

FORAGE FIRST

"Published by the Peace River Forage Association of British Columbia"

Twenty Sixth Edition

April 2000

\$10.00

Summer Forage Tour Set for Saturday June 17, 2000 in Scenic, Historic and Majestic Peace River Valley

The Annual Summer Tour of your Association will be held in the Peace River Valley west of Fort St. John this year.

This area is long on history as Sir Alexander Mackenzie, the famous explorer, was in the area in the late 18th century and settlement started in this area in the early 19th century.

Scenery wise; this area with the huge Peace Valley bordered by both upland agricultural plateaus and the Rocky Mountains is likely unmatched anywhere in North America for a mid June outdoor activity.

We expect to mix interesting cattle, horse, native range, forage seed and tame forage management techniques together with the scenery and historic aspects, plus a windup Beef Barbeque to provide participants with both an interesting and informative day. (Complete details on the back page.)

Forage Association to Play a Bigger Part in Forage Cultivar-Varietal Trials in B.C. Peace Country

The Beef Cattle Industry Development fund is providing the BCFC with the major part of the three year budget for **Forage Variety Evaluation** in B.C. for 2000, 2001, 2002. In total the BCIDF is providing \$126,900 for the three year period.

The forage evaluation will be carried out in 5 districts south of Pine Pass (Williams Lake, Kamloops, Creston, Abbotsford, Sidney), plus the Peace River. Jim Forbes, BCMAF; Glenn Hogberg; Chair of R & D Committee and Sandra Burton, Cross Commodity Manager will be largely in charge of professional supervision of the Peace portion of the trials and may be contacted for further information.

Winter Forage Seminar Draws A Broad Spectrum of Participants Concerned about Wildlife, Forages and Livestock

Our two day Seminar and Forum provided members of the Forage Association and other interested parties a great opportunity to hear some well qualified folks speaking on wildlife concerns in the Western United States, Saskatchewan, Alberta and B.C. and those in attendance weren't disappointed.

A lot of great information was presented and discussed and exchanged and the frame work was well laid out to help the PRRD Wildlife Committee to continue their work towards an equitable solution for bonafide stakeholders in the wildlife industry in North East B.C.

The portion of the Seminar dealing with "Blending Environmental Stewardship with Economics: Forage Management for the New Millennium" was well attended also and a great deal of useful information was presented. Good water quality for humans and livestock, intensive management and controlled grazing using the Holistic approach and endophytes in cattle feeds. These topics mixed together nicely with speakers on ungulate wildlife and waterfowl.



Editorial

***Thank you to Sponsors -** The Peace River Forage Association of B.C. takes this opportunity to thank the following groups for their substantial sponsorship of our two day January forage seminar and forum: **Peace River Agricultural Development- Agriculture and Agrifood Canada; the B.C. Forage Council; The Prairie Farm Rehabilitation Administration; the B.C. Ministry of Agriculture and Food; Ducks Unlimited Canada and the Peace River Regional District, Peace Tractor Ltd.**

***Custom Silage Business Operating in 2000 -** Dave Belcham is getting geared up to do custom silage again this year. He has a complete line of harvesting equipment and is prepared to do everything for you on a custom basis. For further information and a breakdown of this year's custom rates please contact **Dave Belcham** Box 419 Pouce Coupe, B.C. VOC 2C0, Phone or Fax (250) 786 - 0098.

*** Alberta Forage Council Manager -** The new manager of the Alberta Forage Council is **Richard De Bruijn** of Ponoka. He has an excellent forage management background gained with his mother on their intensive managed controlled grazing enterprise near Ponoka.

*** Forage Crop Insurance -** Deadlines are fast approaching for insuring your forage crops (new seedlings) with the provincial crop insurance program. Please contact **Lee Bowd, BCMAF** (250) 784-2225 for further information.

*** Environmental Stewardship Award -**Our Association remains the BC Cattlemen's Environmental Stewardship Award Winners through May 2000 when another worthy group or individual assumes this important environmental mantle for the cattle industry. This beautiful gold leafed lettered plaque is exhibited on an attractive hand easel and is currently on display at the BCMAF office in Dawson Creek. If you are interested in having your attractive exhibit on display in your office or business please contact either BCMAF office: Fort St. John or Dawson Creek.

*** Endangered Species -** Doesn't a fellow like the current federal Environmental Minister who regularly and historically appears to be closely aligned with both west coast eco freak groups and high profile "Environmental" organizations with their own well directed agendas give farmers and ranchers a lot of confidence that he will consider their interests appropriately when crafting and implementing a new endangered Species Act? The way things are heading all over North America, the true endangered species are the food producers (AKA farmers and ranchers).

*** Lacombe Pasture Management School June 13 - 15, 2000 -** Without grass there is no beef, bison, lamb or horses. So plan to attend this hands on school and workshop with the experts and learn how you can improve your forage management and economic bottom line. Attendance will be limited for this school so early registration is recommended. For further information on this event sponsored by the Western Forage Beef Group please contact: **Cathy Hendrickson** (403) 782-8030 or **Grant Lastiwka** (403) 782-8028.

