 lb.
Rate of Super	90 lb.	112 lb.	90 lb.	90 lb.	107 lb
Disease		Slight infection of rust		Slight infection of rust	
Variety	Bungulla	Bungulla	Bungulla	Bungulla	Kondut

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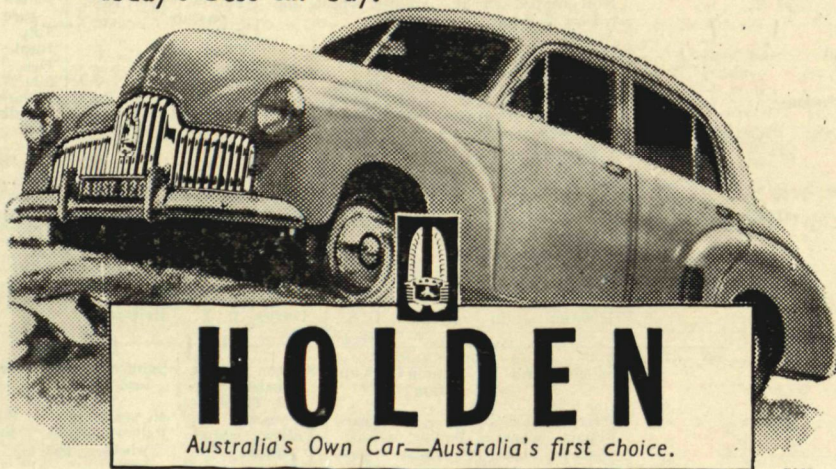
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sown in early June with 40lb. of seed and 90lb. of super per acre. Several days after seeding, the ground was harrowed.

Second in this zone was the entry of Messrs. N. F. Hyde and Sons, being a crop of Wongoondy calculated to yield 36 bushels per acre. The crop was planted in early May, the seed being sown at 60lb. and super at 112lb. per acre. The country (which originally carried Salmon gum and Gimlet) had

been cleared for 30 years and grown nine crops on a three year rotation. The land was fallowed with a scarifier in August and cultivated in September and February.

In this zone three entries failed to qualify because the baking strength of the flour was below the minimum strength figure of five minutes.

The rainfall data for the centres concerned for 1951 is as follows:—

ZONE 2.—RAINFALL DATA.

				Jan.	Feb.	Mar.	Apl.	Growing Period.						Nov.	Dec.	Total for Year.	
								May.	June.	July.	Aug.	Sept.	Oct.				Total.
Morawa	....	....	....	75	71	56	214	51	496	353	113	125	35	1,173	16	61	1,666
Latham	....	....	....	84	132	23	236	40	453	291	129	64	42	1,019	2	32	1,528
Pithara	....	....	....	38	102	....	261	75	419	192	168	68	50	972	9	54	1,436
Perenjori	....	....	....	160	108	....	192	39	435	344	90	73	21	1,002	....	31	1,493
Mullewa	....	....	....	85	172	2	317	119	402	311	135	60	23	1,050	1	125	1,752
Dalwallinu	....	....	....	70	138	14	203	90	479	217	167	37	43	1,033	5	92	1,555

The season was not an ideal one although it started off well with good falls in April and heavy rains in June and July. The falls in August, September and October were below average, preventing some crops from finishing well. Weed control was excellent due to the rains in January and later, those in April.

Despite difficult periods during the season, yields from the crops judged in this zone were highly meritorious, the average yield was 33.1 bushels per acre ranging from 28-45 bushels per acre.

ZONE 3

In this zone 11 entries were received by the Royal Agricultural Society and of these, eight were submitted to the

judge for inspection. Included in this zone also were the first and second place-getters in the Wyalkatchem Agricultural Society Competition (12 entries were received and seven crops judged). Altogether a total of 15 crops were inspected in order to determine the awards for this zone.

The winning entry was a crop of the variety Kondut grown by Mr. C. J. Halligan. This crop, in addition to gaining first prize in the zone, was awarded first prize in the State championship. The land on which the crop was grown originally carried York gum and Jam and had been cleared for 18 years. About eight years ago the paddock was sown to subterranean clover and Wimmera ryegrass, the rotation since practised on

ZONE 3.

