Forage Focus 2014

Conference & Trade Show

"Using Forages to Increase Profitability "

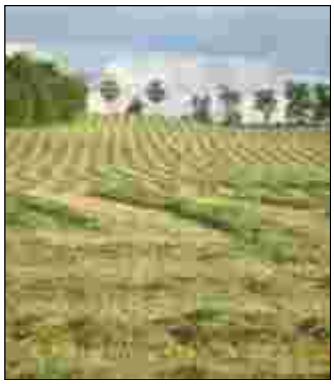
Tuesday, November 25th St-Albert

Wednesday, November 26th Shakespeare

Keynote Speaker

Ev Thomas-Vice President, Agricultural Programs,
Miner Institute Research Education
Joel Bagg-Forage Specialist, OMAFRA
Fritz Trauttmansdorff-Dunlea Farms
Andre Larocque-Laroque Farms/**Chris Martin**-Marhaven Agri Inc.

The Ontario Forage Council gratefully acknowledges the Ontario Ministry of Agriculture, Food and the Dairy Farmers of Ontario for their continued support!



An agency of the Government of Ontario
Un organisme du gouvernement de l'Ontario

A special thank you to Agricorp for their generous sponsorship of this proceedings booklet!

FORAGE FOCUS 2014
EXHIBITORS

Aricorp
Agricultural Credit Corporation
Agriculture Solutions Inc.
A & L Canada Laboratories
Agri-Solve Inc.
American Farm Products
ATP Pest Control
BDO Canada
CanGrow Crop Solutions
Dupont Pioneer
FS Partners
Great Lakes New Holland
Heartnut Grove Inc.
International Stock Food Inc.
Liquid Feeds International
Mapleseed
New Holland Canada Ltd.
North Waterloo Farmers Mutual Insurance
Nuhn Forage
Nutritional Feed Additives
Ontario Harvestore
Ottawa Valley Harvestore
Pickseed
Post Farm Structures Inc.
Quality Seeds
SGS Agrifood Laboratories
Silo-King Forage Treatment
Speare Seeds
Stepping Stones/Legal Sheild
Stratford Agri Analysis
Terratec Environmental Ltd.
Trillium Mutual Insurance

FORAGE FOCUS 2014

Conference & Trade Show

"Using Forages to Increase Profitability"

Inside this Issue:

PRESIDENT'S WELCOME

Fred Brown, President, Ontario Forage Council

On behalf of the Ontario Forage Council and the conference planning committee, I would like to thank you for coming. This day's events should provide you with a wide variety of information to evoke your interest in forages Today's speakers are well versed in many areas regarding Forage production and many related topics. Also a big thank you goes to our sponsors for their involvement in our trade show, as well as their financial contributions to assist in facilitating this conference. Without their assistance it would be hard to present this function.

At this time I would like to thank today's speakers; Ev Thomas from the Miner Institute, Joel Bagg, Ontario Forage Specialist along with Andre Larocque-Larocque Farms, and Chris Martin-Marhaven Agri Inc.

Upon leaving this event, I hope you will take with you the information presented and have a different outlook on forages in general and how forages can help you achieve high results. With this, the Ontario Forage council and its presenters have achieved our goals for today's event.

Fred Brown
President, Ontario Forage Council

Ontario Hay Marketing Forum Update

Ray Robertson

The working group of the Ontario Hay Marketing Forum has been successful in getting financial assistance through Growing Forward 2 to complete a feasibility study on the availability and economic viability of accessing containers for overseas hay export shipments. The initial locations to be investigated included mainly Middle Eastern countries. Learning of a growing demand in South American countries on recent mission to Suriname to participate in the Caribbean Week of Agriculture, this investigation has been expanded to include these locations. The study is progressing well and hopefully it will produce positive information. If the results are positive, it is one more opportunity to help raise the profile of the forage industry.

There is a constant and growing demand for Canadian hay, and as most people recognize, Canada has an excellent reputation on the world market. It certainly bodes well for overseas exports if Canada's shipping companies can be competitive.

The Ontario Hay Marketing Forum has often been referred to as the "All Star Team" of the Forage Industry. If you are in the hay marketing business, you are invited to contact our office.

This is an exciting time for the forage industry, and producers are invited to join the Ontario Hay Marketing Forum and be a part of this entrepreneurial endeavor.

Producers who are interested in becoming involved in the Ontario Hay Marketing Forum or have any questions are encouraged to contact:

Ray Robertson, Manager, Ontario Forage Council.
Phone: 519-986-1484 or 1-877-892-8663
E-mail: ray@ontarioforagecouncil.com

ENJOY THE CONFERENCE!!

ONTARIO FORAGE CROPS COMMITTEE

The Ontario Forage Crops Committee (OFCC) reviews research work on forage species and uses this information to prepare production recommendations. As part of this effort, the committee evaluates under Ontario conditions the performance of experimental and commercial varieties of forages. This brochure summarizes the performance and characteristics of varieties that the committee has supported for registration in Canada. The brochure and further information are available at: **GoForages.ca**

The committee is made up of representatives of The Canadian Food Inspection Agency Variety Registration Office, the Canadian Seed Growers Association, the Canadian Seed Trade Association, the Dairy Farmers of Ontario, the Ontario Cattlemen's Association, the Ontario Forage Council, the Ontario Ministry of Agriculture and Food and Rural Affairs, the Ontario Soil and Crop Improvement Association and the University of Guelph.

Tests are conducted each year by the following agencies: the University of Guelph agricultural research stations at Elora, Kemptville and New Liskeard, and the Thunder Bay Agricultural Research Station.

2015

ONTARIO FORAGE CROP VARIETY PERFORMANCE

PLANTES FOURRAGÈRES COMPORTEMENT DES CULTIVARS

GoForages.ca

COMITÉ DES PLANTES FOURRAGÈRES DE L'ONTARIO

Le comité des plantes fourragères de l'Ontario (CPFO) examine les activités de recherche sur les espèces fourragères et utilise cette information pour préparer des recommandations de production. Une grande partie des efforts du comité est consacrée à l'évaluation des cultivars expérimentaux et commerciaux sous les conditions climatiques de l'Ontario. Ce carnet consigne diverses informations sur les cultivars que le comité a supporté pour enregistrement au Canada. Cette brochure et plus d'information sont disponible à notre adresse: **GoForages.ca**

Cet organisme est composé de représentants de l'Agence canadienne d'inspection des aliments bureau d'enregistrement des variétés, de l'Association Canadienne des Producteurs de Semences, de l'Association Canadienne des Commerçants de Semences, des Producteurs de Lait de l'Ontario, de l'Association des Eleveurs de Bovins de l'Ontario, du Conseil des Plantes Fourragères de l'Ontario, du Ministère d'Agriculture, de l'Alimentation et des Affaires Rurales de l'Ontario, de l'Association d'Amélioration des Sols et Récoltes de l'Ontario et de l'Université de Guelph.

Le comité coordonne la réalisation d'essais conduits par les agences suivantes: les stations de recherches de l'Université de Guelph à Elora, Kemptville et New Liskeard, et par le station de recherche à Thunder Bay.

DISTRIBUTORS OF VARIETIES / AGENTS DE DISTRIBUTION DE SEMENCE

Bishop Seeds
P. O. Box 171,
Harriston, Ontario, N0G 1Z0
www.bishopseeds.ca
Ph: 1-800-411-2062
Fax: 519-338-2510

Brett Young
Box 99,
St. Norbett Postal Station,
Winnipeg, Manitoba R3V 1L5
www.brettyoung.ca
Ph: 204-261-7932
Fax: 204-275-7333

Corland Seeds(2011) Ltd.
8400 Huntington Road,
Vaughan, Ontario, L4L 1A5
leanne@corlandseeds.ca
www.corlandseeds.ca
Ph: 1-800-265-4321
Fax: 519-763-5192

Elite Seeds
Ph: 1-519-282-6701
www.eliteseeds.ca
Seed available through: The Agromart Group
www.agromartgroup.com

Evergreen Seed Co. Ltd.
13847 The Gore Rd.,
Bolton, Ontario, L7E 0W8
pbarker@evergreenseed.ca
www.evergreenseed.ca
Ph: 905-857-5721 or 1-888-207-5001

General Seed Co. 2000 Ltd.
Box 3, RR#1,
Alberton, Ontario, L0R 1A0
Ph: 905-648-2101
Fax: 905-648-6429