*** Annual Western Canadian Grazing Conference -** This year forage and grazing get together at the Capri Hotel in **Red Deer**. If you haven't been to one of these yet, this is your chance to visit and ruminate with a great number of professional and practical forage and grazing experts. The vast knowledge exchange amongst Western Canada's farmers and ranchers over this three day period in December is almost immeasurable! If you want to go to one winter event this year to help both the management and bottom line on your own ranch or farm this should be your choice. Mark your Calendar now: **December 6, 7 & 8, 2000**. For further information please contact **Greg Griffin** (780) 835-2291 or **Cathy Hendrickson** (403) 782-8030.

*** Galloping Poll Results -** Our roving reporter E.H. Bine recently concluded his galloping poll on what concerned livestock producers most in the B.C. Peace for spring and summer 2000. **And he discovered that it was when to vaccinate their cattle for Blackleg.** With a little more scurrying around to places of knowledge he discovered that for best results most catt producers need to vaccinate their calves in the spring or early summer as close to two months of age as possible then boost them in the fall at weaning and again at 18 months (especially if they are replacement heifers). Cow herds need to be boosted every three years or so, especially in a high incidence area like North Eastern B.C.. E.H. Bine also suggests a lively discussion on Blackleg and vaccination programs with your local vet might be a good idea for most livestock producers.

Association Project for 2000

As well as the varietal cultivar trials being funded by BCIDF and other partners, the Peace River Forage Association has added new partners, the Peace River Forage Association has these prospects on the go or expected to be underway in the near future as funding is received.

- ▶ Rejuvenation of Forage Stands with Aerway
- ▶ Rejuvenation of Forage Stands with Aerway and Lime
- ▶ Research and Development Consultation (The objective of this project is to encourage members of our Association by providing, supplemental funding to attend both the Western Canada Grazing Conference in December and the Lacombe Pasture Management School in June)
- ▶ Farm Forage Facts (Collect 100 highly useful forage-livestock-economic tips from our membership, publish and distribute to membership as a source of valued farm and ranch management information).
- ▶ LP Cut blocks Economic Grazing Evaluation (Documentation of costs/returns on grazing LP cut blocks on private land to control regrowth brush and produce pounds of beef without serious mechanical intervention. State of the Art Intensive management and controlled grazing will be used as opposed to traditional cut/pile/burn/repile/plow/disc seed with drill technology.)
- ▶ PFRA Water Demos (Geogrid Access ramps, Solar Water pumping, a Sling pump, Nose pumps, Koenders Windmill will all continue to be evaluated.)

Cross Commodity Manager Update

Sandra Burton has been a busy lady since she started work on behalf of the Peace River Forage Association of B.C., the Peace River Forage Seed Association and the B.C. Grain Producers last fall.

On our behalf, she has helped the various Association committees organize and carry out meetings, especially the December AGM and the January Winter Seminar. And she will be helping out for the June Summer Tour.

Perhaps more important, she has been working with association committees to write projects up and seek funding for them. In this regard she has achieved considerable success on our behalf and will continue down this road in the coming months.

Along the same lines, Sandra was also a prime mover in the Goods and Services Auction in February which raised a tidy sum of seed money for Association projects.

All of this has been achieved by devoting only 20 to 25% of her total time commitment to our Association.

The Tool Chest and PRRD Wildlife Committee

Several months ago the PRRD Wildlife Committee created a Tool Chest to help them resolve wildlife concerns for farmers and ranchers and other bonafide stakeholders in the Wildlife industry of the B.C. Peace River Country. There are four major Tool Chest components: Agricultural Management, Wildlife Management, Feeding and Hunting.

The tool chest allows the all party, broadly based stakeholders committee to actively pursue their goals within the guide lines of the LRMP. It is a flexible working document and is expected to be greatly enhanced by information presented in Farmington in January by : Randy Archibald, Brad Amer, Mike Gollop and Martin Vavra. If you are interested in a progress report on committee activities please contact Burnem Grant (250) 786-5566 or Karen Goodings (250)784-3200.

AGRICULTURAL MANAGEMENT

- ➡ Fencing
- ➡ Scare tactics
- ➡ Compensation - Resident Wildlife
- ➡ National Agricultural Stewardship Program.
- ➡ Domestic Crown Grazing
- ➡ Crop Choices

WILDLIFE MANAGEMENT

- ➡ Relocation
- ➡ Range enhancement (away from agriculture)
- ➡ Inventory (need to manage and have knowledge of numbers)
- ➡ Resident Wildlife (confinement) -Identification/ Redesignation and description of resident wildlife to be researched and included in the Wildlife Act

HUNTING

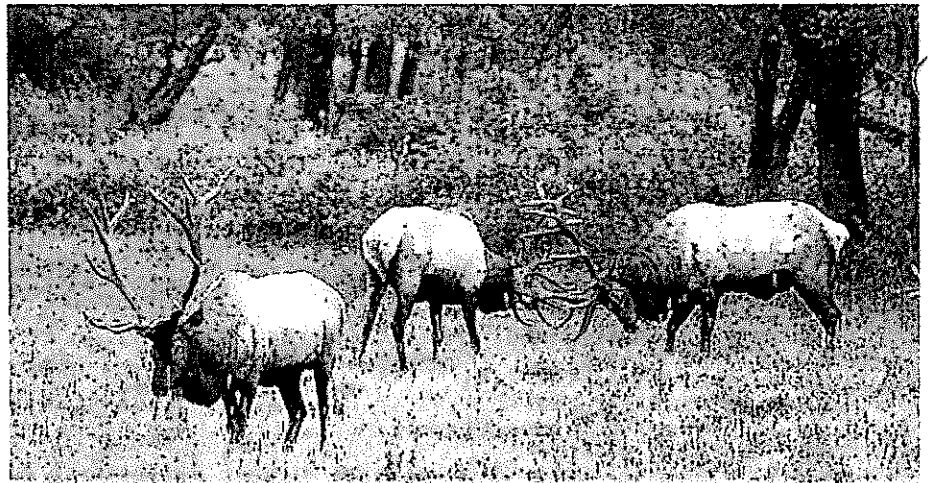
- ➡ Limited Entry Hunt
- ➡ Special Permits
- ➡ Open season (Hunting regulations)
- ➡ Booking Agents