Field Judge—J. A. C. Smith, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength	Total.
C. J. Halligan	Waddington	Kondut	43	9	9	29	90
Davies Bros.	Benjaberring	Bencubbin	39	9	9	25	82
P. E. & M. Cousins	Ballidu	Kondut	31	9	9	25	74
Elsegood & Sons	Wyalkatchem	Bencubbin	30	9	9	25	73
Pearson & Stewart	Wongan Hills	Wongoondy	25	9	9	30	73
W. H. Lines	Ballidu	Bungulla	28	9	9	25	71
T. J. Ward & Sons	Ejanding	Bungulla	28	8	9	25	70
J. H. Webb	Dowerin	Bungulla	25	8	8	26	67
Giblett & Knapp	Ballidu	Bencubbin	28	9	7	....	*
W. G. Shattock	Kondut	Bungulla	21	9	9	....	*

* Baking strength of flour below minimum strength figure of 5 minutes.

ZONE 3.—CULTURAL DETAILS.

Competitor	Halligan, C. J.	Davies Bros.	Cousins, P. E. & M.	Elsegood & Sons.	Pearson & Stewart.
Original Vegetation	York Gum, Jam	Gimlet	Morrel, Salmon Gum	Gimlet	Morrel, Salmon Gum and Gimlet
Years Cleared	18 years	12 years	42 years	30 years	30 years
Rotation	Crop, pasture, pasture, pasture	Fallow, wheat, pasture	Fallow, wheat, pasture	Fallow, wheat, pasture	Fallow, wheat, pasture
Ploughed	Apl. 1951	July	July	Feb. 1951	March, 1951
Condition of Land	Good	Sticky	Very good	Good	Good
Implement	Disc	Scarifier	Disc	Scarifier	Disc
Depth	2 1/2 in. to 3 in.	4 in to 5 in.	3 in.	4 in. to 5 in.	3 in.
Subsequent Cultivation	Harrowed with planting	Scarified Sept., Apl., harrowed with planting	Ploughed Sept., Apl., harrowed with planting	Ploughed May, harrowed with planting	
Planted	Last week Apl.	Early May	Mid-May	2nd week May	End of May
Rate of Seed	56lb.	45lb.	35lb.	45lb.	45lb.
Rate of Super	70lb.	90lb.	112lb.	85lb.	90lb.
Disease	Slight septoria	Very slight rust			
Variety	Kondut	Bencubbin	Kondut	Bencubbin	Wongoondy

Competitor	Lines, W. H.	Ward, T. J. & Sons.	Webb, J. H.	Giblett & Knapp.	Shattock, W. G.
Original Vegetation	Salmon Gum, Gimlet, York Gum	Gimlet, Mallee, Ti-tree	York Gum, Mallee	York Gum, Gimlet	Salmon Gum, Gimlet, Mallee
Years Cleared	35 years	40 years	15 years	14 years	
Rotation	Fallow, wheat, pasture	Fallow, wheat, pasture, pasture	Fallow, wheat, pasture	Fallow, wheat, pasture	Fallow, wheat, pasture
Ploughed	Aug.	July	Apl., 1951	Oct.	June, 1950
Condition of Land	Good	Very good	Good	Fair	Good
Implement	Scarifier	Mouldboard	Scarifier	Disc	Disc
Depth	4 in. to 5 in.	3 in. to 4 in.	5 in.	4 in.	3 in. to 4 in.
Subsequent Cultivation	Scarified late Aug., Sept., Oct., harrowed Feb., scarified Apl., harrowed May after planting	Disc cultivated Oct. cultivated Apl.	Cultivated Apl.	Cultivated Apl.	Scarified Sept., Nov., harrowed March, cultivated May
Planted	1st and 2nd week May	Early May	1st week May	1st week May	2nd week May
Rate of Seed	58lb.	52lb.	60lb.	45lb.	60lb.
Rate of Super	95lb.	112lb.	120lb.	90lb.	120lb.
Disease			Take-all	Stem rust	
Variety	Bungulla	Bungulla	Bungulla	Bencubbin	Bungulla

this farm being pasture, pasture, pasture, crop. The area was ploughed with a disk cultivating plough in the beginning of April and planted with a combine in the last week of May with 56lb. of seed and 70lb. of superphosphate per acre. The crop was calculated to yield 43 bushels per acre. It was well-grown, tall and free from any admixture, but had a slight trace of septoria.