GROWMARK Inc.
1 Chandaria Place, Unit 5
Kitchener, Ontario, N2C 2S3
www.growmark.com
Ph: 519-895-4255
Fax: 800-787-7076

Hyland Seeds
5 Hyland Drive, P. O. Box 1090,
Blenheim, Ontario, N0P 1A0
info@hylandseeds.com
www.hylandseeds.com
Ph: 800-265-7403
Fax: 519-676-6800

Mycogen Seeds
73 Cecile Avenue
Chatham, Ontario N7M 5S2
www.mycogen.ca
Ph. 519-380-0605
Fax. 519-380-0607

Pioneer Hi-Bred Ltd.
Box 730,
Chatham, Ontario, N7M 5L1
www.pioneer.com
Ph: 800-265-9435
Fax: 519-436-6753

PRIDE Seeds
Box 1088,
Chatham, Ontario, N7M 5L6
sales@prideseed.com
www.prideseed.com
Ph: 800-265-5280
Fax: 519-354-8155

ProRich Seeds Inc.
333259 Plank Line (#19 Hwy)
Mount Elgin, Ontario, N0J 1N0
deb_prorich@hotmail.com
Ph: 519-485-3447
Fax: 519-485-1354

Quality Seeds Ltd.
8400 Huntington Road,
Vaughan, Ont., L4L 1A5
support@qualityseeds.ca
www.qualityseeds.ca
Ph: 877-856-7333
Fax: 905-856-7509

SeCan
400-300 Terry Fox Drive
Kanata, Ontario, K2K 0E3
www.secan.com mharry @secan.com
Ph: 866-797-7874
Fax: 519-423-6933

Speare Seeds
Box 171, Harriston,
Ontario, N0G 1Z0
spearese@wightman.ca
Ph: 519-338-3840
Fax: 519-338-2510

ALFALFA/LUZERNE

Cultivar	Composite Yield Index [1,2] Indice de rendement composé % of mean/de la moyenne Harvest Year Année de récolte			Pest Reaction [3] Résistance aux ravageurs							Distributor Distributeur	Year Supported by OFCC Année soutenu par le CPEO
	1	2+	3& 4 [4]	BW	VW	PRR	PLH	FW	APH-Race 1	APH-Race 2		
Ascend	103	105	109	HR	HR	HR	S	HR	HR		Elite Seeds	2011
Dakota	103	104	-	R	MR	HR	S	R			General Seed Co. 2000 Ltd.	2006
Dynasty	112	106	-	HR	HR	HR	S				ProRich Seeds Inc.	2024
ELEVATE	105	101	99	HR	HR	HR	S	-			General Seed Co. 2000 Ltd.	2007
Evermore	103	100	101	HR	HR	HR	S	HR	R	HR	ProRich Seeds Inc.	2009
FORCE	105	102	106	HR	HR	HR	S	R			General Seed Co. 2000 Ltd.	2007
Foremost	100	103	104	HR	HR	HR	S	-			ProRich Seeds Inc.	2010
FSG400LH	99	98	97	HR	HR	HR	HR	HR	HR		Quality Seeds Ltd.	2009
Lexus	99	102	101	HR	HR	HR	S	-			Evergreen Seed	2009
Magnum VI Wet	106	105	109	HR	HR	HR	S	HR	HR	R	Elite Seeds	2008
MARVEL	101	103	105	HR	HR	HR	S	HR	HR		Corland Seeds (2011) Ltd.	2009
OAC SUPERIOR	101	102	105	R	R	MR	S	-			ProRich Seeds Inc.	2009
Prolific II	99	97	95	HR	HR	HR	S	HR	HR	R	Hyland Seeds	2010
QWEST	102	106	-	HR	HR	HR	S	HR			General Seed Co. 2000 Ltd.	2006
RADAR	102	97	97	HR	R	R	S	-			Speare Seeds	2006
Shockwave BR	111	104	-	HR	HR	HR	S	HR	HR	R	Speare Seeds	2013
SHOWDOWN	101	101	103	HR	HR	HR	S	-			Quality Seeds Ltd.	2011
STELLAR FG	102	104	104	HR	R	HR	S	-			Quality Seeds Ltd.	2007
Stockpile	107	101	-	HR	HR	HR	S	HR	HR	R	Brett Young Seeds Ltd.	2013
TOWER ST	-	98	-	R	R	R	S	HR			Quality Seeds Ltd.	2007
Valid	102	103	100	HR	HR	HR	S	-			Evergreen Seed	2008
WL343HQ	101	102	108	HR	HR	HR	S	HR	HR		GROWMARK Inc.	2007
WL 348AP	101	100	100	HR	HR	HR	S	HR		HR	GROWMARK Inc.	2008
WL 353 LH	96	92	93	HR	HR	HR	HR	HR			GROWMARK Inc.	2011
WL 354 HQ	99	98	-	HR	HR	HR	S	HR	HR	HR	GROWMARK Inc.	2013
WL 357 HQ	100	102	105	HR	HR	HR	S	HR	HR	S	GROWMARK Inc.	2006
135	-	105	109	HR	HR	HR	S	HR			ProRich Seeds Inc.	2010
4S417	109	104	108	HR	HR	HR	S	HR	HR		Mycogen Seeds	2010
4010 BR	107	106	106	HR	HR	HR	S	HR	HR	R	ProRich Seeds Inc.	2010
4020 MF	99	105	109	HR	HR	HR	S	HR	HR	R	Brett Young Seeds Ltd.	2013
4030	106	102	103	HR	HR	HR	S	HR	HR	R	Brett Young Seeds Ltd.	2010
54Q32	99	102	103	HR	HR	HR	S	HR	HR	S	Pioneer Hi-Bred	2009
55H94	96	97	-	HR	HR	HR	HR	HR	HR	R	Pioneer Hi-Bred	2011
55V12	100	100	101	R	HR	HR	S	HR	HR	R	Pioneer Hi-Bred	2010
55V48	101	101	100	HR	R	HR	S	HR	HR	R	Pioneer Hi Bred	2007
55V50	103	102	-	HR	HR	HR	S	HR	HR	HR	Pioneer Hi-Bred	2011

ALFALFA TABLE FOOTNOTES / NOTES SUR LE TABLEAU DE LUZERNE

1. The varieties listed have not all been tested in the same trials. Composite Yield Index indicates performance of a variety relative to the average yield of all trials in which the variety has been tested. Mean Yield(T/Ha) 1st Year = 10.2, 2nd Year =10.1, 3&4 yr = 9.4 Les variétés inscrites n'ont pas toutes été evaluées dans les mêmes essais. L'indice Composé de Rendement indique la performance d'une variété relative au rendement moyen de tous essais dans lesquels la variété a été essayée.

2. A dash (-) indicates fewer than three public yield tests available. Un trait (-) indique que moins de trois essais publiques sont disponibles.

3. HR = Highly Resistant (more than 50% resistant plants), R = Resistant (31 to 50% resistant plants), MR = Moderately Resistant (15 to 30% resistant plants), S = Susceptible (less than 15% resistant plants). BW = Bacterial wilt, VW = Verticillium wilt, PRR = Phytophthora Root Rot, PLH = Potato Leafhopper, FW = Fusarium Wilt, APH = Aphanomyces

   HR = Hautement résistant (plus de 50% de plants résistants), R = Résistant (31 à 50% de plants résistants), MR = Modérement Résistant (15 à 30% de plants résistants), S = Sensible (moins de 15% de plants résistants). BW = Flétrissement bactérien, VW = Verticillose, PRR = Phytophthora, PLH = Cicadelle de la pomme de terre, FW = Fusarium Wilt, APH = Aphanomyces

4. 3rd and 4th year alfalfa indexes indicate relative persistence among varieties on this list. As a guide, 3rd and 4th year indexes less than 100 indicate below average persistence, between 100 and 105 indicates good persistence, and above 105 indicates very good persistence.

L'indice du rendement pour la 3ième et 4ième année représente la persistance relative parmi les cultivars. Un indice inférieur à 100 démontre une persistance sous la moyenne, entre 100 et 105 démontre une bonne persistance et un indice de 105, ou plus, démontre une très bonne persistance.

