

# "THE FORAGER"



*Published by the British Columbia Forage Council*

Special Convention Edition

December 1994

\$10.00

## Top Slate of Speakers Arranged for B.C. Forage Council Convention Activities

"Northern Canada Forage Production" is the theme which has been selected for the Annual General Meeting of the B.C. Forage Council and associated activities at the George Dawson Inn in Dawson Creek on January 26 and 27th, 1995.

These informative, dynamic speakers will be participating in the AGM, the Quality forage Seminar and Trade Fair:

- \* Trade Fair 1:00 p.m. Thursday January 26th Dr. Daphne T. Fairey, Forage Research Scientist, Ag Canada, Beaverlodge, **"Forage Research in a Northern Environment"**
- \* Trade Fair 3:00 p.m. Thursday January 26th Louis Melanson, New Products Testing Manager for Canada, New Holland Corporation **"New Technology in Forage Harvesting and Corporate Alignments in the Forage Industry"**
- \* Annual General Meeting 6:00 p.m. Thursday, January 26th. Bruce Johnson, Range Management Section, B.C. Forest Service, Prince George: **"New Forest Practices Code and How it Affects Ranchers and Farmers"**.
- \* Quality Forage Seminar 9:45 a.m. Friday January 27th Myron Bjorge, Provincial Forage Specialist, Alberta Agriculture, Food and Rural Development, Lacombe, **"Past and Present Grazing Management in Alberta"**.
- \* Quality Forage Seminar 10:30 a.m. Friday January 27th Roger Baldwin, Director of Land Management Services, Prairie Farm Rehabilitation Administration, Regina **"Community Pasture Management Successes on the Prairies"**
- \* Quality Forage Seminar 1:30 p.m. Friday January 27th Louis Melanson, New Products Testing Manager for Canada, New Holland Corporation **"New Technology in Forage Harvesting and New Forage Harvesting Equipment"**
- \* Quality Forage Seminar 2:15 p.m. Friday January 27th. Dr. Nigel A Fairey, Forage Research Scientist, Ag Canada, Beaverlodge, **"Grass As a Crop"**

This will be the first time the B.C. Forage Council has held their annual meeting in the B.C. Peace Country. With the Annual meeting, the annual trade Fair and a quality forage seminar, this informational and education convention is expected to draw the largest gathering in recent years of farmers and ranchers in Northern British Columbia dedicated to forage production.

# PRESIDENT'S CORNER

Winter is upon us. We have about six inches of snow and temperature are staying below zero. The cows are now on full feed. I have opened a tube baled cereal silage put up at a silage demonstration. It looks good and there was no waste when fed.

I am preparing for the Peace River Forage Association Annual General Meeting to be held on December 1st. This Association was very busy this year starting with:

1. The Annual Forage Quality Seminar held in January 1994.
2. Forage Tour and supper in June.
3. Silage Field Day Demonstration at Tomslake July 15th sponsored by R.N.C. Sales; a John Deere dealer from Dawson Creek, and Alberta Agri Industries of Westlock, Alberta. The AgriPac silage bagger and the Ram Pack baled silage bagging system were demonstrated.
4. A no-till Forage Seeding Demonstration at Walter Fritsche farm in Dawson Creek with help from B.C.M.A.F.F. and R.N.C. Sales.
5. Fertilizer trials were conducted at the Northern Lights College Farm on Rolla Road, Dawson Creek.
6. The Peace River Forage Association was able to hire a forage technician, Dana Bentley with the help of Peace River Agricultural Strategic Planning Society. Some of the work done by Dana our forage technician was:

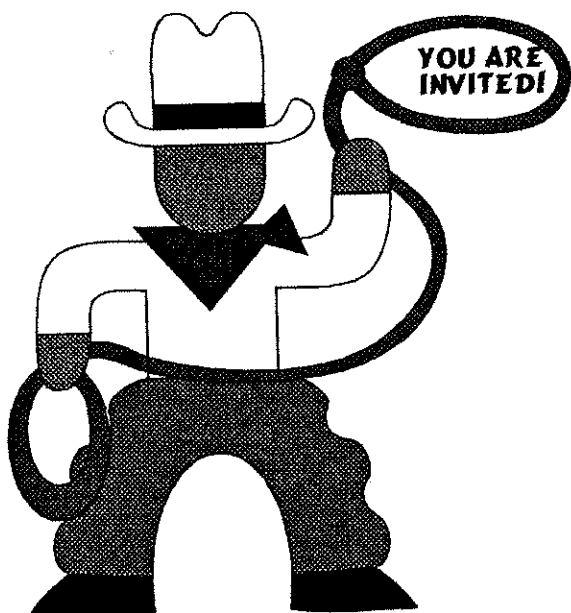
+ to establish two new variety trial plots, one in North Peace, and one in South Peace on my farm at Tomslake containing a number of forage and cereal varieties; + to work on several varietal test plot sites in Groundbirch and Fort St. John; + to conduct the comparison fertilizer trials at the Northern Lights College Farm; + to work with B.C.M.A.F.F. and wrote and aired two to four minute radio tapes on forage related issues; + to start a forage file of Farm Forage Facts. She interviewed local farmers for their ideas on what works best for them. It is hoped that the forage file will serve to increase the exchange of useful ideas amongst ranchers and farmers.

We look forward to a busy year in 1995 in the local forage Association. Our first project is hosting the B.C.F.C. Convention in January.

\* \* \* \*

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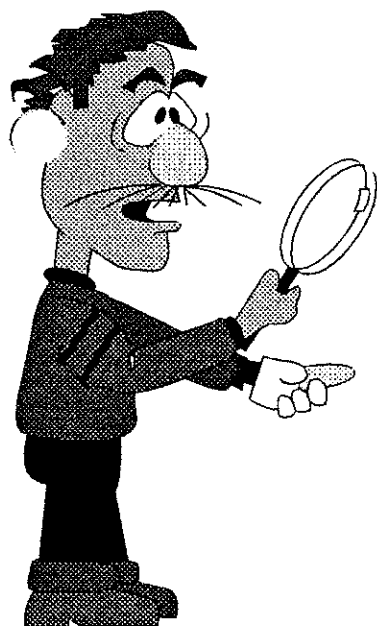
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The President and Directors of the British Columbia Forage Council take this opportunity to extend a warm invitation to each and every member of the Council, as well as their friends and neighbours, to attend the Annual Convention of the B.C.F.C. in Dawson Creek on January 26 and 27, 1995.

See you there!  
Bob Tubb, President B.C.F.C.

## The Father of Intensive Grazing Management



The work of **Andre Voisin** is one of the best kept secrets in the North American forage industry.

As a scientist Andre Voisin studied the management technique of the French peasant farmer in considerable detail and was himself a farmer in Normandy. This approach to the study of grass gave him a very broad perspective. He believed that you should study both the behaviour of the animals and the condition of the pastures, together and not in isolation from each other.