FEEDING

- ➡ Lure crops, bait, i.e. hay
- ➡ Range enhancement - grazing tenure
- ➡ Compensation: Resident Wildlife

“Aren’t They Cute and Adorable”

Out here in the back of beyond
 Along the Kiskatinaw
 Living amongst and surrounded by Mule
 Deer, Moose, Whitetails and Elk
 It is almost as surreal as “Bambi” and
 better than virtual reality
 Plenty of beautiful, healthy four footed
 grass and hay munchers
 Aren’t they cute and adorable!



We really like the Disney movies
 So, we have been trying everything to get our wild
 animals to have Roman forums
 Where they gather and reason together
 But, no such luck
 And we can’t get them to talk either
 Out here they just graze in the fields or lounge around
 our haystacks
 Looking at us with their big eyes and ears
 Hardly bothering to move out of the way as we pass by
 or go to feed
 As briefly they employ their minute brain powers
 Concentrating on food, water and shelter
 Before their traditional herd instincts of flight patterns
 from predators over rules everything
 And off they speed
 And we can’t get our wolves to read the Bambi script
 either
 Sometimes you see wolf tracks and deer hair
 everywhere
 Aren’t they cute and adorable!

Icey besa claims soar through the sky
 Headlights, windshields and plastic grills get smashed
 out regularly.
 Plastic insulators knocked off of permanent electric
 fence
 Portable polytwine electric fences flattened, expensive
 gate handles stretched and swapped.
 Barb Wire fences down; high tensile hot wires crossed.
 cattle mixed and horses out.
 A herd of elk take out 200 yards of our fence as
 neighbors hunt
 And a couple of moose see the ranch dawg too close
 Hit the high tensile like an insane farm tractor and trash
 the 1/4 mile span.
 Antlers in the winter feeding tractor tires and the tires
 of the big farming tractor on the summer fallow
 Helping keep the business up at tire shops.
 Aren’t they cute and adorable.

Elk devastate the hay yard: pee and poo, trample and
 even dine too
 Mule deer aren’t quite as bad, but make your stackyard
 appear to be a sheep corral by spring.
 A pile of part bales where the haystack used to be
 Moose eat gracefully a bale at a time all winter.
 But over the winter a dozen moose eat a lot of bales.
 May have to sell some cattle this dry year
 So we have enough hay in our stacks
 To keep the Queen’s cattle fat and healthy
 But never fear.
 We are staunch monarchists and to the rules we adhere
 Not like those nasty Americans who just use predatory
 ungulate wildlife
 For target practice
 Aren’t they cute and adorable!.

All of these ungulates mainly graze on improved hay
 and pasture land 365 days a year
 Because that is where the forage is
 Nothing to eat out on the crown land usually except
 perception, fresh air and scenery.
 Our four footed friends have truly established their
 residency on our farms and ranchers
 Folks, what we have here is the Peace with our grazing
 wildlife.
 Is a true shared financial enterprise and partnership of a
 politically correct nature.
 Taxpayers and hunters get the benefits
 High profile environmental groups with their own
 angles
 Prove that perception is reality and guide the publicity
 That wildlife are first and agriculture nothing
 Guvament ministries take the credit for management
 And other successes and look to their computing to
 help them deflect any criticism
 The farmers and ranchers get the bill
 Aren’t they cute and adorable!

Benefits

Your combined membership in the B.C.F.C. and PRFA of B.C. provides you with these

Opportunities

To help set policy for both organizations

To participate with other forage enthusiasts in helping produce the vision and helping implement the process to improve the profit picture for those producers involved in Forage Based Agriculture.

To participate in the annual summer forage tour.

To participate in and/or receive information on demonstrations on forage production, soil conservation and livestock H2O and other Research, Demonstration and Development Projects.

To participate in the annual winter forage quality seminar

To participate in the Forage Varietal-Cultivar Process.

To receive news of the B.C. Forage Council via The Forager.

To receive news of the Peace River Forage Association of B.C. as well as useful, money making information via Forage First.

To participate in activities of the two Alberta Peace River forage associations.

To have access to our AerWay Land Renovator and Water Pumping Service.

To associate with other forage enthusiasts which will help keep you up to date on the latest production techniques and current economic trends regarding both intensive management /controlled grazing and winter forage supply production.

To participate with other ecologically and environmentally conscious farmers and ranchers in a variety of activities.

To participate with other farmers, rancher and stakeholders in resolving the current Resident Wildlife situation to the satisfaction of producers.

To present and advance your ideas as to how the economic and conservation picture can be improved regarding Forage Based Agriculture.