BIRD'S-FOOT TREFOIL / LOTIER CORNICULÉ

Cultivar	Yield/Rendement (% of/de Leo)[1] Timothy mixture/ Mélange avec fléole South/Sud	North/Nord	First flower/ Date de floraison Elora	Regrowth/Regain	Distributor/Distributeur
Empire	98	103	01/07	Medium/Moyen	Public Cultivar
Exact	101	108	23/06	Medium/Moyen	GROWMARK Inc.
Leo	100	100	23/06	Medium/Moyen	Public Cultivar
OAC Bright	101	103	23/06	Medium/Moyen	Bishop Seeds

1. Average yield of Leo in Southern Ontario trials 8.6 t/ha; in Northern Ontario trials 7.7 t/ha. Le rendement moyen de Léo dans le sud de l'Ontario: 8,6 t/ha; dans le nord de l'Ontario: 7,7 t/ha.

DOUBLE-CUT RED CLOVER / TRÈFLE ROUGE À DEUX COUPES

Cultivar	Yield/Rendement (% of/de Tempus)[1] South/Sud Year/Année 1	2+	North/Nord Year/Année 1	2+	First flower/ Date de floraison Elora	Distributor/Distributeur
Belle	93	92	93	96	09/06	PRIDE Seeds

1. Average yield of Tempus in first year: Southern Ontario trials 9.7 t/ha; Northern Ontario 8.7 t/ha; in second year: Southern Ontario 9.4 t/ha; Northern Ontario 5.7 t/ha. Pour la première année, le rendement moyen de Tempus est 9,7 t/ha dans le sud de l'Ontario et 8,7 t/ha dans le nord de l'Ontario. Pour la deuxième année, c'est 9,4 t/ha pour le sud de l'Ontario et 5,7 t/ha pour le nord de l'Ontario.

WHITE CLOVER / TRÈFLE BLANC

Cultivar	Yield/Rendement (% of/de Alice)[1] Orchardgrass mixture / Mélange avec dactyle South/Sud	North/Nord	Distributor/Distributeur
Alice	100	100	Bishop Seeds
Osceola	102	97	Speare Seeds
WILL	105	107	Quality Seeds Ltd.

1. Average yield of Alice, Southern Ontario 7.5 t/ha; in Northern Ontario trials 5.6 t/ha. Le rendement moyen d' Alice dans le sud de l'Ontario: 7,5 t/ha; dans le nord de l'Ontario: 5,6

RYEGRASS/RAY-GRASS

Cultivar	Yield/Rendement South/Sud	North/Nord	Distributor/Distributeur
Westerwold Annual Ryegrass/Ray-grass annuel (% of/de Barspectra)[1]			
Barspectra (tetraploid)	100	100	Bishop Seeds
Italian Ryegrass/Ray-grass Italien (% of/de Matrix Ledger)[1]			
Matrix Ledger (tetraploid)	100	100	Several Distributors
Perennial Ryegrass/Ray-grass vivace[1]			
Intensa (tetraploid)	102	-	General Seed Co. 2000 Ltd.
Remington (tetraploid)	105	-	Speare Seeds, ProMech Seeds Inc.
Tetrone (diploid)	97	-	General Seed Co. 2000 Ltd.

1. Average yield of Barspectra, Matrix Ledger and Remington Southern Ontario trials 8.2, 8.1 and 8.5 t/ha; in Northern Ontario trials 6.0 and 5.4 t/ha. Le rendement moyen de Barspectra, Matrix Ledger et Remington dans le sud de l'Ontario: 8,2, 8,1 et 8,5 t/ha; dans le nord de l'Ontario: 6,0 et 5,4 t/ha. A dash (-) indicates that fewer than three public yield tests are available. Un tiret (-) indique que moins de trois essais publiques sont disponibles.

BROMEGRASS / BROME

Cultivar	Species	Yield/Rendement [1, 2] Hay management / Gestion de foin [1] South/Sud	North/Nord	Frequent cutting / Coupe fréquente [2] South/Sud	North/Nord	Heading date / Date d'épiaison Elora	Distributor / Distributeur
Meadow Brome							
Armada	Meadow/Pres	124	-	-	-	-	SeCan
Admiral	Meadow/Pres	131	-	-	-	-	SeCan
Fleet	Meadow/Pres	107	89	-	96	15/05	SeCan
Smooth Brome							
PEAK	Smooth/Inerme	100	100	-	100	24/05	Quality Seeds Ltd.

1. Average yield of Peak in hay management, southern Ontario trials 7.8 t/ha; in northern Ontario trials 9.3 t/ha. Le rendement moyen de Peak dans la gestion du foin dans le sud de l'Ontario: 7.8 t/ha; dans le nord de l'Ontario: 9.3 t/ha.
2. Average Yield of Peak in frequent cutting in southern Ontario 7.6 t/ha; in northern Ontario trials 7.8 t/ha. Le rendement moyen de Peak sous coupe fréquente dans le sud de l'Ontario: 7,6 t/ha; dans le nord de l'Ontario: 7,8 t/ha.

A dash (-) indicates that fewer than three public yield tests are available. Un trait (-) indique que moins de trois essais publiques sont disponibles.

TIMOTHY-EARLY HARVEST MANAGEMENT / FLÉOLE - RÉCOLTE SOUS RÉGIME HÂTIF

Cultivar	Yield/Rendement (% of/de Richmond) [1,2] South/Sud	North/Nord	Heading date / Date d'épiaison Elora	Regrowth / Regain	Distributor/Distributeur
Derby	102	-	29/05	Good/Bon	GROWMARK Inc.
Richmond	100	100	27/05	Medium/Moyen	PRIDE Seeds

1. Average yield of Richmond, Southern Ontario trials 8.6 t/ha; in Northern Ontario trials 6.7 t/ha. Le rendement moyen de Richmond dans le sud de l'Ontario: 8.6 t/ha; dans le nord de l'Ontario: 6.7 t/ha.
2. A dash (-) indicates that fewer than three public yield tests are available. Un trait (-) indique que moins de trois essais publiques sont disponibles.

TIMOTHY-LATE HARVEST MANAGEMENT / FLÉOLE - RÉCOLTE SOUS RÉGIME TARDIF

Cultivar	Yield/Rendement (% of/de Climax) [1] South/Sud	North/Nord	Heading date / Date d'épiaison Elora	Regrowth / Regain	Distributor/Distributeur
AC Pratt	107	102	-	Good/Bon	SeCan
AURORA	109	102	07/06	Good/Bon	Speare Seeds
Climax	100	100	05/06	Medium/Moyen	Public Cultivar
Crest	119	104	-	Excellent	GROWMARK Inc.
EXPRESS	114	107	05/06	Excellent	Quality Seeds Ltd.
Itasca	107	106	05/06	Good/Bon	ProRich Seeds Inc.
TREASURE	115	114	31/05	Excellent	General Seed Co. 2000 Ltd.

1. Average yield of Climax, Southern Ontario trials 8.3 t/ha; in Northern Ontario 7.0 t/ha. Le rendement moyen de Climax dans le sud de l'Ontario: 8.3 t/ha; dans le nord de l'Ontario: 7.0 t/ha.

Note: Comparisons of variety performance between timothy tables are not valid because of the different harvest management regime. Une comparaison des cultivars entre les deux tableaux de fléole est déconseillée car le régime d'exploitation est différent.

ORCHARDGRASS / DACTYLE

Cultivar	Yield/Rendement [1] South/Sud	Yield/Rendement [1] North/Nord	Heading date/ Date d'épiaison Elora	Distributor/Distributeur
Late/Tardif (% of/de OKAY)[1]				
Dividend VL	88	100	11/06	Quality Seeds Ltd.
Hay master	104	-	31/05	GROWMARK Inc.
OKAY	100	100	01/06	PRIDE Seeds
Proper	102	-	31/05	Quality Seeds Ltd, Corland Seeds(2011)Ltd

1 Average yield of OKAY, Southern Ontario trials 7.5 t/ha; in Northern Ontario 7.4 t/ha. Le rendement moyen de OKAY dans le sud de l'Ontario: 7,5 t/ha; dans le nord de l'Ontario: 7,4 t/ha.