He has been described as a brilliant farmer and a humble scientist. In a 15 year period after World War II through the 1950's he worked with dairy cattle for milk and beef production. With 19 long, narrow pastures on a short 40 acres he achieved the yield of 19,000 cow days of use in one year.

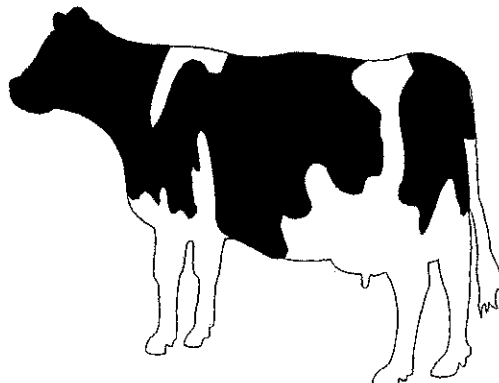
Commercial fertilizer application was a regular part of his program as was the **proper management of time** of use by livestock in a flexible rotational grazing program with adequate seasonal rest periods. He believed that you should satisfy both the demands of the cow and the grass for best economic results. His program he defined as **Rational Grazing**.

By discovering that the management of time that animals graze a pasture is a most important key feature in animal grass management he uncovered one of the great secrets to successful grazing management.

Published originally in 1959 his work reappeared in 1988 upon republication; and up to that time seemed to completely escape:

- \* several generations of college and university students at North American institutions of higher learning.
- \* government agricultural extension personnel
- \* research and land management agencies (government) all across Canada and the U.S.
- \* North American Agribusinesses.

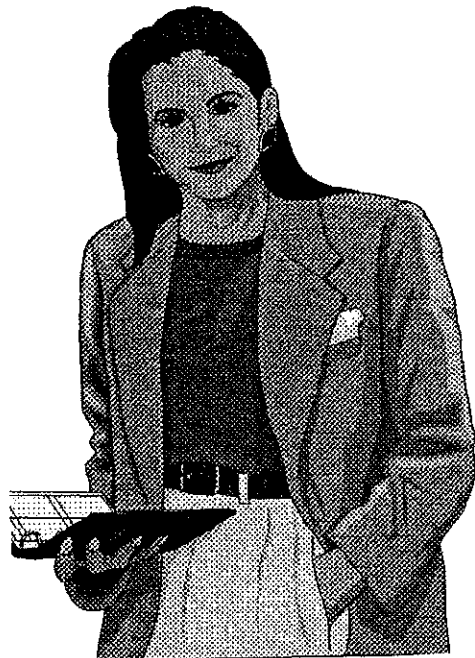
On the other hand, if you have not yet become familiar with Voisin's work you may find that reading his book **Grass Productivity** will provide you with more useful, practical information on current grazing management techniques for your farm or ranch than any other single source of information?



# Report on Activities

⌘ Summer 1994 ⌘

Dana Bentley - Forage Technician



Throughout the months from May - August 1994, the Peace River Forage Association hired a summer student to work as a forage technician. I was accepted for this position and carried out various duties while employed.

Working with the B.C. Ministry of Agriculture, Fisheries and Food I was involved with introducing two new test sites in the Peace River region. In the South Peace a site in Tomslake, containing a number of forage and cereal varieties was planted. In the North Peace a similar but smaller site was planted in Montney.

Work was also continued on several older sites in the area. In Groundbirch, B.C. several brome, alfalfa and tall fescue plots were harvested. In the Fort St. John area, alfalfa that has been seeded in 1993 was harvested. Yield and feed quality data was recorded during harvest at this sites for further study.

During the four months there was always ongoing plot work as well as the seasonal work on both old and new trials. Several new trials were staked and old ones were restaked. Fertilizer needed to be applied and areas between and around plot rows were seeded with timothy. Soil samples were taken at new sites and sent out to be analyzed. New and old plot plans were processed on the computer for permanent records. Weeds were quite prevalent throughout several plots and these needed picking as often as possible.

Work was also done with fertilizer trials set up by the Northern Lights College Farm in Dawson Creek, B.C. The college applied various fertilizers to a pasture in the spring of 1994. I clipped several samples from each trial at regular intervals of time and obtained the wet and dry matter weights from the samples. The results were used and indicated which fertilizer applications were relatively most effective.

On each Friday during the months of June and July, samples of four varieties of alfalfa were harvested from the Groundbirch site. The samples were semi-dried for preservation and then sent to Prince George, B.C. to be analyzed. This work was a continuation of a thesis project developed by a U.B.C. student the previous year.

Through the B.C. Ministry of Agriculture, Fisheries and Food I had the opportunity to write and air several 2 - 4 minute radio tapes. I was able to pick interesting, informative topics about forages and present them to farmers in the Peace River Region. I was also able to use this air time to announce upcoming events that were held by the Peace River Forage Association.

I researched and analyzed data from previous year's trials and wrote two Ministry fact sheets. A paper concerning winterhardiness of alfalfa and one concerning cereal silage were submitted to the Ministry of Agriculture, Fisheries and Food. These should be edited, published and made available to the public in the near future.

I also assisted the Peace River Forage Association with the development of a forage file of Farm Forage Facts. I interviewed four local forage producers, gathered management ideas from their farming operations and used this information to produce short, factual papers. It is hoped that the forage file will serve to increase the exchange of useful management theories amongst farmers and ranchers.

I had the opportunity to attend and offer assistance at several Peace River Forage Association functions. At the annual forage field day, a zero till demonstration and an Agri-Pac/John Deere equipment field day I had the chance to meet several local farmers and association members and learn more about forages.

I am glad I had the chance to work as a forage technician for the Peace River Forage Association this summer. Although this was the first time the position was available I found that there were many duties and research programs that I was involved with. I was employed by the Peace River Forage Association but also worked with the B.C. Ministry of Agriculture, Northern Lights College etc. I'm sure that in the following years, as local organizations become more aware of the programs taking place in the Peace Region there will be an even greater need for forage research and research technicians.



# Inoculation Procedures

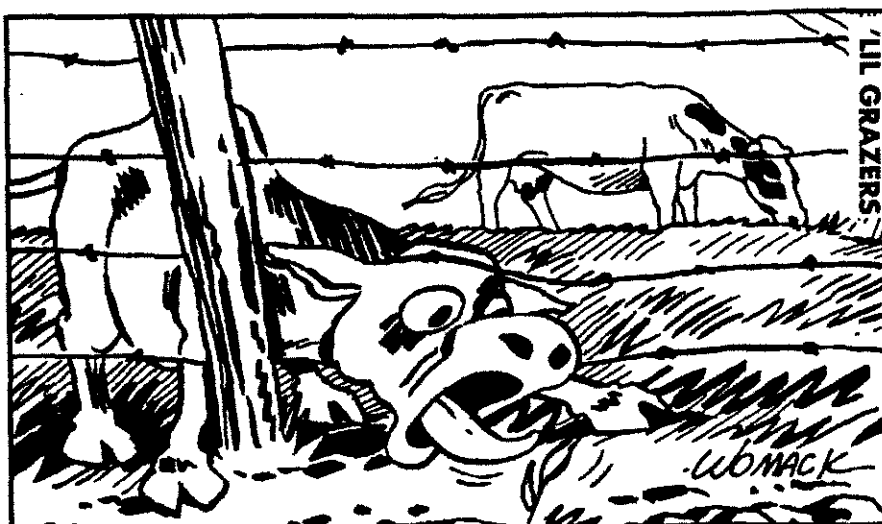
If you are planning on seeding legumous crops this year one task that is sure to be on your agenda in the very near future is seed inoculation. Inoculating has numerous benefits but in order to realize these benefits it is very important to make sure that seed is properly inoculated.