2000 Membership

**Peace River Forage Association
of British Columbia**



B.C. Forage Council

\$30.00

Please fill out and return to
PEACE RIVER FORAGE ASSOCIATION OF BRITISH COLUMBIA
P.O. Box 908
Dawson Creek, B.C.
V1G 1L6

Family Name _____

First Name _____

Spouse _____

Company Name (if applicable) _____

Mailing Address _____

Postal Code: _____ Phone _____ Fax _____

Main Enterprise & Interests

- ☐ Beef
- ☐ Dairy
- ☐ Sheep
- ☐ Bison
- ☐ Horse
- ☐ Game
- ☐ Seeds
- ☐ Hay
- ☐ Grazing
- ☐ Agribusiness
- ☐ Resource Agency
- ☐ Forage Enthusiast
- ☐ Association Projects

Please Note: Fellow Forage Enthusiasts - This \$30.00 fee provides you both with a joint membership in the Peace River Forage Association of B.C. and the BCFC plus gives you access to the activities and information from the Canadian Forage Council. Please make cheques payable to

Peace River Forage Association of B.C. Mark your Calender now! Plan to attend:

*** Winter Forage Seminar and Forum (Two Days) Farmington Community Hall**

Tuesday January 25, 2000 - Blending Environmental Stewardship with Economics: Forage Management for the New Millennium. Nine Speakers addressing a variety of timely topics.

Wednesday, January 26, 2000 - Addressing the Wildlife Concerns. Five speakers addressing ungulate wildlife grazing and eating hay on private property.

Please note: There is **No Charge** either day for paid up members.

*** Summer Forage Tour Saturday June 17, 2000.** Bus and automobile tour of scenic and majestic Peace River Valley west of Fort St. John and into Hudson Hope district.

Your comments _____

\$\$Grow Green with Us\$\$\$

January 10th, 2000

Quality Forage Seminar and Forum

January 25 - 26th, 2000 Farmington, B.C.



◀ The Wildlife Bunch Mike Gollop, Problem Wildlife Specialist, Fish and Wildlife Branch, Saskatchewan Environment and Resource Management, Saskatoon; Randy Archibald, Rancher and past Zone Director, Alberta Cattle Commission, Rosalind, Alberta; Martin Vavra, Professor of Rangeland Resources, Oregon State University and Station Superintendent, Eastern Oregon Agricultural Research Centre, Burns, Oregon.



Calvin Yoder,
Forage Specialist, Alberta Agriculture,
Food and Rural Development in
Fahler, Alberta ▶



◀ Sharon Reedyk, Water Quality Specialist,
Prairie Farm Rehabilitation Administration,
Edmonton

Brad Arner, Wildlife Biologist,
Ducks Unlimited Canada,
Prince George, B.C. ▶



◀ Ulla DeBruijn Thomson, Holistic Manager and
Grazier, Ponoka, Alberta



(Photos courtesy of Jim Sinclair, Frost Heave Communications,
Pouce Coupe, B.C.)

What is the Best Use of Your Farmland? - Recently E.H. Bine, our roving reporter, finished reading an enthralling and enlightening book on historical land management and crop rotations recommended for and practised in the Alberta and B.C. Peace. The most favoured and economically successful rotations include forages in all cropping programs. Probably only 20% of Peace Region soils due to reasonable fertility require forages for two years in ten; and these are the best soils! And on the other end of the stick there are at least 20% of arable and farmed Peace River lands that should never have anything but forages grown on the land. Thus about 60% of Peace River soils require a forage rotation of 4 to 8 years on a 10 year cropping schedule to prevent erosion, maintain organic matter and fertility and to provide a decent economic return. E.H. Bine reckons if a lot of farmers take a good look at the farming district where they live and the soil and climatic factors involved on their farm, quite a few of them might possibly begin to consider straight grain and canola rotations might just possibly be a better deal on a neighbours farm.



We Made a Lot of Dough and A Good Time was Had by All

On February 5th we held our first successful Fund Raiser in this century in the Farmington Community Hall. Your Association raised several thousand dollars to be used for seed money for Research-Development -Demonstration and Communications Projects.

A great deal of the credit for organizing this successful event goes to Bill and Brenda Wilson and Sandra Burton.

Fifty one items were offered and the bidding conducted by Weaver Brothers was brisk. Hats off to Greg and Jeff Weaver for a job well done and thank you for donating your auctioneering services.

A fun evening was guided along nicely by Master of Ceremonies Bill Wilson. Included were a lot of visiting between folks during the fine Ukranian supper (with all the trimmings) prepared by the Farmington Farmerettes.

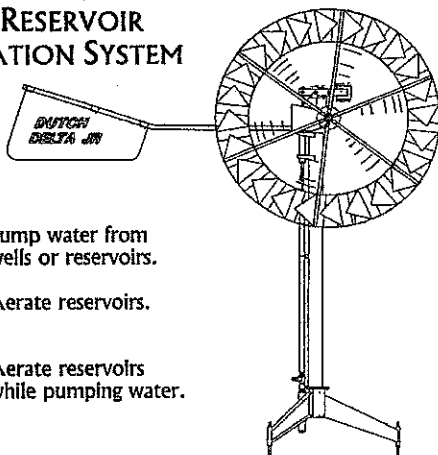
Wayne Ezeard provide the PA system and then proceeded to entertain us with a number of authentic, belly laughing cowboy poems and some nice cowboy tunes.

Fred Burres was also another star of the evening with his entertaining guitar playing and cowboy songs.