OTHER GRASSES / AUTRES GRAMINÉES

Cultivar	Yield/Rendement South/Sud	Yield/Rendement North/Nord	Heading date/ Date d'épiaison Elora	Distributor/Distributeur
REED CANARYGRASS / ALPISTE ROSEAU (% of/de Palaton)[1]				
MARATHON 2	96	104	28 /05	Quality Seeds Ltd, Corland Seeds(2011)Ltd
Venture [2]	100	97	31 /05	Speare Seeds, ProRich Seeds Inc.
TALL FESCUE / FÉTUQUE ÉLEVÉE (% of/de Courtenay)[1]				
Courtenay	100	100	25 /05	Quality Seeds Ltd.
Kora	106	100	06/06	Quality Seeds Ltd., Corland Seeds(2011)Ltd.
YUKON	105	95	-	General Seed Co. 2000 Ltd.
MEADOW FESCUE / FÉTUQUE DES PRÉS (% of/de Minner)[1]				
Pradel	104	101	25/05	Speare Seeds, Bishop Seeds

1 Average yield of Palaton, Courtenay, and Minner, Southern Ontario trials 9.8, 89.0 and 5.9 t/ha; in Northern Ontario trials 8.0, 8.5 and 5.7 t/ha. Le rendement moyen de Palaton, de Courtenay et Minner dans le sud de l'Ontario, 9,8 9,0 et 5,9 t/ha, dans le nord de l'Ontario, 8,0 8,5 et 5,7 t/ha.

2 Varieties with significantly lower levels of gramine alkaloid. High levels of gramine alkaloid reduces palatability and intake. Cultivars avec un niveau inférieur d'alcaloïdes gramine. L'ingestion et l'appétabilité sont réduits par un niveau élevé d'alcaloïdes gramine.

Sulphur on Alfalfa

by Joel Bagg, Forage Specialist, OMAFRA

Sulphur (S) received from atmospheric sulphur dioxide emissions (acid rain) in Ontario has steadily declined by over 50% during the last 25 years. We are beginning to see yield responses in more situations when applying S to alfalfa. Sometimes the response is dramatic, while in other situations there is no response. Tissue sampling of alfalfa is a useful diagnostic tool in predicting whether there will be an economic response to applying S.

S availability varies from site-to-site and from year-to-year according to temperature and rainfall. Soil organic matter plays an important role in providing available S to plants. Sulphate is very mobile in soils, similar to nitrate, and can be leached into the subsoil and become unavailable to plants (but not as easily as nitrate). S deficiencies have also increased due to some reductions in organic matter, and higher crop and protein yields. There is considerable S in manure. S deficiencies are more likely to occur on low organic matter soils, and soils that have not had a manure application within a couple of years. Within fields, sulphur deficiency symptoms may show up first on eroded knolls and other low organic matter areas.

What Does S Deficiency In Alfalfa Look Like?

Alfalfa has the highest S requirements of any of the field crops. A 4 ton/acre crop of alfalfa removes about 20 lbs/ac of S. S deficient alfalfa plants will be spindly and uniformly light green or yellowish (as opposed to a yellow top and green bottom, etc), with weak growth. (Figure 1)

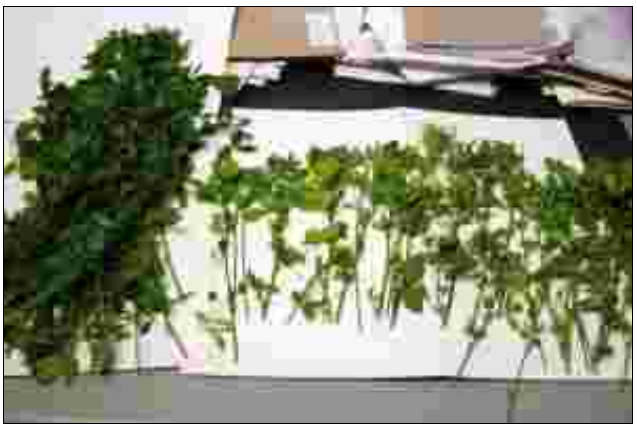


Figure 1 – S Deficiency Symptoms In Alfalfa.
Left – normal alfalfa stems with tissue test 0.34% S
Right – S deficient with tissue test 0.18% S, light green, spindly

How Do I Know If Have A Deficiency?

There currently is not a reliable soil test for S in Ontario. Sulphate levels are quite variable, and may be leached from the soil between soil sampling and plant growth.

Tissue testing of alfalfa (at mid-bud to early-flower stage) is considered a suitable diagnostic approach for determining S deficiencies. Sample the top 6 inches of 35 stems and send them to a laboratory for tissue analysis. The critical level below which alfalfa is considered S deficient and may benefit from applying sulphur is 0.25%. If a check is desired, take a similar sample from an area with no visual S-deficiency symptons.

A 2012 field survey of Ontario alfalfa stands indicated that 21% of fields had S- tissue analysis below this level. Put another way, 79% of these fields would have been unlikely to have an economic response to applying sulphur. It is also noteworthy that 37% of these fields tested below the critical K value of 1.7%, almost twice as many than were S deficient. Neglecting K fertility, while attempting to improve S fertility is not an effective strategy.

What Form of S?

What is the most economical source of S to use with alfalfa? The sulphur must be in the sulphate form to be taken up by the plant. Sulphate fertilizers include:

- ammonium sulphate 21 – 0 – 0 – 24)
- potassium sulphate (0 – 0 – 50 – 18)
- sulphate of potash magnesia (Sul-Po-Mag or K-Mag) (0 – 0 – 22 – 20)
- calcium sulphate (gypsum) (0 – 0 – 0 – 17)

All are equally effective as sources of sulphate. Depending on what assumptions you make, current prices make S in the sulphate form worth about $0.90 or more per lb S. To determine the most economical source of sulphate, get some local price quotes and do the math.

Ammonium sulphate provides nitrogen which should not be needed by the alfalfa. K-mag and potassium sulphate also provide potassium which is usually also required in alfalfa, but potassium sulphate is difficult to source and more expensive in some areas. Gypsum can be a good source of sulphate, but has no advantage in improving soil pH. Thiosulphate liquid forms, ammonium thiosulphate (12-0-0-26) and potassium thiosulphate (0-0-25-17), are readily available, but liquids are less convenient for fertilizing alfalfa and generally more costly per unit of S than dry forms.

Elemental sulphur (0-0-0-90) consists of finely ground sulphur that has been pelletized, and must be converted by oxidation to sulphate by soil bacteria before plants can utilize it. The rate of availability depends on particle size, method of application and moisture. Incorporating it into the soil before establishment makes it more readily available. In some circumstances, 50% of the sulphur may be available in the year of application, while

the remainder is more slowly available. Elemental sulphur is currently worth about $0.35 per lb S. Applying a single application of elemental sulphur rather than sulphate, supplies a cheaper S source over a longer period of time and reduces the need for annual applications. An application of 50 lbs/ac of S should last the life of a productive 3 year alfalfa stand.

When Should I Apply It?

Sulphate-S should ideally be applied in the spring at green-up to improve plant utilization, minimize losses due to leaching, and receive a first-cut yield boost (Figure 2). Elemental sulphur can be applied by:

1. incorporating it into the soil with other fertilizer at establishment (Figure 3) , or
2. blending it with P and K (and possibly boron) and broadcasting it after a cut.

How Much S Should I Apply?

A general thumb rule for S application on alfalfa is 5 lb/ac per ton of dry matter yield. Some S is still available in reduced amounts from atmospheric deposition and organic matter. The University of Wisconsin recommends 15 – 25 lbs/ac of S in the sulphate form broadcast on established stands annually, or 25 – 50 lbs/ac of elemental S incorporated at seeding. Research is required to verify these numbers in Ontario.

Ontario Research

Sulphur deficiencies in alfalfa have been more common in the mid-western US and north-western Ontario, because they are located upwind of much of the sulphur producing industrial pollution that has been cleaned up. Ontario research on sulphur rates, source, and timing for alfalfa has been more limited. Results from recent research trials applying sulphate to alfalfa have been mixed. Some sites have shown no response to applying sulphur. However, the most responsive site showed a dramatic yield increase in an alfalfa-grass mix of 1.55 ton/ac, a crude protein increase of 4 percentage points, and a percentage of alfalfa in the harvested forage improved from 33 to 56%.

To confirm that an actual yield response has occurred, farmers may want to leave a test strip where no S is applied. (Figure 4)

Figure 2 – Response of alfalfa to spring sulphate of potash (40 lbs S/ac) application, (left of stake)

Figure 3 – Response of alfalfa to elemental-S (100 lbs S/ac) broadcast in the fall previous to spring establishment (right of stake).