Different types of legumes need different inoculant bacteria. Therefore it is crucial to select the proper inoculant because if the right strains are not used the bacteria will not perform.

Also remember that because bacteria are living organisms they must be kept alive and functional in order to perform. Storage of inoculated seed, prior to seeding is risky. If it is necessary to store the seed keep it cool and covered and use it as soon as possible as the inoculant will last for only 2 - 3 days in storage.

The bacteria must not contact acidic or alkali substances. If you are doing your own inoculation, be sure that your equipment contains no trace of bactericide or fungicide. Seed treatments are also toxic and seed drills should be clean. Phosphate fertilizer should not be mixed with the inoculant.

If the proper inoculation procedure is carried out, precautions are made and the product seed is stored under the right conditions and used as soon as possible the bacteria will perform to its highest potential, thus the benefits of inoculation will be maximized and the legume crop will be most productive. By D.B.



"The grass is always greener on the other side."

## Alfalfa Varieties

Alfalfa is the "queen of the forage crops in Canada". It is a very popular legume in B.C. and has several uses. Alfalfa can be harvested as hay or silage or it can be processed into feed cubes or pellets. It is used as pasture for many classes of farm livestock and sometimes as a cover or green manure crop. Alfalfa can also be grown for seed.

No matter what your reasons may be planting alfalfa, selecting a variety that is best for you can be a difficult job. There are many varieties and new strains are being introduced all of the time. Each one is genetically unique and will have different levels of production, winter hardiness and disease and insect resistance when compared to other varieties.

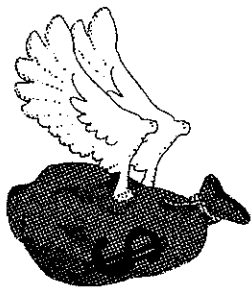
In order to evaluate these differences and assist local farmers when selecting a type of alfalfa, several variety

testing programs have been carried out in the Peace Region. Most of the data from these trials is now available and is being analyzed so that the acquired information can be presented in a usable form.

There are a few interesting points that have been found throughout trials in the region. Several cultivars that are most hardy are Anik, Heinrichs and Peace. It has been found that Spredor 2 is often superior in terms of fall dormancy and Rangelander is one of the best varieties for long term dryland pasture and range conditions.

These are just general guidelines however. There are many factors that must be considered when choosing a variety that is right for you. Several publications have been compiled to assist you when selecting an alfalfa variety and with continued research even more information will be available in the future. By D.B.

## Wind Erosion



On a windy day in the Peace one usually doesn't have to travel far to find great dust storms that have been formed when the wind attacks the unprotected fields. The wind erodes the land and removes the nutrient rich topsoil. As a result soil fertility may decline and become unproductive for farming.

It is well known that intensive cultivation makes the soil prone to the forces of wind. Bare summer fallow should be reduced or eliminated if possible as it leaves the land unprotected. Where summer fallow is still necessary keeping a cloddy structure, or leaving a stubble mulch at the soil surface will reduce erosion.

Wind erosion can be prevented by using a number of conservation methods. Keeping crop residue cover on the soil surface is the most effective and practical way to control erosion. Conservation tillage leaves at least 30% of the soil surface covered with crop residue at all times and zero tillage maintains 90% of the previous crop residue in the surface.

Cover crops, which are typically spring cereals, can be grown as another means of protecting erosion prone fallow land. These can be planted quite inexpensively late in the season to cover the soil when regular crops have been removed.

Strip cropping is an additional practice used to control wind erosion. Strips of small grains or forages are alternated with row crops or fallow strips. When these are run at right angles to the direction of the wind, erosion is reduced because the impact of the wind is decreased.

Finally, shelterbelts and windbreaks can be planted to reduce erosion by cutting wind speed. Trees, or even crops like flax and wheat grass are effective, however they should be used with other soil conservation methods for best results.

There are many alternatives to conventional summer fallow that reduce the risk of loss of soil due to wind. The key to conserving the soil is maintaining crop residues on the soil surface. Protecting the valuable topsoil from the wind and its erosive forces is very important if farm land is to be productive both in the present and the future. **By D.B.**

## Pasture Seeding Mixtures

Too often pasture is seeded with partial or complete failure to obtain a stand. This doesn't have to be the case. A productive pasture may be established if consideration is given to seed mixtures and forage varieties.

Before choosing a seed mixture to suit your pasture needs you should decide which forages grow best on your soil. A simple combination of these forages will likely be most productive. The trend in the last few years has been with mixtures of 2 - 3 species where the most competitive forage prevails after a couple of years.

If you are seeding a pasture that you are not very familiar with or that has varied soils, combinations of 4 - 5 species will probably cover the most ground. Mixtures like this will also allow you to discover which forages will work the best for the next renovation cycle.

There are a few forage pasture mixtures that have been recommended in the Peace. Each one has been developed for specific soil conditions.

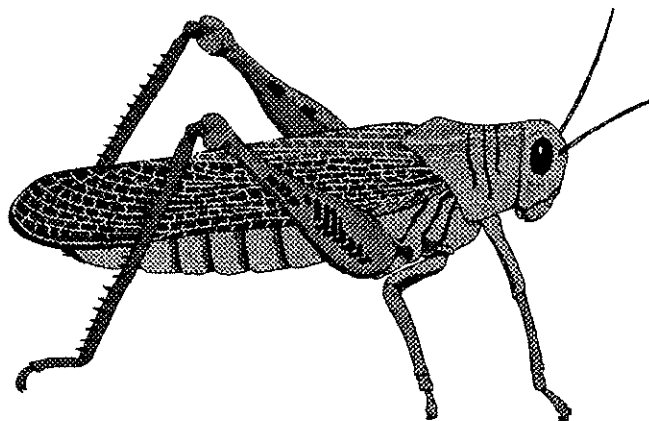


For new pasture areas or pastures with varying conditions the shotgun mixture has been developed. This diverse legume and grass mixture consists of seven species. Alsike and White clover are seeded at a rate of 1lb./acre. Alfalfa, creeping red fescue and crested wheatgrass at 3 lbs/acre and timothy and brome grass exist in the combination of 3 lb./ acre.

