PICKSEED®
good things growing...

The Forage Informer

ISSUE 3 | MARCH 2007 THE BEST SOURCE OF INFORMATION FOR FORAGES AND CORN SILAGE

The Parr Farm

Paul Wight, PICKSEED Ontario Sales Manager

Our Farm article, today, takes me back to Northumberland County. PICKSEED's Area Manager Lyle Gallagher has arrange for me to talk with Doug and Shirley Parr, of Parrdale Dairy Farms.

From left to right: Kevin, Stephen, Doug & Lyle

Doug and Shirley's family consists of sons Stephen and Kevin, and daughters Kari and Kimberly. Kari works in the local office of the Municipality of Trent Hills, and Kimberly is studying advertising at St. Lawrence College in Kingston.

Stephen is a graduate (2002) of University of Guelph, and married to Jadine, who works with the deaf at Sir James Whitney School in Belleville. Stephen also is a member of the Milk Committee. Kevin is one of the last graduates of the diploma course at Guelph finishing in 2004. Doug's mother Reta continues to take an active interest in the farm, even though Mrs. Parr is in her 80's she does the farm's payroll.

The farm was purchase by Doug's grandfather in the early 1900's. Stephen and Kevin are the fourth generation to farm this land. The Parrs operate 1,000 acres of crop land, of that 700 is owned and another 300 acres are rented. Their crops consist of 300 acres grain and silage corn, 100 acres of wheat, 150 acres oats and barley and 350 acres of hay/haylage. Their PICKSEED connection dates back some 40 years. Doug remembers his dad purchasing forage seed and a set of chain harrows (yes, PICKSEED sold chain harrows many years ago, they were offered in order to help farmers improve pasture management). There were also some recollections between Doug and Lyle as to how seed used to be shipped by train and farmers would pick up their seed at the local railway station. Today their purchases of ExMax and ExPert corn silage and PICKSEED's Starbuck forage mixtures get delivered by PICKSEED to the farm.

I was concerned that my last issue in the Forage Informer stirred up emotions from some readers that "just maybe farming today is not seen by the next generations as being a viable alternative to off farm employment". Not so, at the Parr's - this family is very dedicated to farming. When I brought up this issue of succession with Stephen, I could see the dedication that he and his brother had to farming.

Doug and Shirley work this farm as a team; I do want to let our readers know that Shirley is an intricate part of this family operation though Shirley had a reason not to join us for lunch and seemed to be shy when it came to joining the group picture. Doug made it very clear to me Shirley was every bit as important a member of this farm operation as anyone. I believe Shirley opted out from joining us because of

continued on Page 2

INSIDE

What is winter going to do to alfalfa fields. 2

Relationship between corn test weight, Energy & Feeding Value. . . . 3

Forage Quick Cuts 4

What is the Winter going to do to my Alfalfa Fields?

The winter has been mild so far, 2-3 degrees milder than normal (as I write this in mid-January), and "…warmer than it has been since 2001" according to Environment Canada. This was combined with generous rains all fall which left the soil saturated and warmer than usual.

This all sounds like there would be potential for some winter damage in alfalfa stands because conditions haven't been the best for getting good plant hardening. In fact, plants may have come close to breaking dormancy in some areas and on some lighter soils during that warm spell earlier in the winter.

However, the one thing that we know for sure about predicting winterkill in alfalfa is that we don't do it very well. The key point is that if you have doubts, get out early in the spring to check your fields. Here are some things to consider and some things to look for in the field to assess the extent of winter damage.

Plants that are well hardened can withstand temperatures as low as -15°C (5°F) but if they have lost hardening due to mid-winter warming or the type of warm conditions we had this past fall, plants will be more susceptible. Cold injury affects new regrowth tissue at temperatures of - 4-4.5°C (24-25°F).

Older stands are more susceptible to winterkill and so are stands that were cut during the critical fall rest period or that are not getting enough potassium.

But don't spend too much time estimating what the damage might be, get out into the field and take a look at what's happening. At the earliest point in the spring all you can count are plants. The stems will not have enough growth to really count them although later, stems will provide a more accurate guide to the strength and value of your stand. When doing plant counts, you want 5 plants per square foot for stands in their third year or older. Stands in year 2 should have 8-12 plants and stands in their first year 12-20 plants per square foot.

Table 1. Recommended alfalfa plants per square foot for a viable stand

Stand Age	Plants/sq ft
Year 3 or older	5
Year 2	9-12
Year 1	12-20
New seeding	20+

A more accurate way to ensure productivity from a stand is to count the alfalfa stems per square foot. Table 2 indicates the expected yield provided by stands with a particular stem density.

Table 2. % of maximum yield potential of different alfalfa stem densities (stems per square foot).

Stems per square foot	% Maximum yield
55+	100
40-50	75-92
<40	replace stand

The Parr Farm cont'd

continued from Front

"mother's pride" in her sons.

