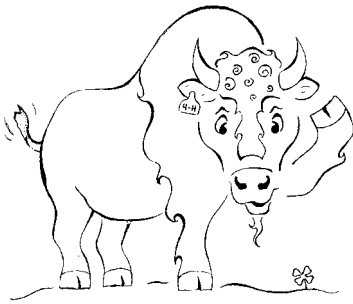


Parasites of the Bison



Roll Call:

Name a parasite. _____

You will hear some of the following answers:

| | |
|---------------|-----------|
| Roundworms | lice |
| stomach worms | ticks |
| tapeworms | lungworms |
| mange | mites |
| flies | flukes |

Objectives

Level One

1. To learn what a parasite is.
2. To learn the difference between an internal and an external parasite.
3. To understand how cattle might become infected with parasites, using the roundworm as an example.

Level Two

1. To introduce members to more internal and external parasites that might affect a bison herd.
2. To have members understand common livestock diseases that may affect bison.

Alberta 4-H Bison Project - Leader

Level Three

To challenge members to think of ways to control parasites within bison herds.

Research and develop an experiment that might help to obtain more information about the levels and effects that parasites have on bison.

Research disease that is or could become a threat to bison in Canada.

Level One

An internal parasite - is an organism that lives inside the body of your animal, getting its life support (food and shelter) from the animal.

Examples: roundworms, tapeworms, coccidiosis, liver flukes, eyeworms and lungworms.

An external parasite - is an organism that lives outside the body of your animal, getting all its life support from your animal.

Examples: mange, warbles, nose bot flies, ticks, and lice.

The way your animal becomes infected will depend on the type of parasite. It may be through sharing corrals, eating grass, or sharing water with infected animals or conditions.

You can prevent your animals from becoming infected by:

following good management practices

keeping your facilities clean and dry

following a routine prevention schedule

being able to recognize the symptoms of infections.

Suggested meeting plan

Invite a guest speaker.

There are many knowledgeable people out there who may be interested in coming to speak to your club about parasites.

Some examples are: bison or diversified livestock specialist, entomologists, veterinarians, or a local producer.

Alberta 4-H Bison Project - Leader

See samples of parasites.

Your local veterinarian may have bottled samples of worms and other parasites. Keep in mind the saying - "A picture is worth a thousand words." If the members can actually see the parasites, they will get a better feel for the damage they can do.

Visit a local producer.

Use this meeting to find out how a local producer controls, prevents and treats parasites and diseases on his farm.

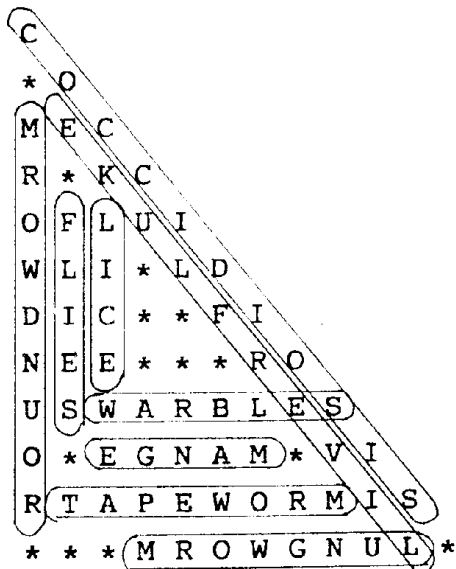
Have a senior member working on a level three activity do a presentation of what they discovered about a disease or research project that could be conducted to find out more about parasites and diseases that affect bison.

Activity Solutions for Parasites of the Bison

Activity solution level one - page 50

Find the parasites

These words are in the puzzle: lungworm, tapeworm, mange, warbles, roundworm, flies, lice, liver fluke and coccidiosis.



Activity solution level two – Page 46

Activity: Parasite investigation

Following are the solutions:

I am small and I bite which makes me not nice.
Can you think of who I am, I am a *biting lice*.

If you notice your bison out on the range,
are missing patches of hair it might be *mange*.

My manure is runny, please use your powers,
should you suspect that I have *scours*.

They live in my intestine and under no uncertain terms,
I need to get rid of these parasites we call *worms*.

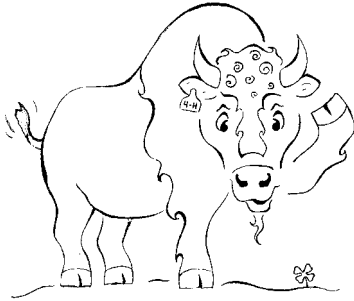
My favourite drink is blood. I like it with no ice,
I hatch in 1 to 20 days, I am a *sucking lice*.

Activity solution level two - Page 52

Activity: Disease fill in

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| B | R | U | C | E | L | L | O | S | I | S |
| V | | | A | | | | | | | |
| D | | | P | | | | | | | D |
| | | | T | | | | | | | I |
| | | | U | | | | | | | A |
| | | | R | E | D | W | A | T | E | R |
| | | | E | | E | | | | | R |
| | | | | | A | | S | | | H |
| | | | | | T | I | C | K | | E |
| | | | | | H | | O | | | A |
| | | | | | | | U | | | |
| B | A | C | I | L | L | A | R | Y | | |

Bison Herd Health



Roll Call:

Name one sign of a bison animal that shows when it is not healthy.