Many traditional forages including smooth brome grass, timothy, creeping red fescue, and alsike clover and alfalfa have been tried and proven effective in many cases. However other forages offer high potential for the Peace. Grasses such as meadow foxtail, orchard grass and meadow brome grass are promising. As well birdsfoot trefoil is a non-bloating legume that is quite productive.

Before choosing your pasture mixture always be sure to evaluate forage compatibility, soil characteristics and your pasture needs. With good management and proper seed you should have no problem obtaining a healthy stand that will develop into a pasture that will fulfil your needs. **By D.B.**

## Grasshopper Control



In recent years grasshoppers have been abundant and as a result have damaged crops in a few areas in B.C. If you have had problems with grasshoppers various options are available to control their populations and minimize crop losses.

It has been found that a population of one grasshopper per square meter destroys about 10 lbs of forage per acre each month. If forage yields are high grasshopper feeding may go unnoticed but when forage production is low grasshoppers become serious competitors to livestock for food. In this case it may be wise to implement some type of pest control.

Grasshopper populations are greatly influenced by natural causes. Although there is little one can do to change the weather, knowledge about its effects is useful to anticipate

potential changes in grasshopper abundance. For instance it is known that grasshopper outbreaks usually follow a 2 or 3 year period with hot, dry summers and falls. Late springs, cool summers or wet conditions also keep hopper populations from skyrocketing.

Natural enemies have the greatest effect on grasshopper populations, next to weather. Again it is difficult to predict the extent to which diseases, rodents, birds or other insects infect the grasshoppers. However research is ongoing and biological control products containing disease organisms will soon be developed for use.

Certain crop management practices may discourage grasshopper populations. Using natural grass stands instead of tame reduces grasshoppers because greater plant diversity limits the number of harmful grasshopper species. By reducing overgrazing, pastures have less broadleaf plants which attract these insects. Early seeding gives crops a jump on grasshoppers. Rotating crops so that less favoured crops are in infected fields and tilling to eliminate food plants in spring and fall reduce populations. Also seeding trap strips to concentrate hoppers for more efficient chemical control is effective.

When the previous controls fail to prevent outbreaks appropriate chemical control methods should be used. Information concerning insecticides and their use can be found in the Field Crop Guide to Weed, Disease, Insect, Bird and Rodent Control for commercial Growers which is available at your nearest B.C. Ministry of Agriculture and Foods office. The use of any one or combination of options should manage grasshopper populations and minimize crop losses. **By D.B.**

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## Biological Weed Control in B.C.

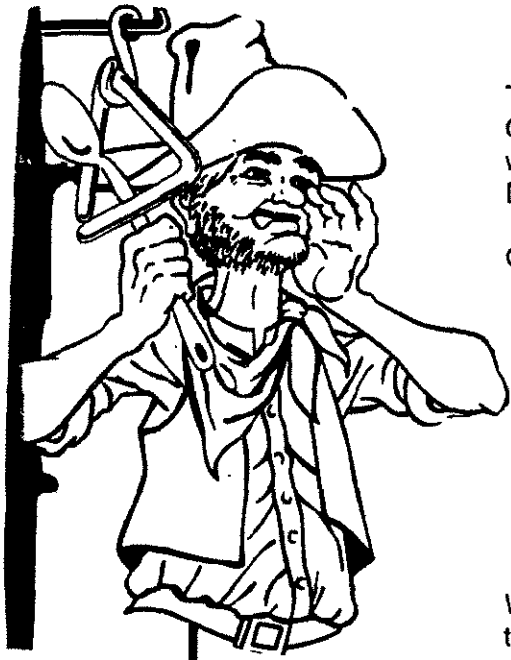
Weeds are a problem to farmers in every part of the province and control methods can be inefficient, expensive and harmful to the environment. With the development of biological control or bio control this figure will be reduced and unwanted weeds will be removed more efficiently.

Most noxious weeds are introduced into the province from Europe and Asia. When these plants leave their native country they leave behind their natural enemies. Thus with fewer disease or insects to attack the plant they quickly spread and may overrun desirable crops.

Biological control introduces weed specific insects or diseases to the weed and attempts to establish a natural balance between the two. To attain long term control of the weed several insect species are usually released.

Last year 51 biological control organisms were released in B.C. to combat 19 noxious weeds. One such weed is knapweed. Knapweed has been controlled biologically since 1971 and 12 natural agents have been approved for use in B.C. Knapweed seed production has been reduced by up to 90% by two species of flies. The knapweed beetle has also been used to attack seedlings and mine knapweed roots. A combined attack by natural agents is causing knapweed populations to decline throughout the province.

Using natural enemies to control weeds required a lot of time, money, and research, however it is predicted that returns over costs will reach at least 50:1. Bio control greatly reduces the costs associated with chemical and other non - chemical control methods and is quickly becoming a valuable component of weed management systems. **By D.B.**



## Editorial

The Forage First Committee of the Peace River Forage Association of British Columbia has prepared this issue of "The Forager". Your comments are welcome and if you require further information please write to us at Box 906, Dawson Creek, B.C. V1G 1L6.

Our goals for this newsletter are twofold:

- \* Publicize 1995 AGM and Associated activities adequately and thereby achieve a successful forage gathering in Dawson Creek in January.
- \* Provide an interesting and informational newspiece to BCFC members and forage enthusiasts all around British Columbia

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## Recommended Reading for Forage Enthusiasts

While getting enough information in a small newsletter to satisfy your "forage thirst" is difficult there are a number of other good sources of information around.

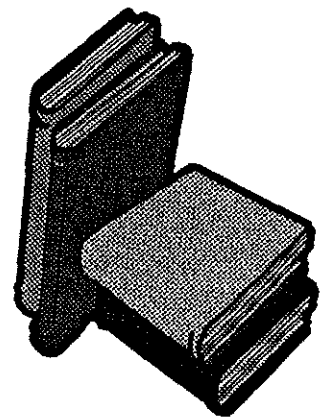
**Grainnews** Notwithstanding the excellent jokes, Cattleman's Corner always has one to several good articles on grazing or haying experiences by farmers and ranchers that are always worth reading.

**The Stockman Grass Farmer** - Described as the grass profit paper and published in Mississippi, it contains an infinity of useful information from the major grazing areas of the world as the editor, Allan Nation, is a well travelled person.

**Grass Productivity** by Andre Voisin. Island Press. Mr Voisin's book started the worldwide revolution in grassland thought and theory so if you want to get up to date on what happens when cow meets grass it is an excellent read.

### Successfully Obtaining and Managing a Pasture Card Franchise.

Cowsmopolitan Press 1994. E.H. Bine of Moco, Manitoba has recently written a short and to the point book about everything you need to know on successful Pasture Card franchising. Pasture Card offers all qualifying members an endless supply of cash whenever they need it, and even when they don't. And it is convenient too! Many suitable locations on over 100 million acres. So don't spend your retirement broke, when you can spend it rolling in the clover. Pasture Card, one of life's little mysteries; apply for your franchise today.



