

**CANADIAN
MEAT GOAT**
Association



Youth

ACTIVITY BOOK

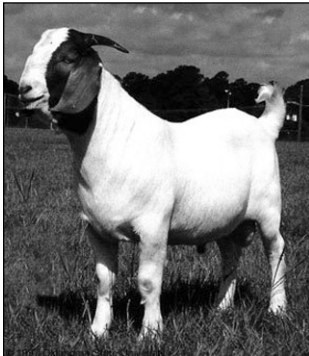
What is a **Meat** goat?

Several strains of goats have been genetically selected by man specifically for meat production. Some of these are actual breeds, while others are just beginning to have distinct traits that pass reliably from parents to offspring. The types of meat goats common to North America include:

SOUTH AFRICAN BOER GOAT

The South African Boer goat is an improved breed, having been developed originally through crossbreeding indigenous goats with European, Angora and Indian goats. The name "Boer" means "farmer" in Dutch and was perhaps used to distinguish these goats from Angora goats imported into South Africa during the 19th century.

South African goat farmers began selecting for muscular and compact animals, and as a result were able to produce a strain of goat that bred true for high growth rate, muscular carcasses and good fertility combined with a very distinct color pattern (white body and red head). The South African registry was established in 1959 and breed standards were adopted.



The first Boer goat genetics from South Africa were exported to Australia and New Zealand in 1987 and, after a five year quarantine, were eligible for export. The Boer goat industry in Canada began in 1993 when a New Zealand company brought the first Boer goat genetics to North America. Then the following year, Canadian farmers began to import frozen Boer goat embryos directly from South Africa.

SPANISH MEAT GOAT

Spanish goats are the descendants of goats brought to the U.S. by early New England settlers. They migrated south and probably interbred with goats brought into Texas and Mexico by early Spanish settlers. Their ancestry is as mixed up as that of a mongrel dog. Their rugged environment shaped them into very tough, rather small goats. Specific ranchers have genetically selected Spanish goats for better meat production by keeping only the biggest or meatiest bucks for breeding to females. Nubian bucks have sometimes been crossed with them to improve size, milk production of dams, and fleshiness of the kids. These meatier goats are known as Spanish Meat goats. They come in almost any color and are usually left horned. Their ears are somewhat pendulous but shorter than a Nubian's. Many of them produce a cashmere undercoat in winter.



P.O. Box 314
Lancaster, ON
K0C 1N0
Phone (613) 347-1103
Fax (613) 347-1105

NEW ZEALAND KIKO GOAT

The Kiko goat was produced in New Zealand by taking feral does that exhibited good meat conformation and breeding them with Saanen and Nubian bucks to increase their milk yield and butterfat content. Those bucks and does whose offspring grew best (as measured by weight gain) under rugged conditions were chosen to produce the future generations. Kikos have similar ears to Spanish goats but are usually larger framed. They are often white like their Saanen ancestors.



TENNESSEE MEAT GOAT

In 1880 a flock of myotonic goats was identified on a farm in Tennessee. Myotonic means that they have a condition that caused their muscles to lock up whenever they were startled. Sometimes their muscles lock up so suddenly that they fall over. This was the origin of the Tennessee Stiff-Leg or Fainting Goat population. These goats come in many color combinations and have airplane ears (shaped like Alpine ears but not erect, instead they jut out sideways). Texas ranchers at Onion Creek Farm chose from this population, goats with the largest frames and heaviest muscles to keep for breeding purposes. Gradually they produced a goat that is larger and heavier than the original strain. These selected goats are known as Tennessee Meat Goats. The constant stiffening and relaxing of the muscles of myotonic goats may result in heavy rear leg muscling, tender meat, and a high meat to bone ratio.



(Some text excerpted from *New York State 4-H Meat Goat Project Fact Sheet #2 "The Meat Goat Breeds"* by Dr. Tatiana Stanton. Photos from the Department of Animal Science, Oklahoma State University website.)