You may hear some of these answers:

| | | |
|-------------|-------------|-----------------|
| fever | dehydrated | depressed |
| no appetite | weak | rapid breathing |
| grunting | cough | uncomfortable |
| restless | droopy ears | runny nose |
| diarrhea | runny eyes | urinating more |

Objectives

Level One

1. To learn how to identify healthy and unhealthy animals.
2. To look at how to give medications.
3. To think about preventing disease on the farm.

Level Two

1. To learn how to take the beef animal's temperature.
2. To be able to identify, treat and prevent some diseases found in beef calves.

Alberta 4-H Bison Project - Leader

Level Three

1. To learn more about some of the diseases which can affect feedlot animals.
2. To learn more about vaccinations.
3. To look at herd health management year-round.

Activities

Level One

Looking at Medicine

There are several things which could be demonstrated here: using a balling gun, drenching gun or flexible tube, or injections. Emphasize the importance of following the directions on the bottle.

Level Three

Identify potential diseases that could affect a bison herd. Research the material and present the information to the other members in the club either through a presentation, a write up, a poster, or contact a guest speaker.

Design a vaccination program for a herd of bison.

Develop a management calendar that will help to identify any potential problems for the herd health.

Suggested meeting plan

1. Invite a guest speaker.

A local veterinarian could discuss some of the common beef diseases that may also affect bison in your area. The veterinarian may also be able to provide advice on when and how to administer drugs, or talk about the importance of monitoring the health and condition of the bison herd.

Alberta 4-H Bison Project - Leader

An animal health sales representative could be invited to discuss certain diseases and how the drugs work to combat these diseases. The representative may also wish to discuss safe handling of drugs, withdrawal periods and labeling and storage.

A local bison producer may be able to share information about his or her herd health plan and how he or she manages the care of the herd.

2. Use an interactive game to stimulate members to think about what they have learned.

Develop a Jeopardy type game to help all members learn about a variety of different diseases and prevention or treatment techniques. Invite a junior leader, senior member or 4-H volunteer to design this activity.

You may even wish to have members ask questions about certain diseases at one meeting, and then later in the year use those questions with the proper answers for the game night. By doing this you can test them on the information that they considered to be important.

Activity Solutions for Bison Herd Health

Activity solution level one - Page 58

How are Betsy and Boris
Boris is healthy and Betsy is unhealthy.

Activity solution level one - Page 62

P" or "N"

1. N 2. N 3. P 4. N 5. P 6. N 7. P 8. N

Activity solution level two - Page 55

Circle it!

Using the list from the previous page the members will be able to determine the diseases that have been reported to have caused disease, not infection, in bison. The correct answers are underlined for you here. (Remember this information is current up to the summer of 2001, there could be future developments and information that you can use to educate your members, so we encourage you to use the bisoncentre.com website to keep up to date with new information.

PI -3

BVD

Hemophilosis

Rota and Corona virus (known to have caused diarrhea)

Brucella abortus

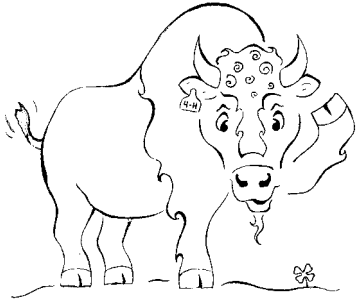
Footrot (occasionally occurs)

Pinkeye (occurs)

I BR

BRSV

Breeding and Reproduction



Roll Call:

List one thing you must consider when managing your bison herd for fertility.

Objectives

Level One

Understand the care that is needed to maintain healthy productive cow herd.

Understand the management needed to maintain healthy breeding bulls.

Understand the basics of breeding.

Recognize the signs of a female that is calving.

Level Two

Parts of the male reproductive system.

Semen evaluations

Parts of the female reproductive system.

Pregnancy testing

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Level Three

Heredity...why do we care?

Selection

Activities

Level One

Name the five nutrients:

Water

Energy

Protein

Vitamins

Minerals

Level Two

Can you identify the problem?

This activity allows the members an opportunity to see what could be potential calving problems that may cause cows to have dystocia, or difficulty calving.

Suggestions for meeting

Kids of all ages like to learn by hands on. Talk to the local butcher and see if you can arrange for them to keep the female reproductive organs so that the members can see what the parts really look like. The domestic cow system is the same as the system of the bison cow, however the bison is slightly smaller.

Because there is so much to know this is a great section to play a game of "Pictionary" using words or phrases that have to do with reproduction and calving.