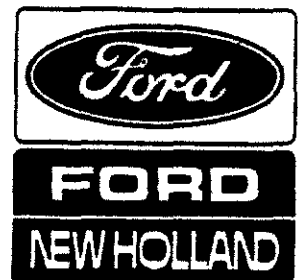

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Our Association was lucky to have the services of an outstanding young lady as forage technician this past summer. As a self starter and hard and enthusiastic worker, **Dana Bentley**, helped our local association advance the cause of good forage management a great deal. The quality of her work is such that we have based a lot of the information presented "The Forager" on her contributions. Dana was raised on one of the larger and more successful beef farms in the Peace, was an outstanding 4 H member locally and presently is attending the University of Alberta as she pursues her goal to become a veterinarian. We wish her well in her studies.

\* \* \* \* \*

The door prize from Northrup King Seed from the Vernon Annual Meeting of B.C. Forage Council is reportedly doing well. The 25 kg of Spredor II Alfalfa was planted with a light cover crop of fall rye and is now well established in Bratt Flat and ready to produce a high yield in 1995.

A special thank you to our sponsor of this newsletter: **Kenver Equipment Ltd.** of Dawson Creek Your contribution has made it possible to publish this issue.





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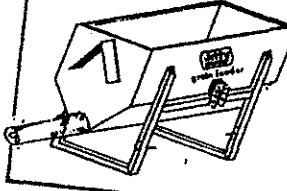
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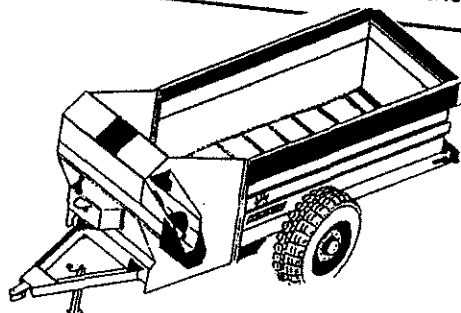
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Ford TW 15, 121 H.P., 866 Hrs	\$39,500
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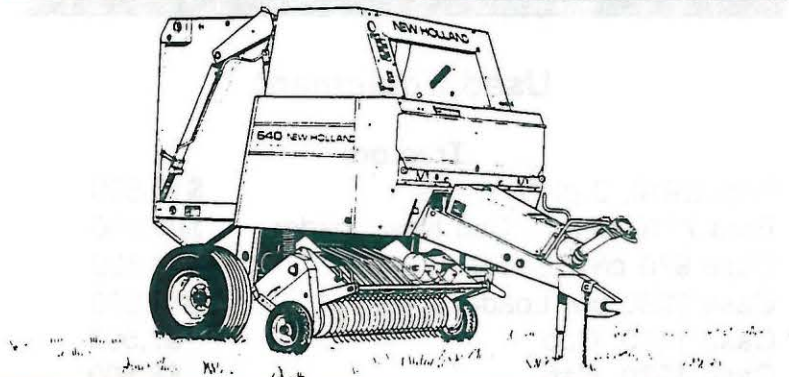


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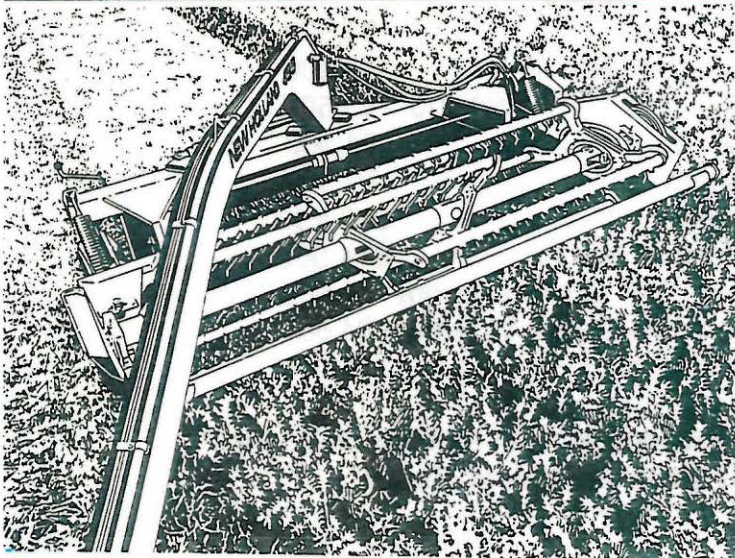
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## Keith Weaver New President of Peace River Forage Association of British Columbia

Five directors were elected at the third annual meeting of the Peace River Forage Association of British Columbia in Taylor on December 1st. Ernie Fuhr, Fort St. John; Glenn Hogberg, Progress; Ernest Nimitz, Dawson Creek; Steve Shipton, Cecil Lake; Bob Tubb, Tomslake.

At the Directors meeting following the AGM, Keith Weaver of Keystone Ranch at Tomslake was elected President of the Association. Vice President Walter Fritsche of Dawson Creek. Treasurer is Glenn Hogberg and Secretary of the Association is Ernest Nimitz. Steve Shipton remains on the Executive as Past President.

The directors also re-elected Bob Tubb to be the B.C. Forage Council representative for the Association for the coming year.

Advantage Agri principles Gerry Neufeldt and Art Funk of Rolla were chosen to be added to the Advisory Committee of the Association by the Directors.

Neufeldt and Funk are joined by the following on the Advisory Committee: David Butler, Butler Farm Equipment, Fort St. John; Dr. Daphne Fairey, Dr. Nigel Fairey, Dr. Jim McElgunn, Ag Canada, Beaverlodge; Jim Forbes and Tom Pittman, BCMAFF, Dawson Creek and Fort St. John; Gerry Gleeson and Ross Green, BCFS, Dawson Creek and Fort St. John; Donna McColl, Prairie Farm Rehabilitation Administration, Dawson Creek; Bruce Rutley, Centre for Agricultural Diversification, Dawson Creek; Allen Watson, Peace River Regional District, Dawson Creek.

In other business of the Association a number of reports were presented to the good crowd of members and guests presented who braved sub zero temperatures and definitely wintery conditions to travel to the meeting in the Peace River Valley in Taylor. Copies of these reports are

available to members who were unable to attend the meeting. Please write the Secretary.

The Secretary Treasurer reported on a lengthy list of successful forage activities which the Association assisted and participated in during the last 12 months, as well as a healthy yearend financial picture. Membership at year end was 61. Already we have 30 paid up 1995 members, which puts the Association well on its way to the goal of 100 members in 1995.

Auditors elected at the annual meeting were Brian Clarke of Baldonnel and Burem Grant of Tomslake.

