

# Ruminations on ruminants

by Maggie Coates

Sheep and cattle aren't getting the credit they deserve.

And a U of A researcher wants to change the situation.

Dr. Larry Milligan of the Department of Animal Sciences in the Faculty of Agriculture says ruminants like cattle and sheep are important links in the food chain. They are unusual and efficient producers of protein and their ability to use food sources that humans can't led Milligan into his research topic — digestion in sheep and cattle.

"They present two very real benefits for the human food chain in that they are able to convert ... indigestible fibrous material to high quality food for humans, such as meat or milk.

"They also provide us with a means of converting simple nitrogenous compounds to high quality protein for the human diet."

Ruminants are capable of this transformation, says Milligan, because of a "fermentation site" in the early stages of their digestive system. Bacteria

in this fermentation site use ammonia to produce bacterial protein, which is transformed by the animal into animal protein.

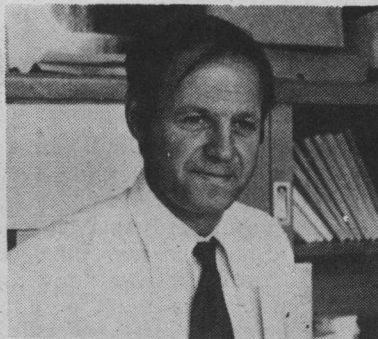
Although the human digestive system also contains bacteria, the bacteria occurs too late in the digestive process to produce the same animal protein.

Milligan is interested in determining the effect of nitrogen supplements in ruminant diets.

"This means that when there's a shortage of protein in the diet of the ruminant ... you don't have to add high quality protein but instead you can add simple chemicals."

Urea — the end product of metabolism — is particularly valuable in this process, says Milligan. He and his colleagues now suggest that modified urea could be added to fibrous diets for ruminants. Metabolism transforms protein to urea. By using urea to produce protein, the metabolism process is, in effect, reversed.

Milligan's research has used isotopic tracers to study diges-



tion in sheep. Compounds containing isotopic nitrogen are fed to sheep and their progress through the digestive system is traced. The results provide a better understanding of ruminant digestion.

Funding for this research is provided by various government and commercial sources. Most of the research is conducted at the U of A farm.

Milligan says he will now apply his theoretical research to specific techniques in forage use in Alberta.

The goal? A more efficient, recyclable food system.

In the meantime, take a sheep to lunch.



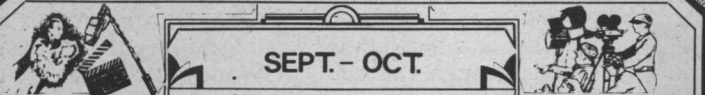
STUDENTS' UNION  
UNIVERSITY OF ALBERTA EDMONTON  
UNION DES ETUDIANTS

## GAMES AREA

For relaxation and fun, join your favourite student club. Bowling, Curling or just come to SUB and have a friendly game of Billiards.

Registration for Bowling and Curling will be available at the Games Area desk (from Sept. 14th - 27th) — EVERYBODY WELCOME.

For more information, please call  
432-3407



### S.U. Concerts Presents:

STUDENTS UNION CONCERTS PRESENTS AN EVENING WITH <b>Dave Brubeck</b> THEATRE OCT. 4/79 2 Shows 7:30 & 9:30 PM Tickets \$8.50 Members of BASS Outlets	STUDENTS UNION CONCERTS PRESENTS AN EVENING WITH <b>Dave Brubeck</b> THEATRE OCT. 4/79 2 Shows 7:30 & 9:30 PM Tickets \$8.50 Members of BASS Outlets	STUDENTS UNION CONCERTS PRESENTS AN EVENING WITH <b>Dave Brubeck</b> THEATRE OCT. 4/79 2 Shows 7:30 & 9:30 PM Tickets \$8.50 Members of BASS Outlets
--	--	--

The "OUTRAGEOUS"  
**CRAIG RUSSELL**  
Musical Director  
Pauli Hoffer

SUB THEATRE  
UNIVERSITY OF ALBERTA  
OCT. 5 8pm  
OCT. 6 7:30 and 9:30pm  
Tickets \$10 at all BASS outlets

### S.U. Cinema Presents:

#### THE ALL-STAR LINE-UP CONTINUES!

Friday Sept. 28  
— Alan Arkin in "The Heart is a Lonely Hunter" (family)  
Saturday Sept. 29  
— Bogey and Bacall battle Edward G. Robinson in "Key Largo" (Adult)  
Sunday Sept. 30  
— Jack Lemmon stars in "The Apartment" (Adult)  
Tuesday Oct. 2  
— Sophia Loren in Fellini's masterpiece "Boccaccio 70" (Restricted Adult)  
Shows at 7:00 & 9:30 pm  
Admission: \$2.50 (\$2.00 with S.U. ID)

For more information  
call 432-4764

SUB THEATRE



## S U By-Election Friday, Oct. 12

Positions on Students' Union Executive, Students' Council, General Faculties Council, and the Science Faculty Council are open. If you are interested in running or working at a poll, please contact the Returning Office, 271 SUB.

Nominations close  
Friday, Oct. 5, 5:00 p.m.



## WANTED: YOUR INPUT

People interested in representing their fellow students on various levels, are required for the following positions:

### Students' Union Executive

V.P. Finance and Administration

### Students' Council

- 1 Dentistry representative
- 2 Education representatives
- 1 Law representative
- 1 Nursing (UAH) representative
- 1 Rehabilitation Medicine representative
- 1 Science Representative 1 VP Mens' Athletics

### General Faculties Council

- 4 Education representatives
- 4 Science representatives
- Other students at-large

### Science Faculty Council

- 12 Science representatives

For further information, contact the Returning Office, (271 SUB) or the S.U. Executive Offices, (259 SUB).

## GET INVOLVED



Nominations close Oct 5  
By-Election Oct. 12