



FLAX
(*Linum usitatissimum* L.)

Proposed denomination: '2126'
Application number: 04-4056
Application date: 2004/02/23
Applicant: United Grain Growers Ltd., Morden, Manitoba
Breeder: Paul Dribnenki, Agricore United, Morden, Manitoba

Varieties used for comparison: '1084', '2047' and '2090'

Summary: '2126' has a shorter main axis of the stem at capsule maturity than the reference varieties. The flowering date of '2126' is earlier than the reference varieties. '2126' is lacking ciliation of the false septa of the capsule while in '2047' it is present. The seed of '2126' is slightly darker yellow than '1084' but slightly lighter yellow than '2047'. '2126' has fair resistance to lodging while in '1084' and '2090' it is good. The percent protein content of '2126' is higher than in '1084'.

Description:

FLOWER: flattened disc shape, medium corolla size, absent to very weak sepal dotting, no longitudinal folding of petal, light violet petal colour, filament with blue top and white base, blue anthers, white pollen, style with violet top and blue base, medium violet coloured stigma

CAPSULE: medium size, medium maturity, indehiscent, absence of ciliation of the false septa,

SEED: medium size, medium yellow colour

DISEASE RESISTANCE: moderate resistance to Flax wilt (*Fusarium oxysporum* f. sp. lini)

AGRONOMY: fair resistance to lodging, medium capability to produce basal branching

USE: oilseed flax variety

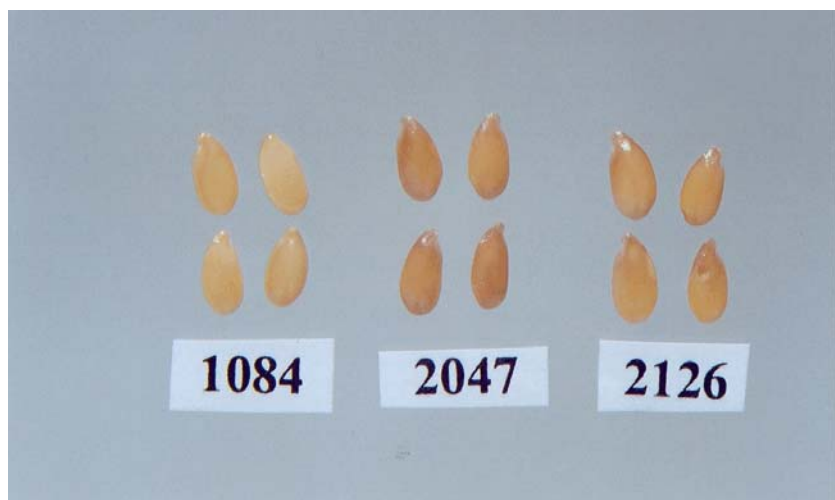
Origin and Breeding: '2126' was developed by United Grain Growers Ltd. by crossing 'SP992' to '94-7889' in 1995 in Morden, Manitoba. 'SP992' was derived from NorMan/Zero//CPI84495/3/NorMan³ and 94-7889 was derived from high oil strains 90-5889/AC McDuff. 90-5889 was derived from NorMan/Zero//CPI84495/3/NorMan². F₂ and subsequent generations were advanced using the pedigree breeding method with selection criteria being seed colour, oil content, fatty acid profile, lodging resistance, disease resistance and agronomics. Single plant selection was made in the F₃ and F₅ generation. This line was evaluated in replicated field trials in 1999 (5 locations) and in 2000 (8 locations) as 95-25-F₅-127-3. The line was evaluated as SP2126 in the 2001-2003 Low Linolenic Flax (Solin) Co-operative Test.

Tests and Trials: Trials were conducted in the summers of 2003 and 2004 in Rosebank, Manitoba. There were four reps arranged in a RCB design. Each plot consisted of an area of 3m x 1.2m.