Thank you to all listed on the next page:



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- ☒ Pump water from wells or reservoirs.
- ☒ Aerate reservoirs.
- ☒ Aerate reservoirs while pumping water.

The Dutch Windmill will pump up to 10 gallons of water per minute for your livestock from a dugout reservoir or shallow well. It works effectively in any light winds. Alternatively, it also has a capacity for aerating your dugout at up to five cubic feet per minute at 10 PSI. The most recent costs we have are approximately \$2,000 depending what attachments you add.

For further information please contact:

Wally's Irrigation Services (1985) Limited, Lethbridge, Alberta
(403) 328-9382



Forage Based Agriculture and Carbon Credits

There is good news and bad news about global warming and greenhouse emissions. First, the bad news: The United Nations sponsored the Kyoto, Japan meetings in 1997 which lead to the Canadian government signing a protocol to reduce green house gas production and our country significantly by 2010. As usual the Canadian government just made the commitment without consulting many agricultural producers. Depending on how you look at it, the reduction of fossil fuel use could be significant and perhaps greatly hamper industries such as farming and transportation? The

Good News is: lands with forage crops on a permanent basis (AKA hayfields and pastures) through the photo synthet(process remove a lot of harmful CO2 from the air and release a lot of helpful oxygen. Thus, carbon is stored on th soil, and ranchers and other grazing livestock producers become environmentally friendly by producing carbon credits. It appears these carbon credits will be merchandisable to power companies, airlines and other large industry as governments like Canada try to balance their commitment to the Kyoto Protocol.

Water Pumping Service Available in 2000

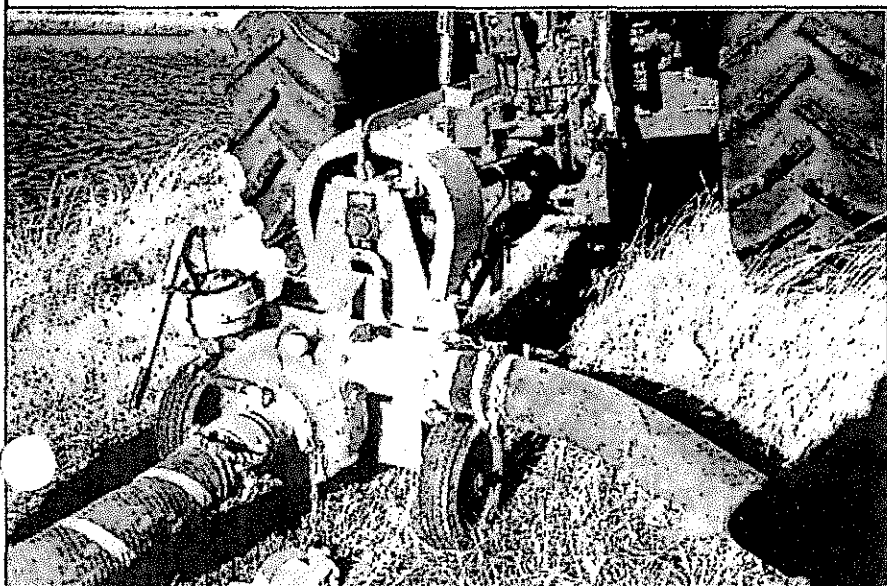
"Are your farm dugouts low and do you need to pump water into them this spring?"

The Peace River Forage Association has entered into an agreement with the Prairie Farm Rehabilitation Administration (PFRA) to provide a water pumping service to farmers and ranchers in the B.C. Peace River Country for filling dugouts and other useful purposes.

Our system includes **TWO** Berkley Centrifugal PTD driven pumps each capable of delivering up to 1000 gallons per minute. We have **TWO** miles of total of 6 inch irrigation supply line which we transport on two irrigation trailers to and from client locations.

Fee schedule \$300 for first day for a pump and one mile of pipe; \$240 per additional day. For pipe only: \$175 for first day (per mile) and \$150 per mile per additional day.

We bet that you won't be able to beat our price or our service. Cartage estimated at \$60 per hour will also be charged to the client. If you are interested in further information please contact the Forage Association Director closest to you.



If you are interested in booking a pump/pipe unit please Contact Allen Eagle at PFRA (250 - 782-3116).



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Dawson Creek, B.C.
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Timely Forage Information Courtesy

Alley Cropping for New Profits

Farmers caught in livestock down markets may want to consider alley cropping. By growing corn or other crops between rows of young trees, they can continue to have a crop income while the trees mature.

The advantage is in using space that otherwise would just sit there and wait for the trees to get larger. At the U.S. Ag Research Service centre in Booneville, Arkansas, more than 100 plants, including corn and grapes, as having potential profits for the farmer when grown in this manner.

Another approach is silvopasture, growing trees, cattle and grass on the same pasture land. Cattle benefit from the shade in hot weather, and income can be increased over the long term. ARS researchers have found that extra income over grazing can be about \$3,400 a year for a 50 cow, 3000 acre pasture, the average farm size in Arkansas. By planting 60 acres of that pasture in trees, the extra income over a 30 year period would increase to about \$5000 a year at current market prices.

Alfalfa Produces Valuable Lactic Acid

Lactic Acid, a colourless or slightly yellow syrupy liquid, is naturally formed by the fermentation of lactose, or milk sugar. It is a natural component of milk. Products derived from alfalfa lactic acid, such as carotenoid and protein concentrates are worth from \$1000 to \$2000 per acre annually.