Activity Solutions for Breeding and Reproduction

Activity solution level one - Page 67

Cow management review

To have healthy calves, you must first have healthy cows. Heifers have greater nutrient requirements than mature cows. Grazing bison use energy as they move about to find food. Climate affects the bison cow's nutrient requirements. Although adapted to the climate, cold temperatures, high humidity and strong winds may cause the cow's requirements to increase. In early gestation, nutrient requirements do not change very much. However, during the last 6 to 8 weeks before calving, nutrient requirements increase. The cow's nutrient requirements are greatest when she is producing milk.

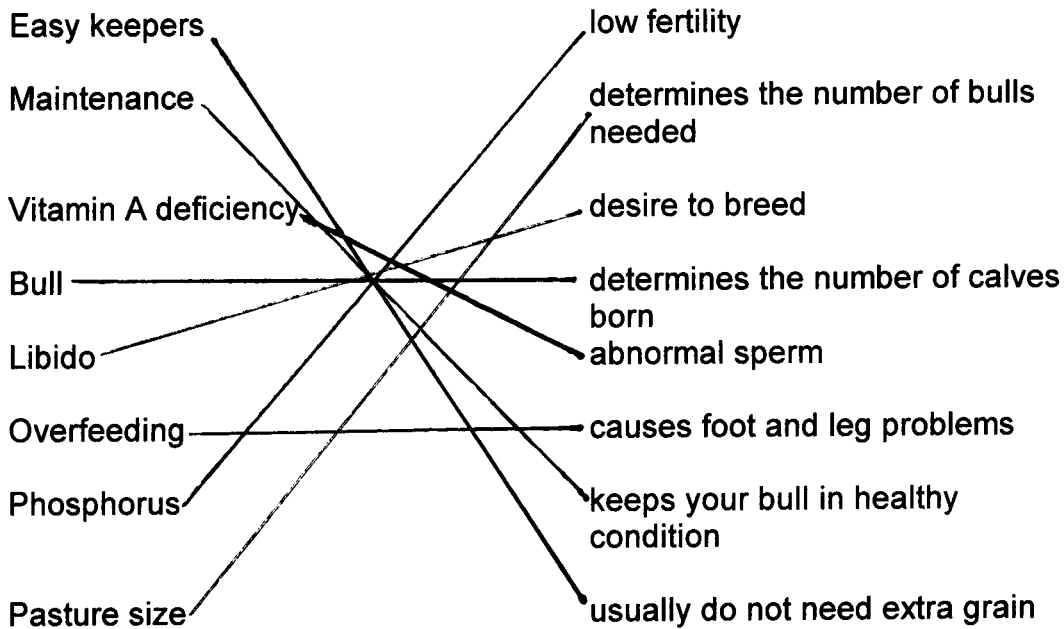
Activity solution level one - Page 68

Cow management a word unscramble

| | |
|------------|------------|
| LYTHEHA | HEALTHY |
| CTTALIANO | LACTATION |
| EIADSSE | DISEASE |
| EGNYER | ENERGY |
| GNNATEEMMA | MANAGEMENT |
| TGINOTEAS | GESTATION |
| EFHIRE | HEIFER |

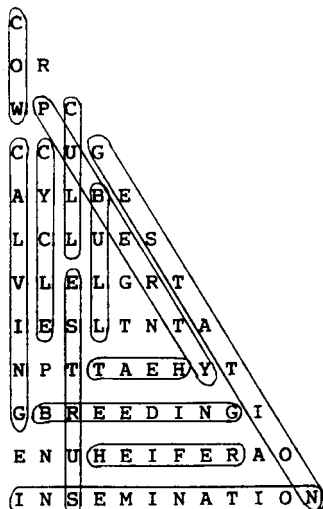
Activity solution level one - Page 72

Bull management - Test your bull knowledge



Activity solution level one - Page 75

Find the repro word



"At the end of the breeding season, you want all of your cows and heifers to be PREGNANT."

Activity solution level one - Page 80

What stage?

- II Suzy has been straining for 20 minutes.
- I Mary Lou is wandering restlessly around the calving area.
- I Belinda's water sac has just broken.
- II Betsy has just lain down. Half an hour ago she was really uneasy and nervous.
- II You can see the front legs of a calf coming out of Mazy.
- I Lisa is bawling and very restless.
- III Candy just delivered a strong healthy heifer calf 10 minutes ago.

Put them in order

- 10 Calf nurses for the first time.
- 1 Mother becomes restless.
- 3 Contractions are about 15 minutes apart.
- 5 Calf enters birth canal.
- 7 Calf's front legs and head appear.
- 11 Afterbirth comes out.
- 2 Calf changes position in uterus.
- 8 Calf's head and shoulders appear.
- 6 Contractions are two minutes (or less) apart.
- 4 Water sac is broken.
- 9 Calf's hips and hind legs appear.

Activity solution level three - Page 57

Word search

The following words can be found within the word search.

REPRODUCTION

PROGENY

WEANING

FERTILITY

DWARFISM

DOMINANT

RECESSIVE

ALLELE

LOCUS

LONGEVITY

GENETIC

SIRE