



CEDAR

(Thuja occidentalis)

Proposed denomination: 'A112'
Application number: 23-11248
Application date: 2023/03/23
Applicant: Alain Brodeur, Ste-Cécile-de-Milton, Quebec
Agent in Canada: IQDHO, Sainte-Hyacinthe, Quebec
Breeder: Alain Brodeur, Ste-Cécile-de-Milton, Quebec

Varieties used for comparison: 'Nigra', 'V32' and 'V38'

Summary: *During active growth, 'A112' has an ovoid plant habit while 'V38' has a broad columnar plant habit. The branches of 'A112' have an erect attitude while those of the reference varieties have a semi-erect attitude. The branch of 'A112' has a greater number of branchlets of the first order than the branch of 'V32' and less than those of 'Nigra' and 'V38'. The branchlet of the first order of 'A112' is a twisted type while that of 'Nigra' is a flat type. The branchlets of the penultimate and last order of 'A112' are larger than those of 'Nigra' and 'V38'. In the summer of the current year, the leaf on the branchlets of the penultimate and last order of 'A112' are dark green while those of 'V32' are light green. In the winter of the current year, the leaf on the branchlets of the penultimate and last order of 'A112' are brown green while those of 'V38' are green brown. In winter, apical variegation is present on the branchlets of the penultimate and last order for 'A112' while variegation is absent on those of 'Nigra' and 'V38'. The leaf of 'A112' has many prominent glands while that of 'V32' has a medium number of prominent glands. The leaf of 'A112' is thicker than those of the reference varieties. The leaf of 'A112' has medium to strong glossiness while that of 'V32' has a weak to medium degree of glossiness. In late summer, cones are absent on the branch of 'A112' while they are present on the branch of 'Nigra'.*

Description:

PLANT: ovoid habit during active growth, medium growth rate, sparse to medium density branching, erect branch attitude, branches of medium rigidity

BRANCH: medium number of branchlets of first order, medium distance between new branchlets on leading shoot, cones absent in late summer

BRANCHLET OF FIRST ORDER: twisted type, semi-erect planar spray arrangement

BRANCHLET OF PENULTIMATE AND LAST ORDER: long, medium width, no variegation in spring or summer, green brown (RHS 152B) apical variegation present in winter

LEAF: only scale-shaped type, medium length and width, curved along longitudinal axis, acute tip, many prominent glands, thick, medium to strong glossiness

LEAF ON BRANCHLET OF PENULTIMATE AND LAST ORDER: dark green (RHS 144A) in spring and summer, brown green (RHS 146B) in winter

Origin and Breeding: The variety 'A112' originated as a natural plant mutation of the variety 'Nigra' discovered in the summer of 2006 in Sainte-Cécile-de-Milton, Québec, Canada. The new variety was selected based on general plant structure, foliage density as well as cone and flower bud production. Asexual reproduction was first conducted in Sainte-Cécile-de-Milton, Québec by stem cuttings in 2007.

Tests and Trials: The comparative trial for 'A112' was conducted in an outdoor field production trial in 2023 in Sainte-Cécile-de-Milton, Québec. The trial included a total of 8 plants of each of the candidate and reference varieties. The plants were situated in rows spaced approximately 90 cm apart with 1 metre spacing between rows. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart. Measured characteristics were based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on a paired Student's t-test.

Comparison table for 'A112'

	'A112'	'Nigra'*	'V32'*	'V38'*
<i>Number of branchlets of first order per branch (count)</i>				
mean	12.9	14.0	11.8	15.5
std. deviation	0.69	0.50	1.19	1.75
<i>Length of branchlets of penultimate and last order (cm)</i>				
mean	8.2	7.6	8.3	6.9
std. deviation	0.58	0.68	0.67	0.79
<i>Width of branchlets of penultimate and last order (cm)</i>				
mean	3.8	2.9	3.6	3.0
std. deviation	0.43	0.38	0.46	0.44
<i>Main colour of current year leaf on branchlets of penultimate and last order (RHS)</i>				
summer	144A	143B	144B	143B
winter	146B	146B	144A to 146B	152A
<i>Leaf thickness (mm)</i>				
mean	1.0	0.6	0.8	0.8
std. deviation	0.07	0.10	0.09	0.09
<i>Number of cones per branch (count)</i>				
mean	0.0	6.6	0.0	0.1
std. deviation	0.0	6.49	0.0	0.45