Prior to last year, the Parr's milked 130 cows, tended to 40 dry cows, 160 young heifers and some 25 feeder cattle. The facilities in use were either add on buildings, near-by buildings or off farm facilities. The milking operations consisted of 65 ties stalls where cows were milked in three shifts, and housed in a near by free stall, very labour intensive. Doug was very concerned with cow comfort in this operation. They had the cattle and quota but they were in need of improved dairy facilities.

Doug and Shirley dreamed of building a more modern dairy facility. We all have "if only I could" type dreams but dreams don't always materialize. Doug and Shirley's dream needed commitment of family, particularly their sons. And everyone needed to have confidence in the dairy industry. As Doug said the quota systems have been good and have given farmers security to move their operations forward. Over the past year I have witnessed the impact of some changes brought forward by the Dairy Farmers of Ontario, I must admit being an outsider, and perhaps I shouldn't comment. I just think that every industry must make hard decisions for the health of their particular sector. The commitment has to be there if we are to attract young farmers to this business of farming. DFO is trying very hard to do just that.

So on November 30, 2006, the Parr family moved their herd into their new dairy facilities. This consists of a double 10 Germania Milk Parlour with an Afi Computer System. Their free stall barn is a 160 cow, 4 row comfort stall setup with centre feeding. There is rubber flooring throughout, automatic sorting of the cattle and automatic scrapers for their liquid manure handling to round out their facilities.

I want to thank the Parrs for allowing PICKSEED the opportunity to write this article. We all have dreams like Doug and Shirley, but we all may not have the commitment to change dreams to reality. Congratulations to the Parr family. I want to assure everyone dairying is alive and well in Northumberland County.

The Relationship between Corn Test Weight, Energy and Feeding Value:

Matt Anderson, Research Associate, Pickseed Canada Inc.

For years, producers have noticed declines in animal gain and feed efficiency when feeding low test weight corn. This had led researchers to believe that energy and feeding values of low test weight corn are lower than compared to those of normal or high test weights, but is this really the case?

Most research with low test weight corn reveals that it has very similar energy and feeding values compared to higher test weight corn. To take a look at this, researchers from the University of Minnesota tested corn grown in Alberta in 1991. Due to low rainfall, shortened growing seasons and the probability of an early frost prior to harvest the production of low test weight corn is much more likely in this area. They compared samples of corn with 5 different test weights. Their results are listed in Table 1. They found that crude protein, crude fibre and ash were higher while crude fat and starch were lower in low test weight corn. However, even with the large differences in their test weights there were minimal differences in the overall gross energy contents.

In 1994, researchers from the University of Georgia evaluated the protein and energy contents of 26 corn samples of varying test weights. The results (Table 2) corresponded to studies such as the one above from the University of Minnesota; showing no relationship between test weight and gross energy.

In more recent studies, the University of Nebraska looked at the differences of feeding low and high test weight corn to growing and finishing cattle. Their results (Table 3) show that the gains, feed efficiency and net energy values were very similar for both corn weights. In fact, performance was higher during finishing (NEm and NEg were greater in both years) for low test weight corn. This is not the first study that this has been noticed in either. Research from South Dakota State University (Wagner, 1995) also revealed that the net energy value of low test weight corn may even be higher than normal test weight corn.

In summary, low test weight corn has been shown in numerous studies to be equal in energy and feeding values when compared to normal or high test weight corn. Test weight (bushel weight) is clearly not the ideal method of predicting the energy and feeding values of corn. The only reliable way to measure energy content of corn is to do a lab analysis that includes energy estimates.

While your corn will lose grade at the elevator if test weight is too low, it still is an excellent energy source – the equal of higher test weight product.

References:

Baidoo, S.K., A. Shires, and A.R. Robblee. 1991. Effect of Kernel Density on the Apparent and True Metabolizeable Energy of Corn for Chickens. Poultry Sci. 70:2102-2107.

Dale, N. 1994. Relationship between Bushel Weight, Metabolizeable Energy, and Protein Content of Corn from an Adverse Growing Season. J. Appl. Poultry Res. 3:83-86.

Rush, I., B. Weichenthal, and B. Van Pelt. 1996. Feeding Value of Light Test Weight Corn for Growing and Finishing Steers. 1996 Nebraska Beef Report: 54-55.

Wagner, J.J. 1995. Low Test-Weight Corn for Feedlot Cattle. South Dakota State Univ. Ext. Serv., Extension Extra 2019.

Table 1: Characteristics and composition of corn produced in Alberta, 1991

	Test Weight, lbs/bu				
	48	50	54	57	58
Kernel dry matter, %	86.80	87.60	88.60	86.40	86.90
Crude protein, %	12.20	11.20	10.10	9.80	10.70
Ether extract (Crude fat), %	3.90	4.00	4.50	4.30	3.90
Starch, %	65.50	66.90	69.20	71.50	73.10
Crude fibre, %	3.20	3.00	2.90	2.30	2.30
Ash, %	1.90	1.80	1.90	1.40	1.30
Gross energy, kcal/g, DM	4.45	4.53	4.53	4.52	4.52

Source: Baidoo, S.K., 1991

Table 2: Characteristics of corn with different test weights

	Test Weight, lbs/bu					
	43-46	46-49	50-51	53-54	56-58	58-62
Gross energy, kcal/g DM	4.05	3.88	3.92	3.93	3.90	3.93
TME, kcal/g	3.39	3.32	3.37	3.42	3.37	3.45

Source: Dale, N. 1994.