Commonly used **GOAT** terminology

BUCK: a mature male goat used for breeding

BUCKLING: a young male goat under breeding age

CHEVON: goat meat

COMMERCIAL ANIMAL: an animal which is not registered

DAM: the mother of an animal

DOE: a mature female goat

DOELING: a young female goat under breeding age

DRY PERIOD: the time when a goat is not producing milk

FRESHEN: a doe which has kidded and is lactating

FULLBLOOD (BOER): an animal which is 100% Boer

GESTATION PERIOD: the length of time which a goat is pregnant

IN KID: a doe which is pregnant

LACTATING: an animal which is producing milk

PEDIGREE: a paper showing an animal's forebears

PERCENTAGE (BOER): an animal which is registered or non-registered. When a percentage doe is bred to a purebred Boer buck, the result is an offspring with a higher percentage of Boer blood.

REGISTERED: a goat whose birth and ancestry is recorded by a registry association

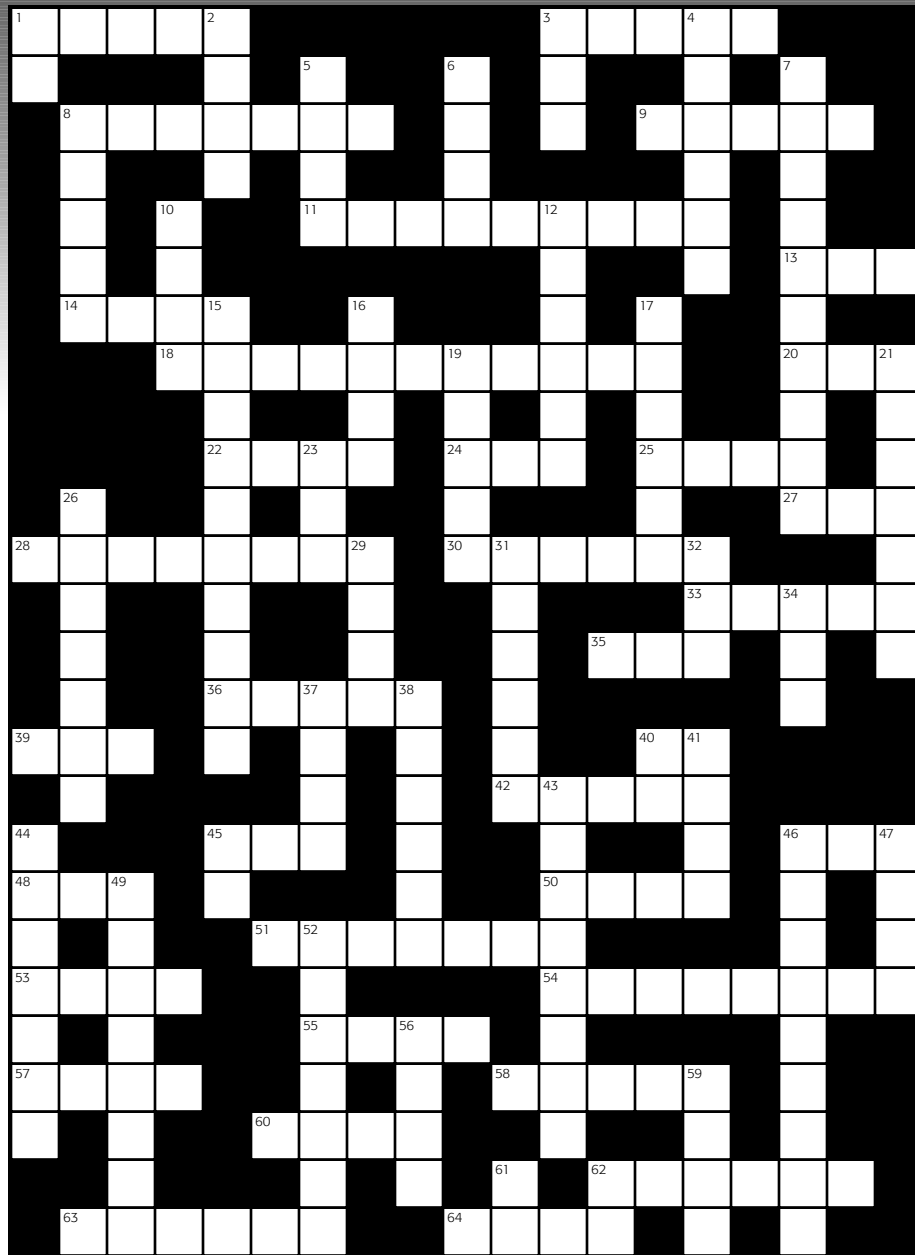
SIRE: the father of an animal

WETHER: a castrated male goat



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GOAT BREEDS crossword



ACROSS

1. Between hip & stifle
3. Small goat breed
8. Bay coat colouring
9. Between front legs
11. Chamois-coloured Swiss breed
13. Water opening
14. Opp. of West
18. Boer's home
20. Ends the loin
22. Caprine
24. Buzzing insect
25. Disney fish
27. Negative
28. Short-eared breed
30. Running
33. Mammary
35. Male sheep

36. Convex nose
39. Spider's home
40. All right
42. Oak seed
45. Tame animal
46. Front of hoof
48. Sick
50. Bottom of hoof
51. Smaller meat breed
53. Very large
54. "Fainting" goat
55. Smells
57. Topline = withers, back, _____
58. Specific class or kind
60. Between last rib & hip
62. Deepest part of the body
63. Rear leg joint
64. Skeleton component

DOWN

1. ____ and fro
2. Lights up a room
3. Swine
4. Angora hair
5. New Zealand breed
6. South African breed
7. Above rear udder
8. Between withers & loin
10. Overlook
12. Large French breed
15. Brown Swiss breed
16. Little talk
17. White Swiss breed
19. Hair
21. Above the hoof
23. Burned up
26. Excess neck skin flaps

29. Surface _____
31. Fiber breed
32. Chew on this
34. Female goat
37. Chevron
38. Roman-nosed dairy breed
40. Either
41. Between cannon & forearm
43. Soft underhair
44. At the top of the shoulder
45. Opposite of ma
46. Home of "improved" myotonic
47. Long narrative poem
49. Medial suspensory _____
52. Skeletal part on either side of tail