*reference varieties



Cedar: 'A112' (centre left) with reference varieties 'Nigra' (left), 'V38' (centre right) and 'V32' (right)



Cedar: 'A112' (centre left) with reference varieties 'Nigra' (left), 'V32' (centre right) and 'V38' (right)



Cedar: 'A112' (left) with reference varieties 'Nigra' (centre left), 'V32' (centre right) and 'V38' (right)

Proposed denomination: 'V32'
Application number: 23-11249
Application date: 2023/03/23
Applicant: Alain Brodeur, Ste-Cécile-de-Milton, Quebec
Agent in Canada: IQDHO, Sainte-Hyacinthe, Quebec
Breeder: Alain Brodeur, Ste-Cécile-de-Milton, Quebec

Varieties used for comparison: 'Nigra', 'A112' and 'V38'

Summary: During active growth, 'V32' has an ovoid plant habit while 'V38' has a broad columnar plant habit. The plant growth rate for 'V32' is slower than that of 'Nigra' and 'V38'. The branches of 'V32' have a semi-erect attitude while those of 'A112' have an erect attitude. The branch of 'V32' has fewer branchlets of the first order than those of the reference varieties. The branchlet of the first order of 'V32' is a twisted type while that of 'Nigra' is a flat type. The branchlets of the penultimate and last order of 'V32' are larger than those of 'Nigra' and 'V38'. In the summer of the current year, the leaf on the branchlets of the penultimate and last order of 'V32' are light green while those of the reference varieties are dark green. In the winter of the current year, the leaf on the branchlets of the penultimate and last order of 'V32' are dark green to brown green while those of 'V38' are green brown. In winter, apical variegation is present on the branchlets of the penultimate and last order for 'V32' while it is absent on those of 'Nigra' and 'V38'. The leaf of 'V32' has a medium number of prominent glands while that of 'A112' has many prominent glands. The leaf of 'V32' is thicker than the leaf of 'Nigra' and thinner than that of 'A112'. The leaf of 'V32' has a weak to medium degree of glossiness while that of 'A112' has a medium to strong degree of glossiness. In late summer, cones are absent on the branch of 'V32' while they are present on the branch of 'Nigra'.

Description:

PLANT: ovoid habit during active growth, medium growth rate, medium density of branching, semi-erect branch attitude, branches of medium to strong rigidity

BRANCH: few branchlets of first order, medium distance between new branchlets on leading shoot, cones absent in late summer

BRANCHLET OF FIRST ORDER: twisted type, semi-erect planar spray arrangement

BRANCHLET OF PENULTIMATE AND LAST ORDER: long, medium width, no variegation in spring or summer, green brown (RHS 152A) apical variegation present in winter

LEAF: only scale-shaped type, short to medium length, medium width, curved along longitudinal axis, acute tip, medium number of prominent glands, medium thickness, weak to medium glossiness

LEAF ON BRANCHLET OF PENULTIMATE AND LAST ORDER: dark green (RHS 144A) in spring, light green (RHS 144B) in summer, dark green to brown green (RHS 144A to 146B) in winter

Origin and Breeding: The variety 'V32' originated as a natural plant mutation of the variety 'Nigra' discovered in the summer of 2006 in Sainte-Cécile-de-Milton, Québec, Canada. The new variety was selected based on general plant structure, foliage density as well as cone and flower bud production. Asexual reproduction was first conducted in Sainte-Cécile-de-Milton, Québec by stem cuttings in 2007.

Tests and Trials: The comparative trial for 'V32' was conducted in an outdoor field production trial in 2023 in Sainte-Cécile-de-Milton, Québec. The trial included a total of 8 plants of each of the candidate and reference varieties. The plants were situated in rows spaced approximately 90 cm apart with 1 metre spacing between rows. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart. Measured characteristics were based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on a paired Student's t-test.