Figure 4 – Response from potassium sulphate applied to alfalfa following 1st cut.

Bottom Line

Tissue test alfalfa fields showing potential deficiency symptoms to determine if S should be applied, especially fields with low organic matter soils and those that do not receive manure. Applying elemental-S bulk blended with other fertilizer is the most cost effective method of providing S. Spring applications of sulphate can provide a more immediate yield response.

For more information on forages from Joel Bagg:
www.Fieldcropnews.ca
An excellent resource of current forage and crop information!

Harvest Management of Forage Crops and Corn Silage

by Everett D. Thomas, Oak Point Agronomics Ltd.

Dairy farmers don't often sell crops, and when they do it may be a surplus crop such as standing corn, or one they can't productively use in their herds including weather-damaged or very late-cut baled hay. Therefore it's easy to ignore the economics of crop production, but when farmers look at their total crop expense—variable inputs plus the investment in land, equipment and storages—they realize that crop production plays a big role in the economics of dairy farming.

The low stave in the barrel

There's always something limiting production on a dairy farm. If there weren't our cows would be making 75 liters of milk per day and we'd be harvesting 40 tons of corn silage per acre. But limits there are, and these limiting factors are sometimes called "the low staves in the barrel". The idea being, that production or profits can only rise as high as the lowest stave. That low stave, whether it's acid soils, poor ensiling practices or delayed forage harvest, will continue to be a limit to production, and often to profits. This certainly isn't news to farmers, but sometimes a technological advance or management change will solve one "low stave" problem but in the process will insert a new stave—and a low one at that!

An example of this is the harvest height of alfalfa and alfalfa-grass. When disk mowers came onto the market farmers realized that they could mow forages a lot faster but they could also leave a shorter stubble. That's because while hitting a stone with a sicklebar mower often results in a broken knife section and down-time for repairs, farmers quickly learned that it takes a lot to put a disk mower (or mower-conditioner) out of commission. As a result some farmers soon started using disk mowers as dual-purpose implements—combination mowers-land levelers. And guess what happened to ash concentrations? DairyOne forage analysis summaries reveal what happened when disk mowers started to become popular: Ash concentrations that had been flat-lined for many years began to increase, and continued to increase as more farmers traded their sicklebar mower for a disk mower. High ash concentrations, almost never a problem before, became one: A whole new (low) stave in the barrel.

With the advent of disk mowers some universities started recommending a 2" stubble height for alfalfa, reporting about a half-ton yield increase per year compared to a 4" stubble height. They had yield data but little or not much forage quality information, so Miner Institute began a two-year study to look at the impact on yield and quality of 2" vs. 4" (5 cm vs. 10 cm) stubble height including the impact on predicted milk production.

We found just as the universities had that yields were 0.5 tons/acre higher with 2" vs. 4" stubble height, based on three harvests. I predicted that forage quality would be so negatively affected by the lower cutting height (the bottom few inches of an alfalfa plant is very fibrous) that it would completely offset the higher yield. I was wrong: Predicted milk production per acre was 12,912 lbs for the 2" stubble height vs. 11,717 lbs for the 4" stubble height. At a milk price of US$20.00 per cwt., the value of milk production was $240.00 more per acre for alfalfa harvested at the 2" stubble height. Another way to look at it: With alfalfa hay valued at $150.00 per ton the additional 0.5 tons of alfalfa increases the value by $75.00/acre with no additional risk to the plants since alfalfa doesn't regrow from the cut stems, and the very small difference in forage quality due to the higher stubble height would have very little effect on the value of the alfalfa.

The dollars and sense of Shredlage®

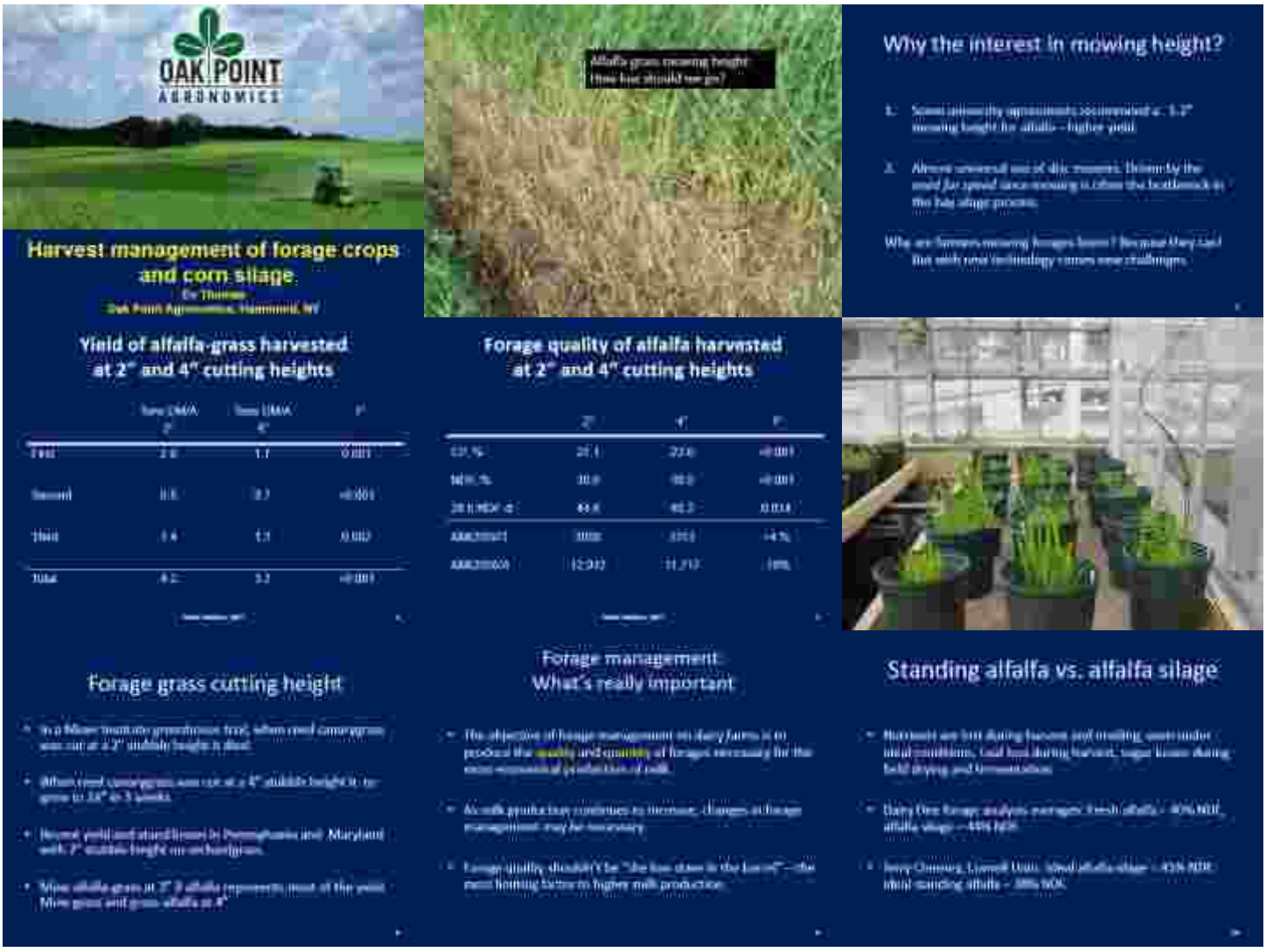
Farmers love new field equipment, especially something that may be superior to their current equipment. Such was the case with disk mowers, and now we're considering a new technology--shredding corn for silage--and trying to determine when, where, and if it pays. So far we only have two "cow trials" to evaluate, both done at the University of Wisconsin, but so far, so good. Shredlage® is a form of silage processing, but differs in that chop length is longer and the shredding

action of the cross-grooved rolls results in a higher kernel processing score. Limitations to date are that shredding units are only available for Claas forage harvesters, and a Shredlage unit costs about US$30,000.