Messrs. Davies Bros. were successful in gaining second place with a crop of Bencubbin calculated to yield 39 bushels per acre. This crop was well-known,

dense and free from any admixture. The original vegetation was Gimlet being cleared 12 years ago and the land has grown five crops to date. It had been fallowed in July to a depth of 4 in. to 5 in. with a scarifier, the soil being in a fairly sticky condition. It was scarified again in September and April and planted in the first week in May in semi-dry conditions. The rate of seed and super was 45lb. and 90lb. per acre respectively.

The rainfall data for the centres concerned for 1951 is as follows:—

ZONE 3.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apl.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Walebing	69	86	11	404	152	418	283	246	98	66	1,263	61	167	2,061
Ballidu	32	132	2	270	116	342	234	116	101	50	959	5	40	1,440
Wyalkatchem	65	136	18	280	91	310	181	97	42	51	772	61	87	1,428
Wongan Hills	159	72	5	239	128	336	214	169	79	39	965	71	58	1,569
Dowerin	135	71	10	273	111	340	169	114	76	45	855	47	65	1,456
Kondut	33	106	7	319	167	323	206	152	93	27	968	33	50	1,516

The season generally was satisfactory although falls in September and October were below average and did not permit of ideal finishing conditions. Most crops were planted under good conditions, weed control being excellent. A trace of rust was detected in some crops but on no occasion was the incidence very serious.

The range of crop yields was wide, yields of 21 bushels to 43 bushels being

obtained. An average yield of 27.3 bushels per acre was calculated for this zone.

ZONE 4

The number of entries for this zone was four, all of which were actually judged. Unfortunately owing to misadventure, no entries were received from the Mount Marshall Agricultural Society which usually enters the winners of the local competition in this zone.

ZONE 4.

Field Judge—H. G. Cariss, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
H. Creagh & Sons	Nungarin	Wongoondy	29	9	9	27	74
W. Hull	Yelbent	Bencubbin	31	8	8	26	73
J. A. O'Leary	Walgoolan	Bungulla	28	9	9	26	72
K. J. & C. J. O'Leary	Walgoolan	Bungulla	25	9	9	25	68

ZONE 4.—CULTURAL DETAILS.

Competitor	Creagh, H. & Sons.	W. Hull.	O'Leary, J. A.	O'Leary, K. J. & C. J.
Original Vegetation	Mallee-Jam, Salmon Gum and Gimlet	Mallee, Salmon Gum	Mallee and Gimlet	Gimlet and Salmon Gum
Years Cleared	40 years	37 years	Old land	28 years
Rotation	3 years	3 years	1st crop for 18 years	3 years
Ploughed	Last week in July	June-July	July	July
Condition of Land	Fair	Good	Good	Good
Implement	Disc cultivating	Disc	Scarifier	Disc cultivating
Depth	3 in. to 4 in.	4 in.	3 in.	3 in.
Subsequent Cultivation	Scarified late Sept., March, Apr., May	Scarified Sept., cultivated with a rigid tyne combine in Feb.		Ploughed back Aug., Apr.
Planted	12th to 14th May	1st week May	1st-2nd week in May	3rd week May
Rate of Seed	45 lb.	45 lb.	39 lb.	39 lb.
Rate of Super	90 lb.	90 lb.	70 lb.	70 lb.
Disease		Rust		
Variety	Wongoondy	Bencubbin	Bungulla	Bungulla