Coffee break was sponsored by the Fort St. John New Holland dealer, Butler Farm Equipment. Thank you Butlers.

Marcus Summersfield, the newly appointed Coordinator for the Peace River Agricultural Strategic Planning Society (PRASPS) was introduced to the meeting. He indicated that he intends to pursue a very positive approach towards project development and that he believe excellent marketing of products can overcome a lot of existing barriers to development of value added agricultural industry in the B.C. Peace.

Guest Speaker Wes Anderson of Canadian Agricultural Strategies and a principal in the Agri Fibre Group indicated that the challenges to the farming population of the B.C. Peace country is to insure that politicians and government officials in Victoria make available an economic climate suitable for the location of the second Agri Fibre plant in the B.C. Peace. This type of industry makes a hard, fibre-board for the construction industry by processing creeping red fescue straw. The other serious contender for the second plant is Oregon in the grass seed belt of the Pacific Northwest.

### Directors 1995 Peace River Forage Association of British Columbia

<b>Keith Weaver</b>	<b>President</b>	<b>Tomslake, VOC 2KO</b>	
<b>Walter Fritsche</b>	<b>Vice President</b>	<b>Box 864, Dawson Creek, VOC 1RO</b>	<b>782-5187</b>
<b>Bob Tubb</b>	<b>B.C.F.C. Rep.</b>	<b>Box 302, Tomslake, VOC 2LO</b>	<b>786-5634</b>
<b>Glenn Hogberg</b>	<b>Treasurer</b>	<b>Progress, VOC 2EO</b>	<b>843-7653</b>
<b>Ernest Nimitz</b>	<b>Secretary</b>	<b>Box 908, Dawson Creek, V1G 1L6</b>	
<b>Ernie Fuhr</b>	<b>Director</b>	<b>R.R. #1 Fort St. John, V1J 4M6</b>	<b>785-4808</b>
<b>Steve Shipton</b>	<b>Director</b>	<b>Box 158, Cecil Lake, VOC1GO</b>	<b>781-3476</b>



## Fall Cutting and Winterhardness of Alfalfa

It is important to know that cutting alfalfa late in the season may be risky and could in fact effect production the following year.

During the fall the alfalfa plant stores food reserves in its roots which enable it to survive low winter temperatures and initiate new growth in the spring. If alfalfa is cut or grazed during its critical fall harvest period the plant may be weakened which could result in reduced future yields and increased winterkill. The critical fall harvest period generally occurs 4 - 6 weeks before the first killing frost. On average, our frost in the Peace, usually strike in late September, or often earlier, which means we will soon reach the period when cutting may affect alfalfa vigour.

Here are the reasons why late cutting could be harmful. It is crucial that the alfalfa plant have leaf growth in order to synthesize carbohydrates for reserves in the roots. Also, if fall cutting is practiced reserves are used up to initiate new plant growth. Therefore loss of alfalfa stems and leaves causes a reduction in root reserves or a reduction in the energy required for successful overwintering.

Cutting immediately after a killing frost is less hazardous than cutting before that time because the alfalfa will become dormant and no new growth will be initiated. However, reduced stubble will not trap insulating snow as effectively.

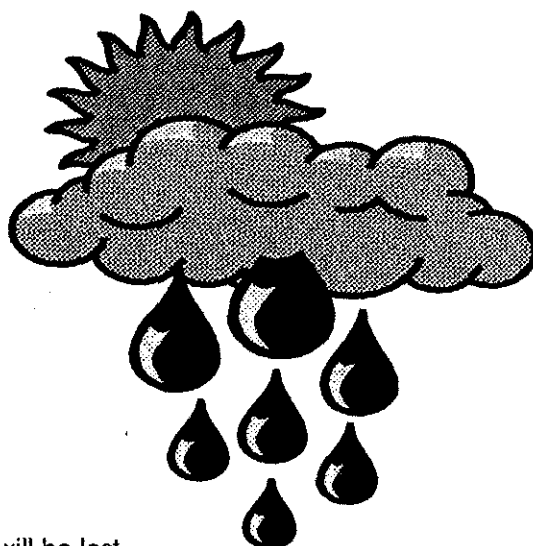
Fall management of the alfalfa stand is very important. Hay taking a late cut could reduce the stands winter reserves and make it more susceptible to winterkill. **By D.B.**

## Hay Storage

If you winter your hay outside and are considering building a shed to cover your bales, here is some information that may help you decide if an investment in storage facilities is worthwhile.

Weathering results in significant storage losses when hay is stored outside. It has been found that large round bales, when stored outside, have a dry matter loss of 17% compared to 6% for those kept under cover. Deterioration of unprotected bales occurs on the outer layer of the bale and particularly where it rests on the soil. It is common to have spoilage up to 3 inch deep or greater on uncovered bales. This means that if the bale is five feet wide and five feet in diameter 21% of the bale will be lost.

Of course, the extent of the spoilage will be dependent on the amount of precipitation, length of storage and the amount of moisture absorbed by the bale. In general it has been found that loses with round bales stored outside on the ground are about three times greater than with bales stored inside. It is evident that stacking your bales where they are constantly protected reduces storage losses and building storage facilities might be something you want to consider in the near future. **By. D.B.**



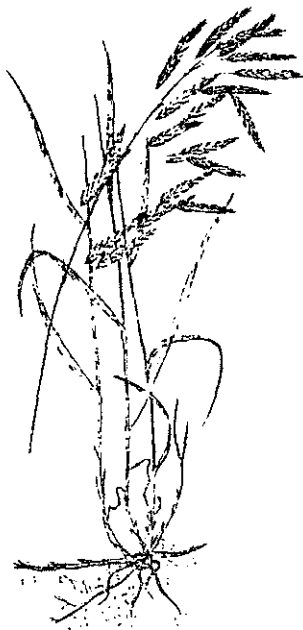
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## Harvest Losses

Unfortunately yield and nutrient losses in harvesting alfalfa hay are often very high. We now know what is causing these losses and they can be significantly reduced. During haying plant material is lost primarily because of leaf shattering. This occurs through mechanical handling like raking and baling when the hay is extremely dry. Leaf loss is critical. Even though leaves make up only one half of the plants weight, they contain more than 70% of the plants protein, 90% of the vitamins and 65% of the digestible energy. In many cases it may be difficult to alter your haying system in order to reduce leaf loss.

The type of baler used is an important factor to consider. Conventional, small rectangular balers, have losses from 3 - 8% while on the same hay, large round bales losses may be as high as 15%. Reducing raking will greatly conserve leaves and improve hay quality as raking losses range from 15 - 25%. Leaf loss also increases as bale moisture decreases so baling at a higher moisture content may be a viable option. Keep in mind though, that baling above 20% moisture greatly increases the risk of spoilage by micro organisms. By minimizing your harvest losses you will get the most from your hay crop and improve both the quality and quantity of your feed. **By. D.B.**

# Cereal Silage



There are many reasons for ensiling cereals. The number of acres that must be combined may be reduced. Cereals may be harvested as silage in order to salvage a crop that has been damaged by hail, frost or insects or to utilize small grain crops used in companion cropping programs. By ensiling forages, dry matter and nutrient loss is usually reduced as compared to harvesting field cured hay because the higher moisture content in silage significantly reduces potential losses between cutting and storage. Also, unlike hay, silage can be

harvested when it is ready, in almost all weather conditions.