So far the economics look promising: Cows eating shredded corn silage produced 2.2 and 2.5 lbs more milk (Trials 1 and 2) than cows eating "normal" processed corn silage. Shredlage® harvest costs are higher due to greater fuel consumption (for sure) and slower harvest rate (maybe). Some custom harvest operators in the Midwestern U.S. are charging $0.75 to $2.00 more per ton to harvest Shredlage®, while others are charging $25.00 more per acre. Also, cows appear to eat about 2.5% more dry matter when they eat shredded silage. So, assuming this higher DMI plus an additional $2.00 per ton harvest cost, for a ration including 80 lbs. of corn silage it cost an additional $0.25 to make $0.50 more milk—that's a 2-for-1 return. Though we're still in the learning process, there's little surprise that folks are excited about this new technology.

Alfalfa vs. alfalfa-grass

Alfalfa may be the queen of forage crops but sometimes a queen needs a little help from her friends. In this case one of her "friends" may be a forage grass seeded with the alfalfa. Research has shown that alfalfa-grass has higher total yield, is less susceptible to winter damage, and for some reason potato leafhoppers don't infest alfalfa-grass fields nearly as much as they do those of clear alfalfa. But in the end yield is a big reason, plus the fact that cows seem to milk as well or better on alfalfa-grass as they do straight alfalfa. Research at the University of Minnesota found that when alfalfa was seeded with either orchardgrass or tall fescue, not only was yield higher (vs. straight alfalfa) but so was milk production both per ton and per acre. Straight alfalfa yielded 5.4 tons/acre compared to 5.8 tons for each of the two alfalfa-grass mixtures. Milk production per acre was 1500 and 3000 lbs greater for the alfalfa-tall fescue mixtures and alfalfa-orchardgrass mixtures, which at a milk price of US$20.00 per cwt amounts to an additional $300-$600 per acre.



Harvest management, then and now

- Then: Allow first cut alfalfa to reach 10% bloom, then harvest at 6–7 week intervals. This resulted in alfalfa quality too low for today's high producing cows.
- Now: Harvest at the bud stage for every cutting. Leave a high stubble in the last harvest if there won't be snow cover.
- Bud stage harvest usually results in at least two more harvests per year, more in long season areas.

Yield vs. quality vs. persistence

- Today's aggressive alfalfa harvest management doesn't necessarily increase forage yields, and may reduce stand life.
- 4 cuts of alfalfa at 30-35 day harvest intervals may not yield any more than 3 cuts at a 45 day harvest interval.
- Current research is focusing on varieties that better retain quality – can it do 3 cuts?
- However, the objective is milk per acre, not tons per acre.

Predicting first cut date by Growing Degree Units (GDU)

- Base 41°F GDD. Maximum daily temperature + Minimum daily temperature ÷ 2, then subtract 41 = GDU for that day. GDU doesn't start until daily high reaches 41°F for 3 consecutive days.
- 300 GDU = bud stage, 800 GDU = first flower.
- Daily GDU must be calculated for each locality. Elevation and proximity to large water bodies can make a big difference in GDU. Only for first cut.

PEAQ method

- Developed at the University of Wisconsin
- Uses the longest stem and the most mature stem to estimate the NDF of 1st cut alfalfa in a standing crop. Assumes a 3.5" stubble height.

PEAQ stick

My two cents worth:

- Use bud stage for 2nd and later harvests, but mix during the fall since during cool weather it can take a very long time for alfalfa to reach bud stage.
- Maturity height alone is a good predictor for first cut timing because cool conditions can result in alfalfa answering vegetative for extended periods.
- Bud height is even better when combined with another variable such as GDU, calendar date or maturity stage.

AM vs. PM mowing

- Research in the Southwestern U.S.: Alfalfa hay mowed in the afternoon was higher in digestibility, had better palatability and made more milk.
- But we can't mow in the afternoon and chop the same day. Some of the sugar in PM-mowed forages is lost overnight.
- If you mow in the AM, try to chop in the PM. Wide swaths are the answer.

Fall harvest of alfalfa: Yes or no?

A very common question each September

- The answer depends on forage inventory, potential yield, health of stand, and prior harvest management.
- Generally, OK as long as there's been at least 45 days since the previous harvest, and a high stubble (4-5") is left to catch snow.
- Forage quality: May be "too good" – very high CP, very low fiber! Feed full harvested alfalfa with discretion.

A short history of fall alfalfa harvest recommendations

- Prior to 1980s: No harvest for 4-6 weeks prior to a killing frost (24-28°F).
- 1980s Gardner research: OK to harvest in September as long as there's enough time prior to this cut for adequate carbohydrate replenishment.
- Harvest interval and number of harvests may influence this decision: "Winter damage to alfalfa is an accumulation of insults." Jerry Cherney

New harvest schedules, new challenges for fall management

- Prior to the 1980s, harvest schedules often resulted in no need to even consider a fall harvest.

  1st cut @ 10% bloom – June 1, 2nd cut @ 45 days – July 15, 3rd cut @ 45 days – Sept 1.
- Current typical harvest schedule: May 25 – June 25 – July 25 – August 25. Then what? September 25? October?

Current fall alfalfa harvest recommendations

- Cornell University: 6-7 week interval between the last two harvests.
- Penn State University: 45 day interval between the last two harvests.
- Michigan State University: Cut/no cut decision depends on fall growing degree accumulations.
- University of Wisconsin: "No cut" period from Sept. 1st until a killing frost – defined as below 25°F.

Is this trip really necessary?

- A fall harvest usually results in a lower first cut yield the following spring.
- Fall grown alfalfa often looks better than it really is because of large leaflets. Farmers looking back at the resulting stands ask "Where's the beef?"
- Balance the cost and risk of fall harvest on the need for the forage. Leaving 3 ton DM/acre will not smother the plants, may result in about 1% higher RDF in the following year's 1st cut.

Managing fall-harvested alfalfa

- Use of a silage inoculant is highly recommended. "Wild" fermentation: bacterial populations decline due to frost and prolonged cool weather.
- Combining high moisture (25% CP hay?), cool temperatures + limited fermentation: harvest & preservation can make fall harvested alfalfa difficult to ferment. Result: Possible intake problems.
- Minor nutrient comparison: Blends fall harvested alfalfa grass silage with summer harvested alfalfa grass silage.

A caution:

- All of these fall management options assume a healthy stand.
- Disease, low pH, low fertility, poor drainage, winter damage, and insect damage all may suggest more conservative fall management.
- Some of these can be prevented. Easier to prevent than correct!

Recent research data on kernel texture

- University of Wisconsin: Used whole plant DM in over 35%, there's very little difference in starch digestibility due to kernel texture
- Starch digestibility doesn't start to decline until the kernel approaches black layer — a stage nobody recommends for silage harvest.
- Ohio State University: Regardless of kernel texture, starch digestibility is at least 96% in well-fermented corn silage and HMC. Intensive hybrids may actually be better because of higher grain yield.

And besides....

...a difference in kernel texture isn't visible until the corn is fully mature—black layer. You can't see the difference at corn silage (and perhaps even HMC) maturity.

One trial that did find a small difference in starch digestibility between floury and adhesive hybrids used "backboard" hybrids—and there are almost no highly floury (soft kernel texture) hybrids on the market.

Shredlage background

- Idea came from dairy nutritionists Ken Zinn and Roger Ellson
- First one built in 2013 by Loren Ellson (Roger's father) Land Science Design Engineering
- Only the Claas choppers: New model: High Performance Modified Shredlage unit (Claas) Price ~$30,000
- 2014: Loren Ellson to fit Kinze 3pt X, 5R FP series and JD 7000+ series choppers. Test a Shredlage unit: 17.21 mm TLC vs. 26.28 mm for Shredlage. No research data.

How it works

- Knife are shredded lengthwise on cross-grooved rolls. Requires slightly more power and ~2 gallons/hr more fuel, may reduce harvest rate.
- Roger Ellson: "Accelerates corn kernels" . Claims that more surface area for rumen bacteria. – higher digestibility
- Creates long particles on top screen of Penn State Particle Separator. Can farmers reduce or eliminate straw in "free" (high corn silage) rations?
- Better packing, higher silage density? Farmers say yes. Cornell 2013 trial in bunker silos: Lower silage density

Shredlage Processed

Shredlage Processed

Shredlage vs. processed research

- 26 mm TLC (1.1")vs. 19 mm (0.75"). KPS: Shredlage= 72, processed CS – 60 trial #1, 67 trial #2. Trial #2 used BMR.
- Trial #1: Higher starch digestibility and total digestibility, no difference in NDF d. No data yet for trial #2
- 2.5% higher DMI, + 2.2 lbs. milk/cow Trial #1, + 2.5 lbs. Trial #2

Assuming $0.60/lb for kernel vs Shredlage:

2.2 lbs. of milk = $0.66 $0.66 added income less $0.30 to 2% 2.5% higher DMI: 1.5 lbs at $0.12 | $0.18 = $0.06 | $0.24

Other stuff

- One Wisconsin custom operator is charging $25 more per hour, inflates $0.75-2.50 more per ton
- Farms will wear than with a processor. Shredlage one roll at 40,000-45,000 tons, both at 60-70,000 tons.
- Higher KPS may mean that corn can be chopped at a higher DM—maybe 38%? No data yet!
- Need more data, including Shredlage silage density in bunker and stack silos.