The winner was Messrs. H. Creagh & Son with a crop of Wongoondy calculated to yield 29 bushels per acre. This crop was planted during the second week in May with a spring-tyne combine using 45lb. of seed and 90lb. of super per acre. The land, which had been cultivated for 40 years under a three-year rotation, had originally carried Mallee, Jam, Salmon gum and Gimlet. The paddock had been ploughed during the last week in July with a disk cultivating plough to a depth of 3in. to 4in. It had then been scarified, about the end of October

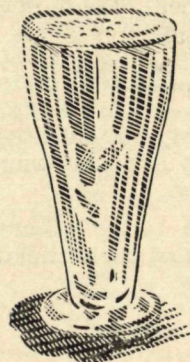
and later in March, April after rains, and again in May prior to seeding. No disease or admixture was found in the crop, although a crop of Bencubbin adjoining the entry was showing some incidence of stem rust.

Second place was awarded to Mr. W. Hull, with a crop of Bencubbin calculated to yield 31 bushels per acre. This land, which had been cleared since 1914, had carried five or six crops since 1933, at present a three-year rotation is being practised. Planting was commenced in the first week in May with a rigid-tyne



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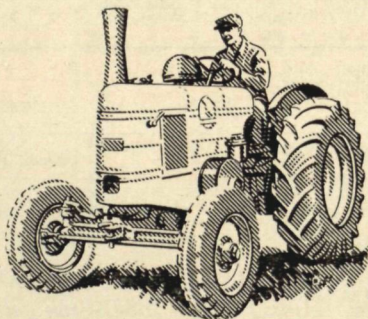
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combine using 45lb. of seed and 90lb. of super. The crop, which was reasonably tall and generally uniform, except for a few weak patches on the light soil, showed some incidence of stem rust par-

ticularly on the lighter soil where maturity had been delayed.

Details regarding the rainfall during 1951 at the centres concerned are as follows:—

ZONE 4.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apr.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Nungarin	98	259	21	252	95	226	185	110	21	31	668	18	193	1,509
Trayning	87	231	29	180	73	287	214	122	41	25	762	2	90	1,381
Walgoolan	81	180	25	156	59	252	124	79	61	24	599	32	123	1,196

Seasonal conditions were not good, although heavy falls were received in January, February and April. After the April falls the season opened reasonably well, the falls of May being below average. Up till the end of August, the crops made satisfactory progress, but the very dry conditions experienced during September and October brought the season to an early close. Most crops showed the effect of this dry period.

In this zone yields ranged from 25-31 bushels per acre and averaged about 28.3 bushels per acre.

ZONE 5

Seven entries were received by the Royal Agricultural Society for this zone, five being judged. The Bruce Rock Agricultural Society also entered the

ZONE 5.

Field Judge—H. G. Cariss, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
F. Dunwell	Narembeen	Kondut	40	9	8	26	83
D. Dunwell	Narembeen	Bencubbin	36	9	8	25	78
P. Strange	Yarding	Wongoondy	33	7	9	27	76
A. W. Latham	Narembeen	Kondut	28	8	8	30	74
T. E. Perry	Belka	Bencubbin	31	9	9	25	74
H. S. York & Son	Tammin	Bungulla	29	9	9	27	74
P. J. Bray	Narembeen	Bungulla	23	9	9	25	66

ZONE 5.—CULTURAL DETAILS.