Comparison table for '2126'

	'2126'	'1084'*	'2047'*	'2090**
<i>Plant: length of main axis (cm)</i>				
mean	39.6	50.4	45.5	44.2
std. deviation	4.3	8.4	6.4	5.4
<i>Flowering date (number of days from seeding with 10% of plants with one or more open flowers)</i>				
mean	50.4	56.9	53.3	53.0
<i>% Protein content</i>				
mean	47.8	43.8	50.9	45.6

* reference variety



Flax: '2126' (right) with reference varieties '1084' (left) and '2047' (center)



Flax: '2126' (right) with reference variety '2090' (left)



Flax: '2126' (right) with reference variety '2047' (left)

Proposed denomination: '2149'
Application number: 05-4647
Application date: 2005/03/29
Applicant: United Grain Growers Ltd., Morden, Manitoba
Breeder: Paul Dribnenki, Agricore United, Morden, Manitoba

Varieties used for comparison: '1084', '2047', '2090' and '2126'

Summary: '2149' has taller plant height and length of the main axis of the stem at capsule maturity than '2047', '2090' and '2126'. The flower of '2149' has stronger sepal dotting than the reference varieties. '2149' and '2047' have a presence of ciliation of the false septa of the capsule while '1084', '2090' and '2126' do not. The seed of '2149' is a lighter yellow colour than '2047'. '2149' has a higher percent protein content than '1084', '2090' and '2126'. The oleic fatty acid content as, % of the oil, of '2149' is lower than in '1084', '2090' and '2126'.

Description:

FLOWER: flattened disc shape, medium corolla size, medium sepal dotting, no longitudinal folding of petal, light to medium violet petal colour, filament with blue top and white base, blue anthers, white pollen, style with blue top and base, medium violet coloured stigma

CAPSULE: medium size, medium maturity, indehiscent, presence of ciliation of the false septa,

SEED: medium size, light yellow colour

DISEASE RESISTANCE: moderate resistance to Flax wilt (*Fusarium oxysporum* f. sp. lini)

AGRONOMY: good resistance to shattering and capsule loss, fair to good resistance to lodging, weak capability to produce basal branching

USE: oilseed flax variety

Origin and Breeding: '2149' was developed by United Grain Growers Ltd. by crossing '1084' to '96-32-F₃' in 1997 in Morden, Manitoba. '1084' was derived from SP946/Flanders and SP946 was derived from McGregor/Zero//CPI84495/3/McGregor². 96-32-F₃ was derived from 989/95-1002. 95-1002 was a high oil strain from Ed Kenaschuk. F₂ and subsequent generations were advanced using the pedigree breeding method with selection criteria being seed colour, oil content, fatty acid profile, lodging resistance, disease resistance and agronomics. Single plant

selection was made in the F₃ and F₅ generation. This line was evaluated in replicated field trials in 2000 and in 2001 as 97-1014-F₆-128-2. The line was evaluated as SP2149 in the 2002-2004 Low Linolenic Flax (Solin) Co-operative Test.

Tests and Trials: Trials were conducted in the summers of 2003 and 2005 in Rosebank, Manitoba. There were four reps arranged in a RCB design. Each plot consisted of an area of 3m x 1.2m.

Comparison table for '2149'

	'2149'	'1084'*	'2047'*	'2090'*	'2126'
<i>Plant: height at capsule maturity (cm)</i>					
mean	65.2	63.7	61.9	62.4	61.8
std. deviation	4.6	4.9	5.9	4.1	7.5
<i>Plant: length of main axis (cm)</i>					
mean	44.8	44.4	42.3	41.4	38.3
std. deviation	3.0	3.3	3.8	5.0	3.5
<i>% Protein content</i>					
mean	46.7	41.8	48.3	43.3	44.9
<i>Oleic fatty acid (% of oil)</i>					
mean	14.7	18.1	15.6	18.1	18.0

*reference variety



Flax: '2149' (left) with reference varieties '2047' (center left), '2090' (center right) and '2126' (right)



Flax: '2149' (left) with reference varieties '1084' (center left), '2047' (center right) and '2090' (right)