Lactic acid is commonly used as a food additive for flavor and preservation, but a new market for organic lactic acid exists for making biodegradable plasticsa product that will decompose in the garden. The current lactic acid market in the U.S. is about 50,000 tones per year, more than half of which is importeda real opportunity for alfalfa growers.

Don't Wait for Sunshine to Make Good Hay

It's one thing to "make hay while the sun shines," but waiting too long for the sun can cost too much in good nutrients. That's the advice of Extension forage specialist Ron Kallenbach, at the University of Missouri.

You're better off to harvest when you should and have some rain damage than to wait two or three weeks for better weather, "Kallenbach said.

For example, alfalfa cut on time....before one-tenth bloom....will have 67 percent digestibility if it doesn't get rained on. But digestibility will still be 57 percent if it does get rained on. However, when the crop is not cut for three weeks () you wait for the sun, digestibility drops to 52 percent.

Within a few percentage points, the same holds true for tall fescue, grasses, red clover, and birdsfoot trefoil. Kallenbach said tall fescue and other grasses should be cut in the boot to early boot stage, before heading. Red clover and birdsfoot trefoil should be cut in the one-half stage.

"If you only have to wait a day or two to avoid rain do it," he advised. "But don't get so caught up with waiting that you lose quality and regrowth."

If Cows Could Talk about Hay and Silage.

"If hay growers knew what cattle know about forage, they might find it profitable to change their harvesting habits.

This is one of your cows talking about hay and silage:

"Look Pal, why don't you go back to bed this morning. Maybe you want to take your family out for breakfast. Or linger over your coffee until mid afternoon, or plow a field or fix something. But please, do anything except cut hay this morning. Don't you know, that's afternoon work? Hay tastes so much better when you cut it at, oh say about four in the afternoon."

No joke, that's exactly what both beef and dairy () seem to be telling researchers. In actual feeding tests, cattle

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coast to coast preferred alfalfa and tall fescue grass forages that had been cut around 4 p.m. When given equal choices, their recognition of the PM harvested forage was as quick as that of a kid who knows the difference between chocolate candy and russel sprouts.

In a related study, dairy cows ate about 10 percent more total mixed ration (TMR) when it contained 40 percent PM harvested hay compared to the same ration containing AM harvested hay. As a result, these cows also produced more milk and gained rather than lost body weight, according to Rob Kallenbach, University of Missouri Extension forage crops specialist.

While these findings may upset hay-cutting schedules in some areas, Kallenbach said there is a value difference of about \$15 a ton between afternoon cut and morning cut hay, "in terms of how the animal will perform". Afternoon hay is more nutritious since it has a higher concentration of total digestible nutrients or TDN. He explained the TDN can vary about four to five percentage points within a 24 hour period....That's a significant difference.

The explanation for all this bovine dietary selection is simple. "During the day, plants accumulate sugars," Kallenbach said, "and those sugars are depleted at night. So hay harvested in the afternoon when sugars are running high tastes better to them than at any other time of day or night. Cattle can easily detect the difference and like humans, will eat more of what tastes better to them.

Kallenbach worked with forage researchers at the University of California to examine "daily changes in physiological activity in plants that occur as a result of environmental changes. The most powerful of these, he said, "are photosynthesis and respiration, the effect of which change according to light intensity and temperature."

During daylight hours, light and chlorophyll convert CO₂ into sugars that are temporarily stored in the plant "like a battery stores energy," the study found. This is photosynthesis. The sugars are then used in the plant's respiration process, releasing oxygen into the air and resupplying the root system with nutrition.

Due to the predominance of photosynthesis during the day, Kallenbach said, "sugars and starches tend to accumulate in plants, especially during the time of greatest light intensity...late morning and afternoon.

The leaves of plants actually become thicker and heavier during the day while they are storing all the sugars. In the early morning, after hours of darkness, TDN is at its lowest. It begins to rise a bit at dawn and peaks at about 4 p.m.

Crude protein, on the other hand, was found to be higher in morning-harvested hay, though growers value crude protein less than the amount of total digestible nutrients. Apparently, so do the animals. Ruminant animals in the tests—cattle and sheep overwhelmingly preferred the afternoon harvested hay.

The U.S. Department of Agriculture also conducted experiments in other locations around the country to determine whether cattle, sheep, and goats could differentiate between hay harvested at sunup and hay harvested at sundown.

When animals had a choice between the two hays in this study they were able to differentiate between two forages differing by less than one percent in total nonstructural carbohydrates, the report concluded. They have a remarkable ability to identify forage having a higher energy density, like that of PM harvested over AM harvested grass and alfalfa hay.

The animals apparently discriminate on the basis of total nonstructural carbohydrates, the easily digestible starches and sugars in the forage, said Henry Mayland, an Agricultural Research Service soil scientist at Kimberly, Idaho.

To humans, these hays look small and feel and taste the same, the report said, but cattle, sheep and goats are able to sense and then eat more PM and AM harvested hay.

The bottom line, noted Dwight Fisher, an ARS colleague working out of Watkinsville, Georgia, is that farmers may get better performance from their livestock if they feed them hay harvested in the afternoon. It's an easy practical way to enhance profits at not extra cost.

AerWay Land Renovator Available for Rental

In 1997 and 1998 we used a rented Aer Way on several demonstration lots in conjunction with Lacombe Ag Canada Research Station.