Competitor	Dunwell, F.	Dunwell, D.	Strange, P.	Latham, A. W.	Perry, T. E.	York, H. S. and Son.	Bray, P. J.
Original Vegetation	Gimlet, mallee, Salmon, ti-tree	Gimlet, salmon gum, blackbutt, sandplain	Gimlet, Salmon, mallee	Gimlet, salmon, morrel	Salmon gum and gimlet	Salmon gum and gimlet	Salmon Gum
Years Cleared	20 years	20 years	25 years	26 years	38 years	40 years	25 years
Rotation	3 year	3 year	5 year now, 4 year previously	3 year	3 year	3 year	4 year
Ploughed	July	July	June	June-July	August	June-July	August
Condition of Land	Good	Good	Good	Good	Good	Good	Good
Implement	Mouldboard	Mouldboard	Scarifier	Mouldboard	Disc	Scarifier	Scarifier
Depth	2½ in. to 3 in.	2½ in. to 3 in.	3 in.	3½ in.	3 in.	3 in.	3 in.
Subsequent Cultivations	Scarified and Harrowed in Oct. Spring tyne cult. in Mar. and April	Scarified and Harrowed in Oct. Spring tyne cult. in Mar. and April	Scarified Sept., October. Ploughed back Feb. Scarified April	Spring tyne cultivated Sept. - Oct. Spring tyne cultivated in Mid - April	Scarified Sept., March	Disc ploughed Aug. Spring tyne cultivated in Mid - April	Scarified twice in Sep. Oct. Disc cultivated in Feb - Mar Scarified in May
Planted	Last week Apr.	Last week Apr.	1st week May	Mid-May	1st week May	End May	2nd week June
Rate of Seed	40 lb.	40 lb.	50 lb.	45 lb.	50 lb.	60 lb.	45 lb.
Rate of Super	90 lb.	90 lb.	112 lb	90 lb.	100 lb.	90 lb.	90 lb.
Disease	Very slight rust	Slight rust	Slight rust	Slight rust			
Variety	Kondut	Bencubbin	Wongoondy	Kondut	Bencubbin	Bungulla	Bungulla

first and second place-getters of their competition in this zone. This society received 12 entries and of these ten were inspected. To determine the awards for this zone, therefore, 15 crops were actually judged.

First prize in this zone was awarded to Mr. F. Dunwell with a crop of Kondut calculated to yield 40 bushels per acre. It was sown during the last week in April, using 40lb. of seed and 90lb. of super per acre with a spring-tyne combine. The land had been under cultivation for 20 years using a three-year rotation, and originally carried Gimlet, Salmon gum, Mallee and Ti-tree. It was ploughed during July with a mouldboard plough to a depth of 2½ to 3in. under good conditions; subsequent cultivations had consisted of scarifying and harrowing during October, followed by spring-tyne cultivation during March and April. The crop was well-grown and except for

a few weak patches, reasonably uniform and solid. It was free from admixture but had a slight trace of rust.

The crop of Mr. D. Dunwell which was successful in gaining second place, was a crop of Bencubbin calculated to yield 36 bushels per acre. It was sown on land which had mainly carried Gimlet, Salmon gum, Blackbutt and some scrub with a small area of light land and had been under cultivation on a three-year rotation for 20 years. The initial ploughing had been carried out with a mouldboard plough to a depth of 2½ to 3in. under good conditions, and subsequent cultivation had consisted of a scarifying and harrowing during October, followed by spring-tyne cultivations during March and April. The crop was well-grown and reasonably uniform but showing a trace of rust.

Rainfall figures during 1951 for the centres concerned are as follows:—

ZONE 5.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apr.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Narembeen	80	360	39	171	53	303	136	114	49	26	681	27	272	1,630
Bruce Rock	167	379	7	244	70	315	147	133	40	41	746	34	118	1,695
Tammin	87	144	28	311	60	368	129	110	29	38	734	29	54	1,387

Seasonal conditions were somewhat similar to those experienced in Zone 4. September and October were very dry and only fair finishing conditions were experienced. Even though the season finished rather unsatisfactorily, the average for all crops in this zone was 30.8 bushels per acre ranging from 22-40 bushels per acre.

ZONE 6

In this zone there were originally ten entries, two of these however did not comply with the conditions of the competition and one was withdrawn, seven crops being actually judged.

The winner in this zone was Mr. E. H. Wright with a crop of Kendee calculated to yield 39 bushels per acre. It was planted in mid-May with a spring-

tyne combine, using 60lb. of seed and 100lb. of super per acre. The area had been cultivated for about 30 years and fairly heavily cropped prior to 1940, the last crop prior to the present one being sown in 1943. The land, which had originally carried White gum, Morrel with some Mallet, had been ploughed in July with a mouldboard to a depth of 3 to 4in. under good conditions, spring tyne cultivated in October and in early May, prior to seeding. The crop was well-grown and had stood up to the stormy conditions very well and except for very few weak patches, was uniform and solid. It was also very free from disease and admixture.