Shredlage questions

- 40,000 tons @ 30 tons/acre = 1300 acres. Will farmers and custom operators know when it's time to make a roll. Lose their mind at 1?
- But no difference in HMC. It is the first Wisconsin trial. So is the only impact on the kernels?
- Does longer corn silage particle length really impact rumen function? Research done?
- If your KPS isn't optimum, how much increase in milk production would you make by increasing KPS with your silage processor?

Notes

Notes

Alfalfa vs. Alfalfa Grass: Different Strokes for Different Folks-and Fields

by Everett D. Thomas, Oak Point Agronomics Ltd.

Alfalfa vs. alfalfa-grass

Different strokes for different folks—and fields.

Ev Thomas

Oak Point Agronomics, Hanwood, NY

Straight alfalfa, or alfalfa-grass?

- Many fields in Ontario would produce better with alfalfa-grass than with straight alfalfa.
- Pick the companion grass to fit the situation. With intensive harvest management tall fescue or orchardgrass, perhaps a winter-hardy ryegrass.
- If you use orchardgrass, buy the latest-maturing variety you can find. Early orchardgrass varieties head out two or more weeks earlier than late ones.

Grass vs. alfalfa-grass

- Alfalfa-grass may be more practical than pure stands of both species: No need for separate fields or storages.
- Alfalfa-grass has advantages both in the field and in the feedbunk.
- An alfalfa-grass stand containing about 2/3 alfalfa and 1/3 grass is ideal.
- ...enough alfalfa to supply N to the grass, while fiber levels and NFC are still OK.

Alfalfa vs. alfalfa-grass in cold-weather climates

- Alfalfa-grass has been preferred to alfalfa in many cold-weather climates because of improved winter survival.
- Grass helps catch and hold snow, protecting alfalfa crowns from cold-weather damage. It really works!
- Grass also helps reduce frost-heaving damage, which can sever alfalfa tap roots and kill the plant.

Alfalfa-grass increases yields throughout the life of the stand

- Seeding year yields are often higher with alfalfa-grass than with alfalfa.
- If the alfalfa is killed by insects, disease or field traffic, the grass in the stand provides yield "protection".
- As alfalfa plant population declines, grass becomes a higher % of the stand. Manure or N fertilizer can significantly increase yields in the last year or two of stand life. Nitrogen does not decrease alfalfa yield.

Reasons other than soils and climate to consider alfalfa-grass

Alfalfa vs. alfalfa grass: Leafhopper damage

- Research has shown that potato leafhoppers do significantly less damage in alfalfa-grass fields than in straight alfalfa.
- Cornell University found that leafhopper damage in seeding year alfalfa was less with alfalfa-grass than with straight alfalfa.
- In another study, 67% of leafhoppers emigrated from alfalfa-grass plots vs. 50% emigration from alfalfa plots.

Alfalfa vs. alfalfa-grass: Alfalfa weevil damage

- Effect of alfalfa-grass vs. alfalfa is less clear than with leafhoppers, but there are differences.
- California: Interplanting grasses into established alfalfa reduced alfalfa weevil damage.
  - Sweep net collections found 4-5 alfalfa weevil larvae per sweep in alfalfa-grass vs. 18 per sweep in alfalfa
- Another California trial involving 2 acre plots: Less alfalfa weevil damage in alfalfa-grass than in straight alfalfa

Topdressing manure on alfalfa-grass

- Manure applied @ 11,000 gallons/acre 3 vs. 7 days after harvest, compared to no manure.
- Second and third cut harvested with a disk mower
- No difference in 2nd or 3rd cut yield, CP, NDF, or digestibility.
- Ash content significantly higher for both manure applications vs. no manure. Numerically higher ash in 2nd cut with delayed manure application.

Harvesting alfalfa vs. grass: There is a difference

- Alfalfa stores carbohydrates in its taproot, regrows from crown buds.
- Grass stores carbohydrates in the bottom 3-4" of the above-ground portion of the plant, regrows from the cut stems.
- Harvesting at 2" or less has no effect on alfalfa nutrient reserves, but a big effect on grass nutrient reserves. Mow grasses at 4" stubble height.

Alfalfa vs. grass: There is a difference!

- Alfalfa has tap roots that reach deep into the soil profile, while grasses have dense, relatively shallow root systems.
- Grasses are much more efficient than alfalfa in nutrient uptake. This can be a plus or a minus.
- Grasses will thrive and accumulate ~2.5% K at soil potassium levels that are low enough to starve alfalfa to death. This can be a problem in producing grasses for dry cows, and in growing alfalfa-grass in low K soils.

Miner Institute experience

- Leased field seeded to alfalfa-reed canarygrass. The alfalfa died but the canarygrass thrived.
- 2005 Cornell University soil test K = 0 lbs/A! Confirmed to be close to 0 by a second soil sample.
- Third cut grass, harvested a week before the soil sample was taken: Grass K = 2.85%—which is normal.
- Where did the grass find the potassium?

Therefore...

- Do not seed grass with alfalfa if soil test K is low or medium-low. Build K to medium-high or high first.
- The alfalfa may begin to grow well ... but only until the grass root system becomes well established.
- Then the alfalfa will start to disappear, even with the recommended K fertilizer application rates.

Alfalfa-grass in dairy rations

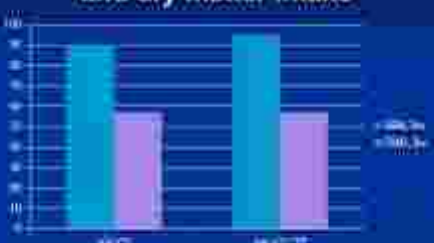
- The grass in alfalfa-grass stands may benefit the dairy cow because grass has less NFC (nonfibrous carbohydrate).
- Grass has higher NDF-d, but alfalfa has a faster rate of NDF-d during the first 24 hours.
- Alfalfa-grass (or all grass) is a good fit for high corn silage diets. The more corn silage in the ration, the better fit for alfalfa-grass vs. straight alfalfa.

Rations: Alfalfa vs. alfalfa + grass

% of total ration

Feed	Alfalfa Silage/Corn silage	Alfalfa/Corn silage/Tall fescue
Corn silage	[illegible]	[illegible]
Alfalfa silage	[illegible]	[illegible]
Tall fescue silage	[illegible]	[illegible]
High moisture corn	[illegible]	[illegible]
Protein/minerals	[illegible]	[illegible]

Milk production and dry matter intake



Alfalfa-grass mixtures

Alfalfa-grass	DM Yield, Ton/A	Milk/ton, lbs	Milk/A, lbs
Clear alfalfa	[illegible]	[illegible]	[illegible]
Orchardgrass	[illegible]	[illegible]	[illegible]
Tall fescue	[illegible]	[illegible]	[illegible]
Meadow fescue	[illegible]	[illegible]	[illegible]
Reed canarygrass	[illegible]	[illegible]	[illegible]
Bromegrass	[illegible]	[illegible]	[illegible]
Timothy	[illegible]	[illegible]	[illegible]

The dollars and sense of alfalfa vs. alfalfa-grass

- Research has shown that alfalfa-grass yields more per acre, and produces as much or more milk per ton.
- From the Wisconsin data: What's 5 lbs milk worth?
- But even if milk production doesn't increase, from a yield standpoint alone alfalfa makes economic sense.
- From the Minnesota data: 0.4 tons more alfalfa DM/acre for alfalfa-orchardgrass or alfalfa-tall fescue. If forage is worth $150 per ton, that's $60/acre.

