

DETAILS OF APPLICATION	
Application Number	2014/236
Variety Name	'CHG MS77'
Genus Species	<i>Cannabis sativa</i>
Common Name	Industrial Hemp
Synonym	Nil
Accepted Date	02 Dec 2014
Applicant	Ecofibre Industries Operations Pty Ltd, Maleny, QLD
Agent	N/A
Qualified Person	Philip Warner
Location	Maleny, QLD
Descriptor	UPOV technical guidelines for <i>Cannabis sativa</i> (UPOV TG/276/1)
Period	2014-2015
Conditions	Seed was sown direct into a cultivated seed bed with adequate nutrition in a well-drained coarse sandy to coarse sandy-loam soil. No herbicides or insecticides were used. Adequate water was supplied via a sprinkler system when required
Trial Design	The trial consisted of 3 replicates of approximately 1000 plants of candidate and comparator varieties planted in 6 x 1.2m beds.
Measurements	In accordance with UPOV technical guidelines
RHS Chart - edition	nil
ORIGIN AND BREEDING	
Recurrent phenotypic selection: 'CHG MS77' is a long term recurrent selection from the variety 'CHG'. It was selected for improvement in a planned breeding program due to its quick growth characteristics. The breeding program began by fixed seasonal grow outs in 2 locations at different sub-tropical latitudes. The stands were subject to heavy rouging leaving the desired characteristics. After 2 seasons of recurrent selection the two lines were recombined. The following grow out only required minimal rouging for the following 3 seasons. During this time the bulking of this seed line selection has resulted in very stable uniform characteristics and the present seed quality. This variety has been selected for a longer internode length than 'CHG', faster biomass accumulation and a lower cannabinoid (THC and other cannabinoids) content and a higher seed yield than 'CHG'. Breeder: Phil Warner and Tim Shapter, Ecofibre Industries Operations Pty Ltd, Maleny, QLD.	

CHOICE OF COMPARATORS Characteristics used for grouping varieties to identify the most similar Variety of Common Knowledge

Organ/Plant Part	Context	State of Expression in Group of Varieties
Main stem	colour	medium green
Plant	height	very long or long
Leaf	THC content	very low
Plant	sex expression	diecious
Leaf	anthocyanin colouration of petiole	absent or very weak

MOST SIMILAR VARIETIES OF COMMON KNOWLEDGE IDENTIFIED (VCK)

Name	Comments
'CHG'	Subtropical industrial hemp
'CHA'	Subtropical fibre/grain variety

VARIETIES OF COMMON KNOWLEDGE IDENTIFIED AND SUBSEQUENTLY EXCLUDED

Variety	Distinguishing Characteristics	State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments
'CHY'	Time of male flowering	late	early	
'CRAG'	Time of male flowering	late	very early	
'Kompolti'	Plant height	long	short	Flowering date much earlier leading to shorter plants
'Xulan'	Time of male flowering	late	very late	

VARIETY DESCRIPTION AND DISTINCTNESS - Characteristics which distinguish the candidate from one or more of the comparators are marked with a tick.

Organ/Plant Part: Context	'CHG MS77'	'CHG'	'CHA'
☐ Plant: intensity of anthocyanin colouration of crown	absent or very weak	absent or very weak	absent or very weak
☒ Leaf: intensity of green colour	dark	dark	medium
☒ Leaf: length of petiole	long	medium	medium
☐ *Leaf: anthocyanin colouration of petiole	absent or very weak	absent or very weak	absent or very weak
☐ *Leaf: number of leaflets	many	many	many

☐ Central leaflet: length	medium to long	medium to long	medium to long
☐ Central leaflet: width	medium	medium	medium
☒ *Time of: male flowering	late	late	early to medium
☐ Inflorescence: anthocyanin colouration of male flowers	absent or very weak	absent or very weak	absent or very weak
☐ *Inflorescence: THC content	absent or very low	absent or very low	absent or very low
☐ *Plant: proportion of monoecious plants	low	low	low
☐ *Plant: proportion of female plants	medium	medium	medium
☐ *Plant: proportion of male plants	medium	medium	medium
☐ *Plant: natural height	very long	very long	long
☐ *Main stem: colour	medium green	medium green	medium green
☒ Main stem: length of internode	long to very long	long	medium to long
☒ Main stem: thickness	thick	thick	medium
☐ Main stem: depth of grooves	medium	medium	medium
☒ Main stem: pith in cross-section	medium	thick	medium

CHARACTERISTICS ADDITIONAL TO THE DESCRIPTOR/TG			
Organ/Plant Part: Context	'CHG MS77'	'CHG'	'CHA'
☒ Leaf : THC content (% w/w)	0.06	0.35	0.09

STATISTICAL TABLE			
Organ/Plant Part: Context	'CHG MS77'	'CHG'	'CHA'
☒ Internode: length (cm)			
Mean	36.13	25.93	21.57
Std. Deviation	3.84	2.56	3.15
LSD/sig	2.20	P≤0.01	P≤0.01
☒ Plant: height (m)			
Mean	3.56	3.78	2.70
Std. Deviation	0.61	0.51	0.35
LSD/sig	0.36	ns	P≤0.01
☒ Stem: diameter (mm)			
Mean	14.07	13.97	8.23
Std. Deviation	4.65	4.43	2.91
LSD/sig	2.68	ns	P≤0.01

PRIOR APPLICATIONS AND SALES – Nil

Description: **Tim Shapter**, Ecofibre Industries Operations Pty Ltd, Maleny, QLD.