The competitor gaining second place was Mr. W. B. Stewart with a crop of Wongoondy calculated to yield 38 bushels

ZONE 6.

Field Judge—H. G. Cariss, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
E. H. Wright	Gnowangerup	Kendee	39	9	9	26	83
W. B. Stewart	Borden	Wongoondy	38	9	9	26	82
A. W. Rout	Borden	Wongoondy	44	9	9	.....	*
W. J. Kean	Gnowangerup	Bencubbin	35	9	9	.....	*
G. E. P. Wellard	Gnowangerup	Bencubbin	33	9	9	.....	*
G. R. Moir	Borden	Wongoondy	30	9	9	.....	*
W. G. Blackall	Katanning	Kondut	25	9	8	.....	*

* Baking strength of flour below minimum strength figure of 5 minutes

ZONE 6.—CULTURAL DETAILS.

Competitor	Wright, E. H.	Stewart, W. B.	Rout, A. W.	Kean, W. J.	Wellard, G. E. P.	Moir, G. R.	Blackall, W. G.
Original Vegetation	White Gum, Morrel, Mal-let	York Gum, Morrel, Mort	York Gum	York Gum, Jam, Yate	Salmon Gum	York Gum, Morrel	White Gum, Jam, Salmon Gum
Years Cleared	30 years	Old land	13 years	Old land	Old land	30 years	Over 40 years
Rotation	Heavily cropped prior to 1940. Last crop in 1943	Lucerne, 5-6 years	5 year	5 year	5 year	Last cropped 6 years ago. Mainly oats grown	Now 3 pasture, 1 wheat and previously 2 pasture, fallow, wheat
Ploughed	July	Aug.	End June	Early July	Aug.	1st week Aug.	End Apl.
Condition of Land	Good	Fairly good	Good	Good	Hard	Good	Good
Implement	Mouldboard	Disc	Scarifier	Skim mould-board	Disc	Scarifier	Scarifier
Depth	3in. to 4in.	3in. to 4in.	3in.	3½in.	3½in.	3in.	2in. to 3in.
Subsequent Cultivations	Spring tyne cultivated in Oct., spring tyne cultivated in early May	Scarified late Sept., Nov., Feb., early May	Disc cultivated 2nd week Oct., scarified Apl., spring tyne cultivated in 1st week in May	Scarified Sept., Oct., end May, prior to seeding	Disc harrowed Oct., Nov., spring tyne cultivated late March	Scarified Oct., disc cultivated Nov., scarified Feb., disc cultivated prior to seeding	Scarified 3rd week in May
Planted	Mid-May	1st week June	4th week May	End May	2nd and 3rd week May	1st week in June	End May
Rate of Seed	60lb.	60lb.	60lb.	58lb.	50lb.	45lb.	49lb.
Rate of Super	100lb.	112lb.	100lb.	112lb.	90lb.	90lb.	92lb.
Disease							Take-all
Variety	Kendee	Wongoondy	Wongoondy	Bencubbin	Bencubbin	Wongoondy	Kondut

per acre. The crop was sown on old land which had been under lucerne five to six years ago, but only odd plants were evident in the crop. Seeding was carried out during the first week in June, using 60lb. of seed and 112lb. of super per acre. The land, which had originally carried York gum, Morrel and a little Mort had been ploughed with a disk plough during August to a depth

of 3 to 4in. under fairly good conditions, it had subsequently received several cultivations, being scarified late September, November, February and early May. It was a good even crop, free from disease and admixture, standing well and very little shedding had occurred.

Rainfall figures during 1951 for the centres concerned are as follows:—

ZONE 6.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apl.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Gnowangerup	50	104	13	183	123	251	118	130	223	78	923	134	145	1,552
Borden	69	155	12	180	154	343	123	217	241	86	1,164	105	192	1,877
Badgebup	128	141	17	171	155	259	144	149	255	107	1,069	118	276	1,920

The good falls in April, May and June made conditions somewhat difficult for seeding due to waterlogging. Crops, however, made satisfactory growth throughout the latter part of the growing period and finished well. Heavy rains in November caused some damage in some instances.