It has been found that there are also a few nutritional differences between cereal silage and traditional grass or legume roughage. When comparing cereal silage to grass hay or silage protein levels are about equal, however they are considerably lower than alfalfa. Digestible energy value of cereal silage is similar to grasses and legumes. A legume or grass-legume hay will have two or three times more calcium than cereal forage, but cereal silage usually contains 20 - 30 per cent more phosphorus. Nitrates are also higher in cereal forages than in grasses or legumes.

Certain guidelines should be followed to obtain a high quality cereal silage feed. Moisture levels between 60 - 70 percent are best for ensiling cereal grains with 65% being optimum. To maximize the yield of energy per acre it is best to harvest in the milk-soft dough stage of development. As cereal grains mature from the boot to the dough stage the protein level drops while energy increases. Since they have a relatively low protein content this means cereals should be harvested before they get too mature.

When choosing a cereal silage that is right for you, consider yield versus quality, as there is a trade off between the two. A rise in quantity is matched by a decrease in quality. The beef farmer may not need an extremely high quality forage. Instead, it may be more important to ensure that there is a good supply of highly fibrous feed where energy is a prime concern. In dairy operations optimum forage quality or protein is an aim that needs to be met.

Feed quality is also related to the crop species that is used.

Quality is similar between varieties within a species, but differences are usually evident between different annual crops like peas and barley.

Barley is a high yielding cereal that is usually seeded at a rate of 80 kg/ha. It produces a higher quality silage than oats and has a protein content at 8 - 12% whereas oats are at 6 - 10%. Barley (60kg/ha) and oats (40 kg/ha), or barley (80kg/ha) and annual ryegrass (20 kg/ha) are suggested for use as silage mixtures. Klondike and Virden are strains of barley that are recommended for silage, with Virden being generally superior to Klondike in crude protein levels. When choosing a variety of barley also note that smooth awned varieties eliminate the 15% risk of throat sores in cattle.

Oats usually have a lower per cent crude protein than other cereals. They are high yielding on Grey wooded and Black soil areas. Oats are recommended for silage production on Dark brown soils but may be lower yielding than some other cereals. Cascade, Jasper and foothill varieties are recommended for silage production in central B.C.

Spring wheat is not commonly used for silage but will produce a satisfactory crop and is high yielding. Utility varieties are recommended for silage. Mixtures of spring wheat with field peas, rapeseed or hairy vetch have higher feed quality than barley and are recommended for silage.

Winter wheat is not a very reliable silage crop and yields are somewhat less than for other cereals. Winter wheat may be beneficial if it is mixed with another cereal and regrowth is used for pasture.

Annual ryegrass produces relatively low yields but is a very high quality crop for silage. A barley-annual ryegrass mixture has been found to be a productive forage mixture. It is best utilized when it is harvested as silage with barley being high yielding early in the season and annual ryegrass cut later followed by grazing until late in the fall. The annual ryegrass provides good fall pasture if moisture is adequate with protein levels at 14 - 18%. Both Aubade and Lirisand annual ryegrass varieties are good.

Peas generally have a high percentage of protein but yield less total dry matter than cereals alone. The decision to grow field peas should be based on the need for higher quality feed rather than yield or cost of production. Cereal-pea mixtures are sometimes grown to provide improved feed quality as compared to cereals alone, to support the peas for harvest and to improve silage making as compared with peas alone. Austrian Winter or indeterminate flowering peas seeded at 60 lbs/acre will usually produce a high quality silage. **By D.B.**



## Forage File - Farm Forage Facts

Category of Fact #941: **Grazing Management/Bloat Control**  
 Bill and Doug Bentley Families, Progress, B.C.

In the spring of 1993 the Bentleys turned their cattle onto summer pasture as they had done for many times. In the years before they had lost the

odd cow to bloat, but never had eleven head die in one season. Throughout the summer the cattle were given bloat guard in their salt as a preventative measure. Bill and Doug decided to try a new approach.

In the spring of 1994 the Bentleys turned their cattle onto summer pasture once again. The spring was wet and the alfalfa was lush, green and more plentiful than ever before. It looked like bloat might be a problem once again. Mineral oil was added to the loose salt and fed to the herd just before being turned out and while on pasture. As a result

one calf died from bloat and no other symptoms occurred in the herd. Bill and Doug believe that the calf may not have utilized the mixture that was set out. Although they feel that even this one loss is too great, it is an enormous improvement compared to the summer of '93.

The Bentleys are more than pleased with the mineral oil-iodized salt mixture as a means to prevent bloat. They purchased 20 L of Marcol 72 oil from Imperial Oil for about \$53.00, but ordinary mineral oil will also work. Marcol 72 is a lubricant oil specially de-signed for bearings in food processing plants and it is safe for animal consumption. Twenty-five kilograms of loose salt and 1.5 L of the oil are mixed within a rubber tub before being fed from a covered salt feeder. The cows don't seem to mind the oil. In fact the loose salt doesn't harden with time when the oil is added which may make the salt more palatable and cause the cows to ingest more of it. Bill and Doug were surprised that the mixture was so effective. They are going to continue feeding it to their cattle and would recommend feeding it if your herd is susceptible to bloat.

## Forage File - Farm Forage Facts

Category of Fact #942: **Shelterbelts/Forage Production**  
 Bob and Joan Tubb, Tomslake, B.C.

Bob and Joan Tubb have a cow/calf enterprise. With over 100 cows and only 210 cultivated acres they find that intensive forage management is important so that sufficient feed is produced for their herd. Bob and Joan have many good practices, but they find that one of the most important ones is the use of shelterbelts.

On their farm shelterbelts consist of willows, poplars and other native species. They are grown on field borders, natural waterways or farmland with very steep grade and are less than 30 feet wide. Many of the strips were on the farm when Bob and Joan bought it and they decided to leave these and encourage more to grow. They believe that many farms, especially on the prairies, would benefit from increased tree cover and smaller field size.

Shelterbelts can be planted with bushes and trees that are native to the area and can be found around ones farm. Suckers cut from young willow bushes and planted in wet soil early in the year will grow. Then when the willows are established poplars and other vegetation will follow in natural succession.

Bob and Joan have found that their shelterbelts have low maintenance, no cost and require nothing but a little time to grow. Shelterbelts trap snow and hold moisture in the soil.