Comparison table for 'V32'

	'V32'	'Nigra'*	'A112'*	'V38'*
<i>Plant growth from April 21 to September 26, 2023 (cm)</i>				
mean	47.1	55.3	46.6	53.9
std. deviation	5.27	8.68	12.15	6.25

<i>Number of branchlets of first order per branch (count)</i>				
mean	11.8	14.0	12.9	15.5
std. deviation	1.19	0.50	0.69	1.75
<i>Length of branchlets of penultimate and last order (cm)</i>				
mean	8.3	7.6	8.2	6.9
std. deviation	0.67	0.68	0.58	0.79
<i>Width of branchlets of penultimate and last order (cm)</i>				
mean	36.1	28.7	37.5	29.5
std. deviation	4.63	3.84	4.25	4.44
<i>Main colour of current year leaf on branchlets of penultimate and last order (RHS)</i>				
summer	144B	143B	144A	143B
winter	144A to 146B	146B	146B	152A
<i>Leaf thickness (mm)</i>				
mean	0.8	0.6	1.0	0.8
std. deviation	0.09	0.10	0.07	0.09
<i>Number of cones per branch (count)</i>				
mean	0.0	6.6	0.1	0.1
std. deviation	0.0	6.49	0.45	0.45

*reference varieties



Cedar: 'V32' (right) with reference varieties 'Nigra' (left), 'A112' (centre left) and 'V38' (centre right)



Cedar: 'V32' (centre right) with reference varieties 'Nigra' (left), 'A112' (centre left) and 'V38' (right)



Cedar: 'V32' (centre right) with reference varieties 'Nigra' (centre left), 'A112' (left) and 'V38' (right)

Proposed denomination: 'V38'
Application number: 23-11250
Application date: 2023/03/23
Applicant: Alain Brodeur, Ste-Cécile-de-Milton, Quebec
Agent in Canada: IQDHO, Sainte-Hyacinthe, Quebec
Breeder: Alain Brodeur, Ste-Cécile-de-Milton, Quebec

Varieties used for comparison: 'Nigra', 'V32' and 'A112'

Summary: *During active growth, 'V38' has a broad columnar plant habit while those of the reference varieties have an ovoid plant habit. The plant growth rate for 'V38' is faster than that of 'V32 and 'A112'. The branches of 'V38' have a semi-erect attitude while those of 'A112' have an erect attitude. The branch of 'V38' has a greater number of branchlets of the first order than those of the reference varieties. The branchlet of the first order of 'V38' is a twisted type while that of 'Nigra' is a flat type. The branchlets of the penultimate and last order of 'V38' are shorter than the branchlets of the reference varieties and narrower than those of 'V32' and 'A112'. In the summer of the current year, the leaf on the branchlets of the penultimate and last order of 'V38' are dark green while those of 'V32' are light green. In the winter of the current year, the leaf on the branchlets of the penultimate and last order of 'V38' are green brown while the leaf on the branchlets of the penultimate and last order of 'Nigra' and 'A112' are brown green and those of 'V32' are dark green to brown green. In winter, variegation is absent on the branchlets of penultimate and last order for 'V38' while apical variegation is present on those of 'V32' and 'A112'. The leaf of 'V38' has a medium number of prominent glands while that of 'A112' has many prominent glands. The leaf of 'V38' is thicker than the leaf of 'Nigra' and thinner than that of 'A112'. In late summer, the branch of 'V38' has less cones than the branch of 'Nigra'.*

Description:

PLANT: broad columnar habit during active growth, fast growth rate, sparse to medium density of branching, semi-erect branch attitude, branches of medium rigidity

BRANCH: many branchlets of first order, medium to large distance between new branchlets on leading shoot, cones present in late summer

BRANCHLET OF FIRST ORDER: twisted type, semi-erect planar spray arrangement

BRANCHLET OF PENULTIMATE AND LAST ORDER: short, narrow, no variegation

LEAF: only scale-shaped type, long, medium width, curved along longitudinal axis, acute tip, medium number of prominent glands, medium thickness, medium glossiness

LEAF ON BRANCHLET OF PENULTIMATE AND LAST ORDER: dark green (RHS 144A) in spring, dark green (RHS 143B) in summer, green brown (RHS 152A) in winter

Origin and Breeding: The variety 'V38' originated as a natural plant mutation of the variety 'Nigra' discovered in the summer of 2006 in Sainte-Cécile-de-Milton, Québec, Canada. The new variety was selected based on general plant structure, foliage density as well as cone and flower bud production. Asexual reproduction was first conducted in Sainte-Cécile-de-Milton, Québec by stem cuttings in 2007.

