MISCANTHUS
(Miscanthus sinensis)

Proposed denomination: **'NCMS3'**
Trade name: High Frequency
Application number: 22-11123
Application date: 2022/10/26
Applicant: North Carolina State University, Raleigh, North Carolina, United States of America
Agent in Canada: BioFlora Inc., St. Thomas, Ontario
Breeder: Thomas Green Ranney, North Carolina State University, Arden, North Carolina, United States of America
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Variety used for comparison: 'NCMS2B' (Bandwidth)

Summary: *The plants of 'NCMS3' have a narrow upright growth habit whereas those of 'NCMS2B' have a drooping growth habit. The plants of 'NCMS3' are bigger than those of 'NCMS2B'. The ligule of 'NCMS3' is wider than that of 'NCMS2B'. The leaf blade of 'NCMS3' is longer and wider than that of 'NCMS2B'. The lower side of the leaf blade of 'NCMS3' is medium brown green while it is dark brown green for that of 'NCMS2B'. The yellow bar of the leaf blade of 'NCMS3' is smaller than that of 'NCMS2B'. The leaf blade of 'NCMS3' has more yellow bars than that of 'NCMS2B'.*

Description:
PLANT: vegetatively propagated perennial, narrow upright growth habit, moderate vigor, medium density foliage, erect culm aspect

LEAF SHEATH: sparse pubescence
LIGULE: medium density pubescence
LEAF: alternate arrangement, linear shape, acute apex, entire margin, moderately concave in cross-section, variegation present, upper side mainly dark brown green (closest to RHS 146A) to dark green (RHS 137A) with bands of light green brown (closest to RHS 160B), lower side mainly medium green brown (closest to RHS 147B) with bands of light green brown (closest to RHS 160C-D), midrib white (RHS 155C), weak to medium glabrousness

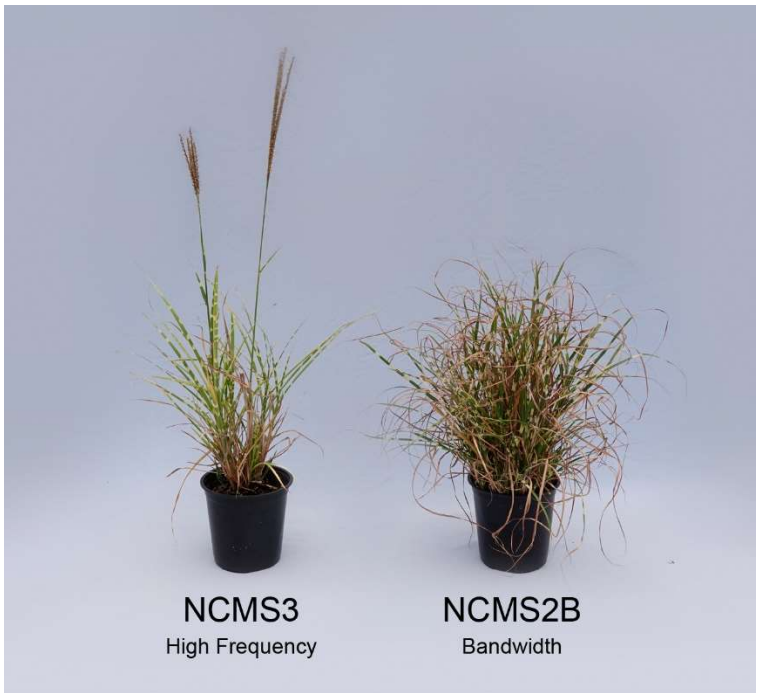
Origin and Breeding: 'NCMS3' originated from a controlled cross conducted in fall 2014 at Mills River, North Carolina, USA between the female parent, a proprietary variety coded 'H2011-196-001', and the male parent, a proprietary variety coded 'H2007-097-003'. The initial selection was made in 2015 based on its infertility, plant growth habit and leaf variegation. 'NCMS3' was first asexually propagated by division in 2015 in Mills River, North Carolina, USA.

Tests and Trials: The comparative trial for 'NCMS3' was conducted in an outdoor container trial during the summer of 2023 at BioFlora Inc. in St. Thomas, Ontario. The trial included a total of 10 plants each of the candidate and reference variety. Rooted cuttings were transplanted into 3.8 liter containers on April 19, 2023. Observations and measurements were taken from 10 plants, or 10 parts of plants, of each variety on September 18, 2023. Mean differences were significant at the 5% confidence probability level based on a paired Student's t-test. All colour determinations were made using the 2015 Royal Horticultural Society (RHS) Colour Chart.

Comparison table for 'NCMS3'

	'NCMS3'	'NCMS2B'*
Plant height (cm)		
mean	46.1	35.9
std. deviation	7.30	3.18
Plant width (cm)		
mean	37.6	32.6
std. deviation	2.22	2.59
Ligule width (cm)		
mean	0.3	0.2
std. deviation	0.05	0.04
Leaf blade length (cm)		
mean	25.6	18.7
std. deviation	2.24	2.67
Leaf blade width (cm)		
mean	0.7	0.5
std. deviation	0.09	0.05
Leaf blade main colour lower side (RHS)		
main	closest to 147B	closest to 137B
Leaf blade length of yellow bar (cm)		
mean	0.9	1.4
std. deviation	0.17	0.35
Number of yellow bars (count)		
mean	7.4	4.5
std. deviation	1.17	0.71

*reference variety



Miscanthus: 'NCMS3' (left) with reference variety 'NCMS2B' (right)