As a result forage production has been high and stable throughout both wet and drought years on their farm. The vegetation also controls erosion by wind and rain and does a good job at protecting the valuable topsoil. Some land is taken up for the shelterbelts but this land is usually not arable because of waterways, steep grade or fencing. Often increased forage production makes up for the small amount of land that is used. Wildlife also make habitats of the vegetative strips. Shelterbelts play a beneficial role on any farm and Bob and Joan Tubb believe that shelterbelts are a key idea in their management program.





## Forage File - Farm Forage Facts

Category of Fact #943: **Grazing Management/Winter Feeding**

Ernest Nimitz, Sunrise Valley, B.C.

On the Kiskatinaw River Ranch, Ernie Nimitz believes that by managing pastures and forages efficiently, management of the cattle herd

is made easier. Ernie practices intensive rotational grazing. He likes to pasture his cattle late into the season and has a goal to reduce his winter feeding period to 100 days.

**Rotational Grazing System:**

**Pasture Size:** 35-40 acres if cleared/ 100-200 if bush

**Capacity:** 70 - 100 animals (ideally 2 animals/acre)

**Grazing period:** 2 - 7 days (until pasture is grazed fairly heavy but still has potential for regrowth, yet key management species have not begun to regrow)

**Forages:** sweet clover, timothy, alfalfa, fall rye, native forages, alsike and red clover.

**Benefits:** easier to manage and care for animal in a smaller

area; improved herd sire performance and higher % of bred females; better utilization of pasture; less winter feed production required; good forages are grazed and have a chance for regrowth; native forage provides a variety of minerals and nutrients

**Winter Feeding**

**Feeding Period:** Presently December 1 to April 20-28

**Ration:** Round bale alfalfa and grass hay

**Feeding Schedule:** Every 5 - 10 days or as needed.

**Goals:** Reduce winter feeding period to 100 days and introduce swath grazing into the winter feeding program by swathing hay in September and leaving it in the field to feed the cows during the winter

Ernie started his rotational grazing and alternate days feeding program in 1987 and winter feeding program with swaths in 1993 and has continued using this grazing/feeding system while expanding the size of his herd and will stick with his forage management plan.

## Forage File - Farm Forage Facts

Category of Fact #944: **Fencing**

Ernest Nimitz, Sunrise Valley

Ernie practices rotational grazing and has preferred fencing systems for both permanent, large area fencing and portable small pasture fencing.

**Permanent:** The fence is built with treated posts spaced at a maximum of 60 foot intervals with two strands of high tensile wire. Both wires are electric with approximately 6500 volts passing through them. Ernie has found that using an 8 foot post and a 7 foot post for braces is a good alternative to other bracing methods. ( 3 posts total) Poplar posts are used for cross braces perpendicular to the 8 foot corner post and two strands of diagonal wire tighten the brace. One of the biggest advantages of this fence is that it is about one third to one half the cost of traditional 4 strand barbed wire fencing. Cattle respect the fence once they realize it is hot and Ernie's cows have never ventured beyond the pasture perimeter.

**Portable #1** Ernie used portable Gallagher fencing to partition his larger pastures. The system consists of plastic posts and poly cord with 9 or 10 wires and is economically

priced, light weight and portable. This fencing is very good for enclosing pastures, dugouts or other small areas. Each

energizer unit can supply charge over a distance of one eighth of one quarter mile so that large areas can be easily enclosed with multiple units. Ernie has had no problems with this fencing. Cattle remain within its boundaries and the system is durable and withstands continued use.

**Portable #2:** This system can be used for splitting permanent electrically fenced pastures also without the use of a second energizer. Example: split an 80 acre pasture into two 40 acre pastures.





**COMPLETE PROGRAM OF EVENTS**  
**B.C.F.C. Activities, Dawson Creek,**  
**January 26 & 27, 1995**

**Day 1 January 25, 1995**

Travel Day Forage Bus from Lower Mainland via Kamloops and Prince George to Dawson Creek. B.C.

**Day 2 January 26, 1995**

9:00 a.m. - 12 noon Executive Meeting of B.C.F.C.

10:00 a.m. - Tour of local Bison and Reindeer Ranches

12 noon - 3:45 p.m. Directors Meeting B.C.F.C.

Noon - Light Buffet Lunch

Noon - Annual Trade Fair opens

1:00 p.m. - Guest Speaker, **Dr. Daphne T. Fairey**, Ag Canada, Beaverlodge

3:00 p.m. - Guest Speaker **Louis Melanson**, New Holland Corporation

4:00 p.m. - Happy Hour begins.

5:30 p.m. - Buffet Supper

Guest Speaker for AGM 6:00 p.m. **Bruce Johnson**, Range Management Section, B.C. Forest Service, Prince George.

7:00 p.m. - Annual General Meeting of the British Columbia Forage Council

8:45 p.m. - Guests from Southern B.C. go home with local farm/ranch Host families.

**Day 3 January 27, 1995**

9:15 a.m. - Trade Fair Opens for the Day

9:45 a.m. - Quality Forage Seminar begins.

**Myron Bjorge**, Provincial Forage Specialist, Alberta Agriculture, Food and Rural Development, Lacombe, Alberta.

**Roger Baldwin**, Director, Land Management Services, Prairie Farm Rehabilitation Administration, Regina, Saskatchewan

11:30 a.m. - 1:30 p.m. - Buffet Luncheon and Visit Trade Fair and Talk Forage

1:30 p.m. - Quality Forage Seminar Reconvenes.

**Louis Melanson**, New Holland Corporation

**Dr. Nigel A. Fairey**, Ag Canada Research Station, Beaverlodge.

3:00 p.m. til 4:30 p.m. Bear Pit Session "The Audience's Opportunity to Question Speakers."

4:30 p.m - 5:00 p.m. Seminar Wrapup

5:00 p.m. - Trade Fair and Quality Forage Seminar End

6:00 p.m. - Forage Bus Begins Journey South.

**Day 4 January 28, 1995**

Travel Day for Forage Bus Dawson Creek to Lower Mainland via Prince George and Kamloops.

Session Chairmen will be Donna McColl, Manager of the Prairie Farm Rehabilitation Administration in Dawson Creek plus Greg and Jeff Weaver of Weaver Brothers Auction Service and Keystone Ranch at Tomslake. A fee of \$40 will be charged for the two day session to B.C.F.C. members. The first day only price is \$25 and the second day only price is \$20 Meals outlined in the program are included. Non members will pay \$10 more.

For further information please contact:

Bob Tubb	(604) 786-5634	Glenn Hogberg	(604) 843-7653
Ernest Nimitz,	Box 908, Dawson Creek, B.C. V1G 1L6		(604) 784-7080
Jim Forbes	BCMAFF, Dawson Creek, B.C.	(604) 784-2225	Fax: (604) 784-2299

For The Forage Bus specifically please contact either:

Bob Tubb (604) 786-5634, or Ted Moore, BCMAFF, 162 Oriole Road, Kamloops, V2C 4N7 (604) 828-4552.