It was unfortunate that five of the crops judged were below the minimum baking strength figure of five minutes,

the exceptionally heavy winter rains possibly being one of the contributing factors to the low strength figures obtained. Yields per acre ranged from 25-44 with an average of 34.9 bushels.

ZONE 7

Originally six entries were received with the Royal Agricultural Society for this zone, but only two remained for judging.

ZONE 7.

Field Judge—L. D. White, Agricultural Adviser.

Name.	Address.	Variety.	Yield.	Freedom from Admixture.	Freedom from Disease.	Baking Strength.	Total.
E. O. Bahr & Son	Kukerin	Gabo	29	9	8	30	76
R. S. Kent	Kukerin	Bencubbin	27	7	9	26	69

ZONE 7.—CULTURAL DETAILS.

Competitor	Bahr, E. O. & Son.	Kent, R. S.
Original Vegetation	York Gum, Salmon Gum and Morrel	Salmon Gum and morrel
Years cleared	Over 30 years	Over 30 years
Rotation	4 year	3 year
Ploughed	July	July
Condition of Land	Fairly Hard	Good
Implement	Dise	Disc cultivating
Depth	4 in.	2½ in.
Subsequent Cultivation	Scarified Oct. Combine end of April	Part cultivated with a rigid tyne combine in Nov. The rest in late April.
Planted	1st week in May	Mid-May
Rate of Seed	35 lb.	50 lb.
Rate of Super	90 lb.	105 lb.
Disease	Slight Septoria	
Variety	Gabo	Bencubbin

The entry of Messrs. E. O. Bahr & Son was successful in gaining first prize, being a crop of Gabo calculated to yield 29 bushels per acre. It was grown on land which originally carried York gum, Salmon gum and Morrel and had been cleared for over 30 years. The crop was planted during the first week in

May using 35lb. of seed and 90lb. of super. The paddock had been ploughed in July to a depth of 4in. under fairly hard conditions and was subsequently scarified in October and cultivated at the end of April. Some evidence of septoria was found throughout the crop.

Mr. R. S. Kent gained second prize with a crop of Bencubbin calculated to yield 27 bushels per acre. The crop was sown on old land which had originally carried Salmon gum and Morrel. It was planted during mid-May, using 50lb. of seed and 105lb. of super. The ground was first worked in July with a sunder-cut to a depth of 2½in. under favourable conditions. Part of the paddock was subsequently cultivated back in November, the rest being completed in April. The crop was free from disease, but contained a fair amount of admixture.

Rainfall figures during 1951 for the centres concerned are as follows:—

ZONE 7.—RAINFALL DATA.

	Jan.	Feb.	Mar.	Apr.	Growing Period.							Nov.	Dec.	Total for Year.
					May.	June.	July.	Aug.	Sept.	Oct.	Total.			
Kukerin	95	201	31	266	130	248	157	202	238	165	1,140	31	230	1,994

The season was a very wet one, opening with good falls in April. Good rains were received through the growing period with particularly good finishing

rains in September and October. Storms in some districts however caused severe damage and the withdrawal of several crops.

DISCUSSION

The present competition has now been conducted for six seasons and it is therefore appropriate to discuss some of the features associated with the results obtained.

Like other wheat crop competitions of the past, this one promotes healthy competition between farmers who realise that sound methods of crop husbandry are essential if the Championship award is to be won. The lessons to be learnt are therefore of benefit to agriculture as a whole and to wheat farming in particular.

At the same time when the crops are judged, the judge obtains details covering the cultural practices of the crops concerned and from a study of the data for the individual entries, it is possible to assess the reasons for the high or comparatively low yield obtained. Short comments are given on several of the factors concerned.

Yields.—With each year of the competition the yields recorded have been notable for their excellence. The average yield per acre for all zones ranging from 26.1 bushels per acre for 1946 to 31.1 bushels per acre for 1951, with a general average for the six years of 28.8 bushels per acre. Zone average yields have ranged from 22.6 bushels per acre for Zone 4, to 34.5 bushels per acre for Zone 6. In Zone 6 the yields have always exceeded 30 bushels per acre, and Zone 2 has exceeded 30 bushels in every year but 1948.