In 1998 we were able to arrange purchase of our own machine and it was subsequently used on further demonstrations through 1999.

For 2000 our rental rate is **\$2.50/acre** for members and **\$3.00 /acre** for non members. We recommend an 85-100 horsepower field tractor. Our unit is ballasted and covers 12 feet. The axles can be set very aggressive if desired. Chain harrows are pulled behind as part of the unit. Renters are responsible for broken aeration teeth and other damage to the Aerway so please be careful, especially on extremely rocky ground. Each renter is responsible for delivering the Aer Way to the next renter on a scheduled basis.

Based on our experience in 1997 to 1999 we believe that the aerway may be fairly well suited for the following:

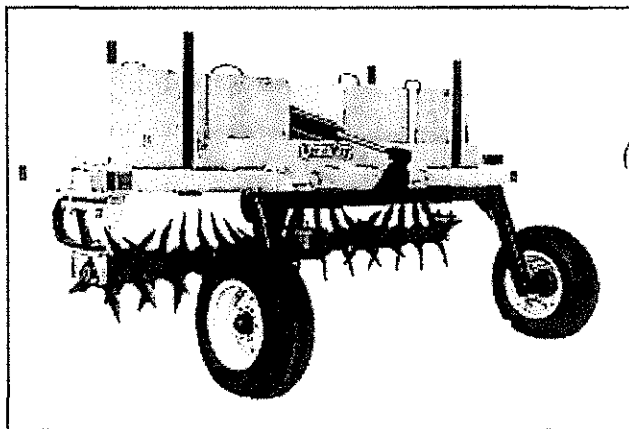
- * Aerating and rejuvenating old hay fields in lieu of traditional method of discing up and working down and reseeding: spring or fall.
- * Aerating of pastures that need rejuvenation. Fertilizer or manure may be applied in conjunction with this field operation, if you so desire. Spring or fall.
- * Rejuvenating calving pastures, either spring or fall. Likely set aggressively and a double over may be required some places so that surface and sub surface soil are adequately fractured.
- * Rejuvenating cattle wintering grounds out in the pasture where manure build up is only a few inches.

The AerWay both fractures the subsurface soil to a depth of up to six inches as well as poking 6 - 9 inch holes into the ground at regular intervals to allow two things to happen:

- Greatly increased capacity to absorb spring run off and summer rainfall.
- Greatly increased loosening of the soil structure to allow for better root growth.

The AerWay fits nicely into the philosophy of reduced green house gas emissions and the production of carbon credits as per the Kyoto Protocol of 1997 (sponsored by the United Nations).

If you require further information on the AerWay or want to rent it to use on your farm or ranch please contact the forage Association Director closest to you or Glenn Hogberg (250) 843-7653.



Reading Material For Pleasure and Profit

Sirolli Institute International Enterprise Facilitation Incorporated. If you are interested in starting up a small business and keeping it successful for the long term or in analysing an existing small business (such as your ranch or farm) to see how to make it successful for the long term you may be interested in what Ernesto Sirolli has to say. Please contact Doris or Frances at the Kiwanis Enterprise Centre for further information (250) 782-5745.

The Stockmen Grass Farmer "The Grazier's Edge"

Though published in Mississippi this is still by far the best source going for folks in Western Canada who are interested in improving both their bottom line and their forage knowledge. Why? Because Editor H. Allan Nation has traveled all over the globe and mingled with forage producers, university types and industry leaders and does a good job of presenting the information he has gathered. Phone 1-800-748-9808 or fax (601) 853-8087 to subscribe.

Allan Savory, the guru of the holistic resource management process, has a great new book (around 600 pp) out on Holistic Management. It is well written because his wife Jody exercised her considerable journalistic expertise getting it that way. Allan firmly suggests that you can learn about Holistic Management and pretty well how to implement it on your own farm or ranch or in your own business or organization just by reading his new book. For more information please phone or fax Don and Randee Halladay at (403) 729-2472.

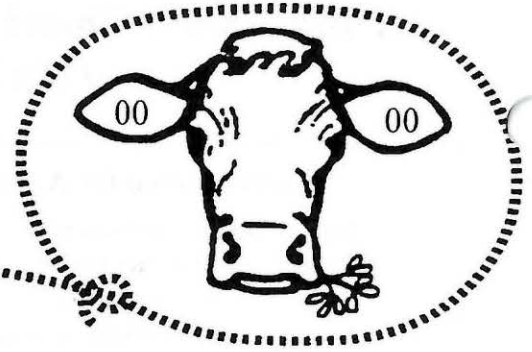


A Big Hearty Thank you to the Donors and Purchasers!!



