

resistance to stripe rust, susceptible to stem and leaf rust. Intermediate resistance to yellow spot, moderate resistance to flag smut, susceptible to both *Septoria tritici* and *Nodorum* blotch. Good tolerance to high levels of soil Boron and Aluminium. Season: spring.

Origin and Breeding Controlled pollination: seed parent 'Spear' x pollen parent 79W:781 (fixed line 'Bodallin'/'Eradu') in a planned breeding program. The seed parent is a white chaffed, fully awned spring wheat as is 'Karlargin'. The pollen parent is a soft grained, white chaffed, fully awned spring wheat. 'Karlargin' is a hard grained wheat. The original cross was made in 1987 and the variety was developed by the F₂ bulk progeny method. The F₂ selection was carried out in 1988 with reselection at F₅ in 1991. Selection criteria: grain yield, grain quality, tolerance to soil Boron and Aluminium. Propagation: by seed through 5 generations of selection and testing in small scale breeders trials and 7 generations of performance testing by Agriculture Western Australia's Crop Variety Testing Program in various regional locations in Western Australia. Breeder: Dr Iain Barclay, Agriculture Western Australia, South Perth, WA.

Choice of Comparators 'Spear' was chosen as comparator because it is a white chaffed, fully awned, spring wheat of similar mature height to 'Karlargin'. 'Spear' is also the seed parent of 'Karlargin'. 'Bodallin' was chosen as comparator because it is a hard grained, white chaffed, fully awned, spring wheat and constitute part of the pedigree of the pollen parent 79W:781 ('Bodallin'/'Eradu'). Both comparators are varieties of common knowledge.

Comparative Trial Comparators: 'Bodallin', 'Spear'. Location: Avon Districts Centre for Cropping Systems, Northam WA. Sown 2/6/99. Conditions: plants raised in red loam pH 5.6 in CaCL₂ in open beds. The plots were treated with glyphosate on 30/5/99, Hoegrass® at 1.5l/ha on the 1/7/99 was applied for grass control. Brodal® at 150 ml/ha on 7/7/99 was applied for wild radish control, no treatment for disease or insect control was required. Agras No 1 at 120 kg/ha was drilled with the seed and Urea at 80 kg/ha was topdressed at early tillering. Trial design: plants sown in randomised complete blocks in 10m x 1.42m plots (8 rows) with 2 replications. Measurements: taken from 10 plants per replicate selected randomly from approximately 2000 plants. One sample per plant.

Prior Applications and Sales Nil.

Description: **David Collins**, David Collins Consulting, Northam, WA.

Table 56 *Triticum* varieties

	'Karlargin'	*'Bodallin'	*'Spear'
DAYS TO EAR EMERGENCE			
mean	106.62	96.25	113.1
std deviation	2.21	1.68	1.33
LSD/sig	2.89	P≤0.01	P≤0.01
FLAG LEAF LENGTH: at ear emergence (mm)			
mean	196.83	233.6	221.45
std deviation	24.56	30.13	30.78
LSD/sig	23.48	P≤0.01	P≤0.01

FLAG LEAF			
attitude tendency	erect	recurved	recurved
auricle anthocyanin			
	very strong	absent	absent

AWN LENGTH: at tip of primary ear (mm)			
mean	53.04	50.69	63.52
std deviation	6.78	8.45	6.12
LSD/sig	6.1	ns	P≤0.01

GLUME BEAK LENGTH: from mid third of primary ear (mm)			
mean	5.93	4.13	3.24
std deviation	0.76	0.82	0.83
LSD/sig	2.48	ns	P≤0.01

STRAW PITH IN CROSS SECTION			
	thin	thick	thin

'Lang'

Application No: 1999/325 Accepted: 9 Dec 1999.

Applicant: **The State of Queensland through its Department of Primary Industries, Brisbane, QLD and Grains Research and Development Corporation, Barton, ACT.**

Characteristics (Table 57, Figure 48) Plant: spring wheat, habit intermediate during tillering, height medium (mean 87cm), maturity medium. Stem: pith thin to medium. Leaf: flag leaf recurved to strongly recurved, flag leaf ligule anthocyanin absent or very weak, flag leaf sheath glaucosity weak to medium. Ear: density medium to dense (node length 4.34mm), length short (mean 87mm), shape in profile tapering to parallel, colour white, glaucosity medium, awns present and short (mean 50mm). Floret: lower glume beak length short to medium (mean 5.5mm) lower glume shoulder narrow. Grain: white and hard.

Origin and Breeding Controlled pollination: seed parent QT3765 x pollen parent 'Sunco' in a planned breeding program in 1987. The selected F₅ line designated as QT7029, grown in 1993, comprised the progeny of a single F₄ plant. Five years of selection and/or evaluation, including field performance testing, milling, baking quality and disease resistance evaluation, and removal of off-types from QT7029 have occurred since 1993. QT7029 was renamed 'Lang' in 1999. 'Lang' was developed as a typically intermediate maturing winter-sown wheat well adapted to the northern wheat-growing region of Australia. Selection criteria: high yield, good agronomic characteristics and high disease resistance. Propagation: seed produced by self-pollination through at least two generations. Breeders: P S Brennan and J A Sheppard, Department of Primary Industries, Toowoomba, QLD.

Choice of Comparators The seed parent QT3765 was a breeding line within the same breeding program, undergoing trial in 1987. It was subsequently discarded from the program, and seed is no longer available. The pollen parent 'Sunco' is a current variety with good agronomic performance in its agroecological range, and good yellow alkaline noodle quality characteristics. 'Lang' appears to have a higher yield but similar quality characteristics to 'Sunco'. 'Cunningham' was selected as

the other comparator, as it is believed to be morphologically and phenologically similar to 'Lang'. 'Lang' is expected to have a similar agroecological range to 'Cunningham', which is the dominant variety in its agroecological range and maturity class.