TME: Total Metabolizable Energy

Table 3: Effect of corn test weight on performace of growing and finishing cattle

	Year 1		Year 2	
Item	High	Low	High	Low
Corn characteristics				
Test weight, lbs/bu	56.5	47.8	561	46.1
Moisture, %	11.7	13.4	14.6	15.4
Crude protein, % DM	9.8	10.2	8.6	9.9
Growing program				
ADG (lbs/day)	2.49	2.51	2.40	2.49
DMI (lbs/day)	16.51	16.77	17.19	17.85
Feed/Gain	6.65	6.70	7.16	7.12
Corn NEm (Mcal/cwt)	96.19	94.03	94.70	96.38
Corn NEm (Mcal/cwt)	68.78	67.14	67.65	68.95
Finishing program				
ADG (lbs/day)	2.71	2.82	3.50	3.61
DMI (lbs/day)	18.76	18.36	23.58	22.70
Feed/Gain	6.92	6.47	6.65	6.32
Corn NEm (Mcal/cwt)	106.07	114.64	108.38	122.87
Corn NEg (Mcal/cwt)	68.99	72.78	70.07	75.97

Source: Rush, I., B. Weichenthal, and B. Van Pelt. 1996.

NEm: Net energy for maintenance, NEg: Net energy for gain, ADG: Average daily gain, DMI: Dry matter intake

"Forage Quick Cuts"

Roundup is good for the Soil

When spraying Roundup and other products containing glyphosate, what happens when these herbicides come in contact with the soil? Are there adverse effects on soil microbes? Research in Texas and Georgia found that not only does Roundup Ultra not have any adverse effects on soil microbes, but the herbicide is readily mineralized, which actually increases the microbial population and activity. Two twenty-one year studies of chemical fallowing in Saskatchewan showed that Roundup had no adverse effect on soil microbial populations, and that the microbes at times would increase significantly in numbers in response to the application of glyphosate that they were actually "…feasting on the glyphosate." (V.O. Biederbeck, C. A. Campbell and J. Hunter. Long-term Influence of Glyphosate and Paraquat on Soil Microbial and Biochemical Characteristics in a Fallow-Wheat System in a Dark Brown Soil. http://paridss.usask.ca/factbook/soilcrop/bix.html)

Ethanol from Corn – a Net Energy Gain

It takes lots of energy to produce a crop of corn for the ethanol mills (mostly in N fertilizer), but Deane Morrison of the University of Minnesota says that corn "delivers 25 percent more energy than is used in producing it". Most of this net benefit comes from the animal feed that is produced as a by-product of ethanol production. To put this into perspective, the net gain from the production of biodiesel from soybean is much higher – 93 percent. A research team at the University figure that currently 14% of US corn is converted to ethanol and this replaces only 1.7% of the total (all sources, including transport) gasoline usage. If all corn was converted to ethanol, about 12% of gasoline use would be replaced.

The environmental benefit seems modest though; this research group says that "if one replaced a total of 5 percent of gasoline energy with ethanol energy, greenhouse gas emissions from driving cars would be a bit more than a half percent lower".

Our current economics make ethanol from corn an attractive alternative and the researchers in this study anticipate that this will change in the longer term, when the technology to extract ethanol from cellulose is more functional. Then prairie grasses from existing stands, woody plants, and plantings of specific crops such as switchgrass, reed canarygrass, etc. might be effectively used to reduce our greenhouse gas emissions.

Join the PICKSEED Team

Have you considered a career in selling seed? Why not join the PICKSEED team. PICKSEED has some key areas where we are looking for sales agents in Eastern Canada.

Our current sales agents have a broad range of background and experience and their talent, knowledge and emphasis on customer service combined with the quality and performance of our forage, hybrid corn and turfgrass varieties together makes an excellent recipe for success.

If you are interested, call PICKSEED's provincial Sales Manager for more details. Paul Wight 519-717-2226 (Ontario & Atlantic provinces) or Victor Lefebvre 450-230-0815 (Québec).

About The Forage Informer

The Forage Informer is an information publication produced and distributed by PICKSEED. It is available in English and French versions. Call us and we will send you a copy of the Forage Informer in the language of your choice.

If you wish to subscribe contact Bonnie Benoit at 1-800-661-GROW (4769) or send your name and address to Bonnie Benoit, PICKSEED CANADA INC., 1 Greenfield Road, Lindsay, ON K9V 4S3, Email: bbenoit@pickseed.com

L'Informateur Fourrager est disponible en version français et en anglais. Vous pouvez nous demander la version voulue en vous adressant à l'adresse ci-haut.

PICKSEED®
good things growing...

PICKSEED
1 Greenfield Rd., Box 304,
Lindsay, ON K9V 4S3

Toll-Free: 1-800-661-4769
www.pickseed.com

CANADA POST POSTES CANADA
Postage paid Port payé
Publications Mail Poste-publications
40050884