Item Offered for Auction	Donated By	Purchaser
Benji Birds (Shovel Birds lawn ornament)	Ben Hansen	John Miller
Two bags Quality Pony Oats, Mustang variety	Sunrise Valley Ventures	Emil Arndt
Home Made pie	Wilma Hansen	Jim Forbes
Diamond willow walking stick, custom fit	Ben Hansen	Jim Collins
Set of Spur Straps	Mike Schlauwitz	Aaron Collins
Garden Stepping Stone	Homestead Limousin	Judy Steele
Knitted Doll	Barb Cowger	Mary Miller
Wheat & Forage Weaving	Sandra Burton	Ann Thomas
25 kg. Bag of Red Clover seed	Dale & Sharon Fredrickson	Jim Collins
Cord of Firewood, spruce, pine or poplar	Pat Gerlinsky	Rick Kabzems
Fattened lamb, cut & wrapped	Walter & Pam Fritsche	Ben Hansen
Two Bags quality Pony Oats, Mustang variety	Sunrise Valley Ventures	Glenn Hogberg
Leather cinch ring shields	Mike Schlauwitz	Peter Van Genne
Load of garden quality manure, to be picked up	Harvey Wiles	Jim Forbes
Diamond willow walking stick, custom fit	Ben hansen	Glen Lyons
Seed cleaning	S.P. Grain Cleaning Plant	Doug Bentley
Family Social with home made ice cream	Brenda Wilson	Burnem Grant
Aerway rental for 50 acres	PFRA of B.C.	Ben Hansen
Model tractor & baler	Peace Tractor	Jim Forbes
Pickup load of manure, delivered to a garden in the spring	Brian Clarke	Ernie Nimitz
Rangeland Magazine 1 yr. Subscription	Bear Mountain Sheep Farm	Glenn Hogberg
Moving electric fence (8 hours)	Sandra Burton	Bill Strasky
Saddle scabbard for fencing pliers	Mike Schlauwitz	Emil Arndt
Home made pie	Wilma Hansen	Rick Kabzems
Set of stitched roping reins	Mike Schlauwitz	Peter Van Genne
Bookkeeping or personal tax return	Paperwork Artist	Jarvis Taylor
\$200 selling fees or cattle processing	Grande Prairie Auction	Jim Collins
Bag of Reed Canary Grass seed	Arthur & Laurel Hadland	Burnem Grant
Family trail ride, bonfire with guest entertainment	Kiskatinaw River Ranch	Wilma Hansen
Cord of firewood, spruce ,pine or poplar	Pat Gerlinsky	Dan Bell
Basket of sheep wool skins and soaps	Victoria Manson	Connie Forbes
Diamond willow walking stick, custom fit	Ben Hansen	Annie Madden
2 bags quality Pony Oats, Mustang variety	Sunrise Valley Ventures	Rick Kabzems
Pair of line gauntlet deerskin mitts	Mike Schlauwitz	Jim Forbes
AI service with semen for 2 head	Hogberg Ranch	Larry Fossum
Custom Feed bulls, now until breeding season	Bill Wilson	Lorraine White
Big box of fresh vegetables/home made bread	Manson family	Judy Steele
Pail of Honey	Van Han Apiaries	Bill Zernhill
Field soils consultation, field estimates N,P,K,ph	E. Wolterson/S. Burton	Peter Van Genne
Corral cleaning and spreading (5 hours)	WKVentures Ltd.	Dennis Madden
Benji Birds (Shovel birds lawn ornaments)	Ben Hansen	Pat Strasky
Early training for horse (2 weeks)	Fred Burres	Mary Reutlinger
Hand crafted pine box and contents (14"x12"x28")	Jim Strasky	Nelda Bennett
Pumping service discount	PRFA of B.C.	Lorraine White
Bag of AC Grazeland BR alfalfa seed	Pickseed, Randy Yaklin	Ernie Nimitz
Foliar Fertilizer application (50 acres	Ag Air Ltd., Don Lumsden	Dennis Madden
Yearling bull rental	Hogberg Ranch	Jim Collins
Corral cleaning and spreading (5 hours)	WK ventures Ltd.	Glenn Hogberg
Oil painting on leather, lariat frame	Nelda Bennett	Kate O'Neil

Peace River Forage Association of British Columbia



Annual Summer Forage Tour

Saturday, June 17, 2000

\$15.00

Coach Type Forage Bus will be available for those who want to travel this way.

The Forage Bus will leave Northern Lights College Campus in Dawson Creek about 8:00 am, travel to Fort St. John and pickup tour participants there, then proceed west to the Peace River Valley where the tour will officially start at 10:00 am. Lunch and BBQ Supper included. You are also welcome to travel in your own private vehicle.

Join us on this tour of forage and livestock operations in the scenic historic and majestic Peace River Valley during the most beautiful time of the year in Northern Canada.

Planned tour stops include:

- ▶▶ McKnight Ranch
- ▶▶ Rich Sewell Seed Farm
- ▶▶ Ardill Ranch
- ▶▶ Tour of Hudson Hope (Museum et cetera)
- ▶▶ Doug & Shari Summer at Beryl Prairie

Barbeque will be Sponsored and Prepared by Kenver Equipment Ltd.

For further information please contact:

2000 Directors of the Peace River Forage Association of British Columbia

"Dedicated to putting forage first in the hearts, minds and pocketbooks of livestock producers and other forage enthusiasts"

Arnold Bennett	Doug Bentley	Bill Wilson	Ernest Nimitz	Fred Burres	Michael Cowger	John Kendrew
President	Vice President	Treasurer	Secretary	Director	Director	Director
789-3350	843-7364	782-2866	843-2300	843-7074	787-1790	786-5652

Committee Chairmen: Wildlife Policy- Burnem Grant 786-5566; R & D - Glenn Hogberg 843-7653

B.C. Forage Council - John Kendrew; Communications and Information - Ernest Nimitz

or

Jim Forbes BCMAF (250)-784-2225

Tom Pittman, BCMAFF (250)- 787-3240