Comparative Trial Comparator(s): 'Sunco', 'Cunningham'. Location: Wellcamp Farm, Wellcamp, Jondaryan shire, QLD, Jul – Nov 1999. Conditions: plants were raised in well fertilised, irrigated soil in open beds. Trial design: three-row plots of approximately 200 plants each, with two different seed sources (representing different generations) of 'Lang', arranged in a randomised block with five replications. Measurements: taken from 5 specimens selected at random from each plot, except for height, which was measured for the plot overall. Variation in height was measured from 10 plants from each of two replication and two generations.

Prior Applications and Sales Nil.

Description: **Tony Done**, Leslie Research Centre, Department of Primary Industries, Toowoomba, QLD.

Table 57 *Triticum* varieties

	'Lang'	*'Sunco'	*'Cunningham'
EAR NODE LENGTH (mean of six central nodes of ear), (mm)			
mean	4.3	4.7	4.5
std deviation	0.15	0.16	0.21
LSD/sig	0.14	P≤0.01	ns
EAR LENGTH (excluding awns), (mm)			
mean	87	95	100
std deviation	5.0	4.6	3.8
LSD/sig	3.3	P≤0.01	P≤0.01
AWN LENGTH (at ear tip), (mm)			
mean	50	51	57
std deviation	4.7	3.6	2.9
LSD/sig	3.2	ns	P≤0.01
GLUME BEAK LENGTH (mm)			
mean	5.5	6.8	5.8
std deviation	1.1	1.1	1.1
LSD/sig	0.79	P≤0.01	ns

'Mira'

Application No: 1999/333 Accepted: 31 Jan 2000.

Applicant: **Agriculture Victoria Services Pty Ltd**, Attwood, VIC and

Grains Research and Development Corporation, Barton, ACT.

Characteristics (Table 58, Figure 46) Plant: semi dwarf, spring wheat, habit erect, height medium, maturity early to medium. Foliage: colour medium green. Flag leaf: length medium, width medium, tendency to be recurved strong, auricle anthocyanin colouration present, intensity weak, sheath glaucosity medium to strong. Stem: straw pith thin. Ear: glaucosity weak, semi erect, tapering, white, lax, fully

awned. Lower glume: shoulder width narrow, shoulder shape elevated, internal hairs medium, glume beak length medium, straight. Lemma: slightly curved. Grain: Australian Premium White (APW) grade, hard, oval to truncated, germ face shallow, width narrow, brush length short, end profile blunt. Disease Resistance: resistant to leaf rust, moderate resistance to stem and stripe rust. Resistant and intolerant to Cereal Cyst Nematode (CCN), moderately susceptible to flag smut, susceptible to very susceptible to yellow leaf spot.

Origin and Breeding Controlled pollination: seed parent CW-PC#162/'Matong' x pollen parent XD85 (TM56/'Agent'//4*'Condor') in a planned breeding program. The seed parent is susceptible to CCN while 'Mira' is resistant to CCN. The original cross was made in 1986 at Victorian Institute for Dryland Agriculture (VIDA), Horsham, VIC, single plants selected in the F₂ and F₂ derived F₃ lines were evaluated for disease resistance and agronomic type. Single spike selections were taken in F₄ and again in F₈ (100) as the line was segregating for CCN resistance. From these selections in F₉ one line was selected for superior CCN resistance and became VG127*14. A further 100 single spike selection was made at F₁₂, 50 of these were retained at F₁₅ for uniformity in disease resistance and agronomic type. Selection criteria: resistance to CCN, resistance to stem, leaf and stripe rust, agronomic adaptation to clay and mallee soils of Victoria and southern New South Wales. Propagation: by seed. Breeder: Peter Martin, Agriculture Victoria Services Pty Ltd, Horsham, VIC.

Choice of Comparators 'Condor' was chosen as a comparator because it is a semi dwarf, white chaffed, fully awned spring wheat similar to the candidate variety 'Mira'. 'Condor' was used extensively in the pollen parent XD85 (TM56/'Agent'//4*'Condor'). 'Chara' was chosen as a comparator because it is a semi-dwarf, spring wheat of similar mature height to the candidate. 'Chara' has a similar pedigree to 'Mira' via its pollen parent BD225 (Cook*2/Millewa/TM56). Both comparators are varieties of common knowledge.

Comparative Trial Comparators: 'Condor', 'Chara'. Location: Avon Districts Centre for Cropping Systems, Northam WA. Sown 9/6/99. Conditions: plants raised in red loam pH 5.6 in CaCl₂ in open beds. The plots were treated with glyphosate on 30/5/99 and Sprayseed® on 10/6/99, Hoegrass® at 1.5l/ha on 1/7/99 was applied for grass control. Brodal® at 150 ml/ha on 7/7/99 was applied for wild radish control, no treatment for disease or insect control was required. Agras No 1 at 120 kg/ha was drilled with the seed and Urea at 80 kg/ha was topdressed at early tillering. Trial design: plants sown in randomised complete blocks in 10m x 1.42m plots (8 rows) with 2 replications. Measurements: taken from 10 specimens per replicate selected randomly from approximately 2000 plants. One sample per plant from twenty plants at random. One sample per plant.

Prior Applications and Sales

No prior applications. First Australian sale May 1999.

Description: **David Collins**, David Collins Consulting, Northam, WA.