Tests and Trials: The comparative trial for 'V38' was conducted in an outdoor field production trial in 2023 in Sainte-Cécile-de-Milton, Québec. The trial included a total of 8 plants of each of the candidate and reference varieties. The plants were situated in rows spaced approximately 90 cm apart with 1 metre spacing between rows. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart. Measured characteristics were based on a minimum of 8 measurements per variety per year. Mean differences were significant at the 5% probability level based on a paired Student's t-test.

Comparison table for 'V38'

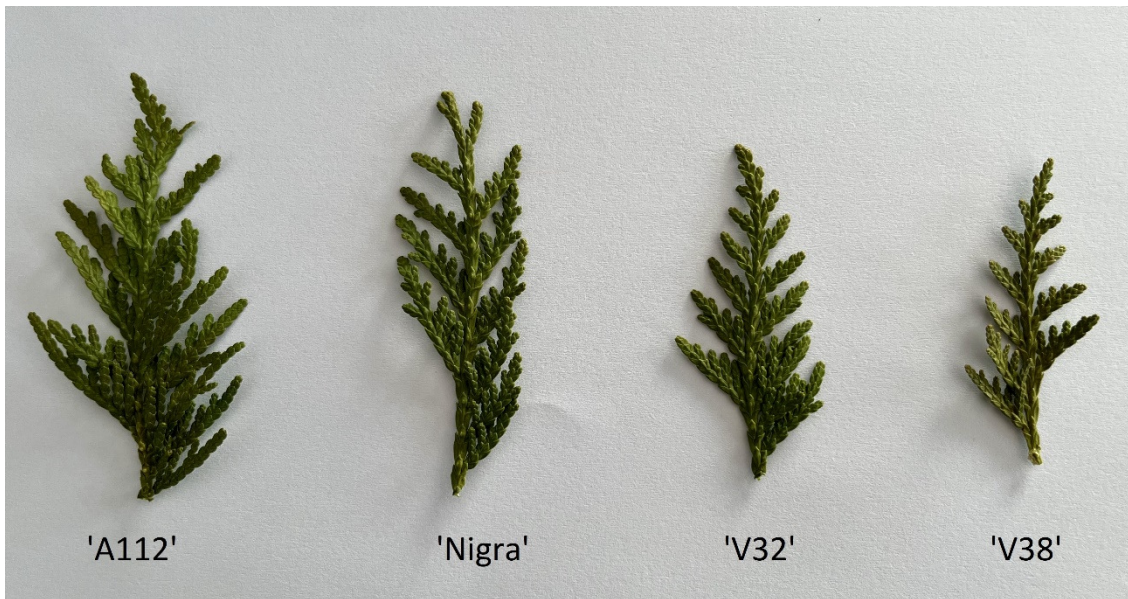
	'V38'	'Nigra'*	'V32'*	'A112'*
<i>Plant growth from April 21 to September 26, 2023 (cm)</i>				
mean	53.9	55.3	47.1	46.6
std. deviation	6.25	8.68	5.27	12.15

<i>Number of branchlets of first order per branch (count)</i>				
mean	15.5	14.0	11.8	12.9
std. deviation	1.75	0.50	1.19	0.69
<i>Length of branchlets of penultimate and last order (cm)</i>				
mean	6.9	7.6	8.3	8.2
std. deviation	0.79	0.68	0.67	0.58
<i>Width of branchlets of penultimate and last order (cm)</i>				
mean	3.0	2.9	3.6	3.8
std. deviation	0.44	0.38	0.46	0.43
<i>Main colour of current year leaf on branchlets of penultimate and last order (RHS)</i>				
summer	143B	143B	144B	144A
winter	152A	146B	144A to 146B	144A
<i>Leaf thickness (mm)</i>				
mean	0.8	0.6	0.8	1.0
std. deviation	0.09	0.10	0.09	0.07
<i>Number of cones per branch (count)</i>				
mean	0.1	6.6	0.0	0.0
std. deviation	0.45	6.49	0.0	0.0

*reference varieties



Cedar: 'V38' (right) with reference varieties 'Nigra' (left), 'A112' (centre left) and 'V32' (centre right)



Cedar: 'V38' (right) with reference varieties 'A112' (left), 'Nigra' (centre left) and 'V32' (centre right)



Cedar: 'V38' (centre left) with reference varieties 'Nigra' (left), 'A112' (centre right) and 'V32' (right)