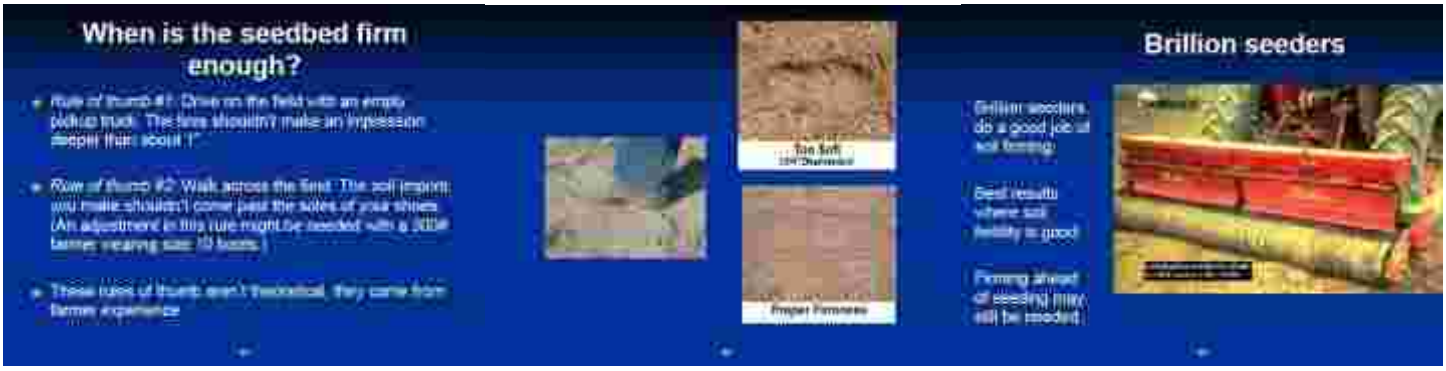
Seedbed preparation for grasses

Start with a fine, firm seedbed

- Most forage seeds should be planted 1/8" to 1/4" deep. Some seeds will be visible on the soil surface.
- Most small forage seed planted deeper than ½" won't emerge. That's part of the reason why seeding rates are so high compared to an ideal stand.
- 4 lbs tall fescue seed/acre = 115 seeds/sq. ft.
  15 lbs/A of alfalfa = 75 seeds/sq. ft.
  190

Preparing a fine, firm seedbed

- The key to a proper seedbed for small-seeded forages: Firm the soil before and after seeding.
- Break down clods, but don't overdo secondary tillage—an overly tilled, fluffy seedbed is harder to firm.
- Use a cultipacker or roller before seeding—can be pulled just ahead of the seeder—and use either press wheels or a cultipacker/roller after seeding.


When is the seedbed firm enough?
Too Soft
Proper Firmness
Brillion seeders
Brillion seeders do a good job of soil forming.
Best results where soil fertility is good.
Forming ahead of seeding may still be needed.

Notes

2014 Milk Maker Forage Competition Highlights

CONGRATULATIONS TO THE 2014 WINNERS!!

Hay Class

1st Darren Chapman, Chapman Bros Farm-Virden, MB

2nd Sam Luckhardt, Luckholm Farms-Owen Sound, ON

3rd Robin McKnight, Northfield Farms-Meadford, ON

Balage Class

1st Amy Berends & Kevin MacDonald, Silveroak Farm Inc.-North Lancaster, ON

2nd James Parsons, Parview Farms Inc.-Cache Bay, ON

3rd Eddie Jantzi, Napal Acres-Milverton, ON

1st Cut Haylage Class

1st Pedro Slits, Slits Dairy Farms-Brunner, ON

2nd Neil Wideman, Early Rise Jersey Farms-Elmira, ON

3rd Dale Martin, Margrove-Elmira, ON

2nd-4th Cut Haylage Class

1st Henk Dirksen, Dirksen Holsteins-Alma. ON

2nd Eddie Jantzi, Napal Acres-Milverton, ON

Corn Silage Class

1st Jennifer & Dave Bryson, Bryt Farms Ltd.-Dobbinton, ON

2nd Neil Wideman, Early Rise Jersey Farms-Elmira, ON

3rd Henk Dirksen, Dirksen Holsteins-Alma. ON

BMR Corn Silage Class

1st Dale Martin, Margrove-Elmira, ON

2nd Rob Kirkconnell, Valleykirk Fams-Owen Sound, ON

3rd Pedro Slits, Slits Dairy Farms-Brunner, ON

Visit www.ontarioforagecouncil.com for the 2015 Milk Maker Forage Competition Entry Forms **AVAILABLE NOW!!**

Follow us on Twitter: @ForageCouncil
and on
Facebook: Ontario Forage Council

for more information and updates on this exciting competition!

You could WIN 1st place & $500 in 2015!!

THANK YOU TO OUR 2014 MILK MAKER FORAGE COMPETITION SPONSORS!!

Platinum Sponsors

Gold Sponsors

Silver Sponsor

Bronze Sponsors

Winning entries will be displayed for all to admire at the "Milk Maker Forage Competition" display at the Canadian Dairy Xpo in February 2015!

Want to be first to receive information on the 2015 competition?
E-mail support@ontarioforagecouncil.com to be added to the notification list!


Milk Maker
Forage Competition
The Ontario Forage Council (OFC), & Canadian Forage & Grassland Association (CFGA), are pleased to deliver the 2nd Annual "Milk Maker Forage Competition"!
This competition will be open to forage producers across Canada. Seed companies/dairy organizations can support and encourage their customers/members to participate for a chance to become the Milk Maker Forage Champ-an annual status. There will be categories for dairy hay, grass hay, haylage, baleage and silage. Producers will be invited to submit samples for lab and visual analysis; the winners from each category, will be showcased at the 2015 Canadian Dairy XPO!!
ATTENTION Forage Producers!!
"Why Participate?"
An excellent way to market excess forage!
Cash prizes!
The opportunity to network with dairy producers from across the country!
Bragging rights as the "Milk Maker Forage Champion" for an entire year!
Low cost entry fees!
Winning entries will be displayed for all to admire at the "Milk Maker Forage Competition" display at the CDX in February!
Winning entries will receive recognition at the event as well as on the OFC & CFGA websites!
Winning entries will be featured in an article in the OFC Spring Issue of "THINKGREEN! Newsletter"!
The satisfaction of achieving "winner" status of a nation-wide dairy forage competition!
It's a fun, friendly competition between producers with a common goal!
This event is supported and endorsed by the following organizations:
CFGA

Forage Focus 2014 has been made possible through the co-operative support of the following organizations:

Ontario Ministry of Agriculture, Food and Rural Affairs
Ontario Forage Council
Dairy Farmers of Ontario
Agricorp
New Holland Canada Ltd.
Agriculture Credit Corporation
Agri-Solve Inc.
BDO Canada
CanGrow Crop Solutions
Cumberland Valley Analytical Services
Duupont Pioneer
Forage Genetics International
GROWMARK
North Waterloo Farmers Mutual Insurance
Nuhn Forage
Quality Seeds Ltd.
SGS Agrifood Laboratories

Ontario Hay Marketing Forum

Looking for Quality Hay Products? Be sure to check with the reputable members of the
Ontario Hay Marketing Forum
www.ontarioforagecouncil.com

BDO

Assurance | Accounting | Tax | Advisory

Certification | Comptabilité | Fiscalité | Services-conseils

DUPONT PIONEER

Forage Genetics International

NORTH WATERLOO FARMERS MUTUAL INSURANCE

SGS AGRIFOOD LABORATORIES

GROWMARK

ACC Agricultural Credit Corporation

CANGROW

Analysis of Forages by NIR and Wet Chem.
Feed, Soil, and Livestock Water
1-503 Imperial Rd N Guelph, ON • N1H 6T9
(519) 837-1600 • (800) 265-7175
www.agtest.com • www.sgs.ca
ca.agri.guelph.lab@sgs.com
Grow your Crop. Grow your Business!

Agricorp

An agency of the Government of Ontario

Different programs cover different risks

Make sure you are getting the most out of government sponsored business risk management programs. Different programs cover different risks, giving you comprehensive protection. Visit **agricorp.com** or call **1-888-247-4999** to learn more.

Program	Protects against
AgriStability	Large margin declines
AgriInvest	Small margin declines
Production Insurance	Yield reduction and crop loss
RMP (livestock and grains and oilseeds)	Adverse market conditions
Self-Directed Risk Management for edible horticulture	Losses or expenses

Growing Forward 2 | Ontario | Canada