

# New alfalfa cultivar stands up to drought and flooding

## Kentville Research and Development Centre

Agriculture and Agri-Food Canada has a new alfalfa cultivar available that provides good tolerance to drought and flooding and offers dairy, beef and sheep producers the potential of better forage quality and growth.

CRS-1001 is the result of a breeding study that began in 1988 at the Kentville Research and Development Centre research farm in Nappan, Nova Scotia.

“It can be a challenge for farmers to get sufficient quality forage growth for summer pastures and winter feeds with extended periods of either too much or too little rainfall,” said research scientist Yousef Papadopoulos.

“This was a leading factor in our search for perennial forages that are more resilient in extreme weather conditions.”



### Putting down new roots

Alfalfa is an important forage legume in Canada and a preferred legume in high-yielding forage mixtures. Like other alfalfa varieties, CRS-1001 has deep roots that make it a good forage legume choice for summer regrowth.

“It has a unique ability to develop underground rhizomes from the main plant that will develop into new plants alongside the parent,” said Papadopoulos.

### CRS-1001 scores well in trials

The traditional weakness of alfalfa in the Maritimes is usually poor persistence, often a result of periods of prolonged wetness or flooding.

“Under flooding trials, we saw a 50 per cent survival rate compared to an eight per cent survival rate by the cultivar AC Caribou,” said Papadopoulos.

The cultivar was evaluated in alfalfa trials at three locations in Atlantic Canada against AC Caribou. Yield was lower in the first year of the trials but the plant’s extensive production of rhizomes during that period may account for the low herbage production during early establishment.

### Growth characteristics

Spring growth started approximately five days later than AC Caribou. The fall dormancy period was similar and bloom came two days later than AC Caribou. CRS-1001 showed good winter hardiness.



## Post-establishment year yield performance of CRS-1001 in Atlantic Canada\*

Cultivar	% Plants survival+		2001 Dry matter yield (t ha <sup>-1</sup> )		2003 Dry matter yield (t ha <sup>-1</sup> )		Mean (2001-2003) dry matter yield (t ha <sup>-1</sup> )	
	Not flooded	Flooded	First cut	Seasonal	First cut	Seasonal	First cut	Seasonal
AC Caribou	50	8	5.1	7.6	4.7	7.9	5.6	8.7
CRS1001	50	50	4.8	6.9	5.4	8.8	5.6	8.7

\*Seeded at three locations in 2000: Charlottetown, PE, Nappan, NS, and Fredericton, NB. Dry matter yields were recorded for three years at all sites.

## Persistence, yield, and quality after 4 years grazing management with different grass species

	Alfalfa density	Forage yield, tonnes DM/ha		Total digestible nutrients (%)	
	Plants/m <sup>2</sup>	First Cut	Regrowth	First cut	Regrowth
Bluegrass	23	2.81	5.52	65.2	64.3
Tall Fescue	10	2.38	5.23	66.4	65.3
Timothy	20	2.78	4.81	64.9	66.7

Data from Nappan, NS, seeded in 2010

## For more information:

The licensing right for this cultivar was awarded to Quality Seeds Ltd. 8400 Huntington Road, Vaughan, Ontario, [www.qualityseed.ca](http://www.qualityseed.ca)

Seeds for on-farm trials are currently available by contacting

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