The highest individual crop yield, 47 bushels per acre, was recorded in 1951.

The yields obtained in this competition are considerably in excess of the long-term State average and do indicate that the State yield per acre could be raised appreciably if every farmer only improved his practices to even a small degree.

Varieties.—With this competition the varieties eligible to compete are stipulated in the rules. At present, these varieties are eleven in number, but in

every year, the major proportion of the crops entered have either been Bungulla or Bencubbin. Over the period approximately 50% of the crops were sown to Bungulla, 25% to Bencubbin, 12% to Kondut and 5% to Wongoondy.

From a persusal of the individual zone results and having regard to the quite high percentage of entries from the medium to lower rainfall districts, a high percentage of Bungulla and Bencubbin crops could be anticipated. Both Bencubbin and Bungulla have returned some excellent yields and though it has not achieved a championship the former has won ten zone firsts, and the latter, in addition to winning the Championship in 1946, has won 13 zone competitions.

The late midseason variety Kondut has always performed meritoriously and has now won nine zone competitions as well as the State Championship five times in succession. This variety is particularly useful for the medium to higher rainfall conditions and though it is not rust resistant, is very suitable on account of its good straw strength for seeding on ploughed up clover ley land. Wongoondy, like Kondut, is also of good straw strength and capable of producing flour of good quality and has gained in popularity over the past few years, 15% of the competing crops being sown to this variety in 1951. It is a free stripping variety and has recorded some excellent yields in the State as well as in this competition.

Rotational Practices.—Though in quite a number of cases it has not been possible to determine the long-term rotation practices on the individual properties, a study of the data obtained would indicate that in many cases the rotation has been too short and that too consistent cropping has been reflected not only in the yield but in the quality of the grain. Where a longer rotation has been used of recent years, grain quality in particular has shown a marked improvement.

Flour Quality.—A unique condition of the competition is that points are allotted for the flour quality (baking strength) as determined on the farinograph. Practically every year the strength figures have been of importance in determining both the Championship awards and place-getters in the individual zones.

Perusal of the results show that there has been considerable variation between the years in the number of crops obtaining the maximum, or near maximum, number of points for quality and within the last two seasons in particular, there have been a greater number of crops either not qualifying, or recording low strength figures.

In the results for 1951 in particular, a much larger number of crops failed to qualify than in any previous year, and included one calculated to yield 44 bushels per acre. Having regard to the seasonal conditions it appears that the reason for the low strength figures obtained could be the result of the excessively heavy rains recorded during the early winter period. It should be

stressed here that no matter how high the inherent characteristics for strength of the variety, it is not possible for it to produce to its maximum capacity unless seasonal climatic and soil conditions are satisfactory. Each year one or more crops grown on the heavier forest country have also returned low strength figures which can be attributed to the run-down condition of some paddocks due to over cropping, erosion and lack of leguminous pasture species.

Though there has been considerable variation, the results from this competition definitely show that under suitable soil and climatic conditions, together with sound rotational and cultural practices, that the standard recommended W.A. varieties are capable of producing not only high yields but grain of above standard flour quality and satisfactory for local bakers' requirements.

Arrangements have been made for this competition to be again conducted for the 1952-53 season, entries closing with the Royal Agricultural Society on September 12th, 1952.

BACTERIAL CULTURES

PRICE INCREASES ANNOUNCED

PRICES of bacterial cultures prepared by the Department of Agriculture for the inoculation of legume seeds have now been increased. The new prices are 2s. for a 1 oz. bottle; 3s. for a 2 oz. bottle and 7s. 6d. for the 8 oz. size. Old prices were 1s. 6d., 2s. 6d., and 5s. respectively.

Owing to the heavy demand for these cultures it has been found necessary to employ larger laboratory staffs and purchase extra equipment. Postage and materials cost far more today than when the service was inaugurated, and it is felt that a price increase was justified in view of the fact that prices of cultures had previously been unchanged for more than 15 years.