56. Shore soil
59. Have courage
61. _____ and behold
62. Exit



P.O. Box 314
 Lancaster, ON
 K0C 1N0
 Phone (613) 347-1103
 Fax (613) 347-1105

learn about GOAT MEAT

Goat meat, or Chevon, is one of the most widely consumed meats in the world. However, its consumption in [North America] has generally been limited to specific ethnic groups. It has an excellent flavor somewhat similar to beef and venison. It has less fat than chicken or any of the red meats commonly consumed. This is because goats tend to deposit their fat internally before they deposit it externally. When a goat is slaughtered, this internal fat is removed along with the rest of the "innards".

A well conditioned goat does have a tiny coating of fat over its muscles that helps keep the meat from drying out rapidly. Goats do not marble (intersperse fat within their muscles), thus, goat fat along a cut of meat is usually easily trimmed. Although goat meat is low in fat, studies have indicated that this fat contains a higher percentage of cholesterol than chicken or beef fat. However, these same studies have concluded that goat meat is much lower in saturated fats than the rest of the commonly consumed meats including chicken with the skin off. It has an excellent ratio of polyunsaturated to saturated fats making it a very healthy choice of meat.

We will probably see consumption of goat meat increase as more and more people are introduced to its excellent qualities. Because of its low fat content, goat meat can lose moisture and toughen quickly if cooked at high temperatures and under dry conditions. Goat meat is usually cooked slowly to moderately and is often marinated first or cooked in a sauce. An easy marinade for chevon is to soak the meat in either Italian or Greek dressing.

Goat Meat Nutrition Comparative Chart

	Per 3 oz. cooked				
	GOAT	CHICKEN	BEEF	PORK	LAMB
Calories	122	162	179	180	175
Fat (g)	2.6	6.3	7.9	8.2	8.1
Sat. Fat (g)	0.79	1.7	3	2.9	2.9
Protein (g)	23	25	25	25	24
Cholesterol (mg)	63.8	76	73.1	73.1	78.2

Data from: USDA Nutrient Database for Standard Reference Release 14 (July 2001)



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 MEAT GOAT
 Association
 P.O. Box 314
 Lancaster, ON
 K0C 1N0
 Phone (613) 347-1103
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GOAT WORD SEARCH

Find all of the words listed below and the letters left over will spell a very important message!

Boer
Nubian
Angora
Spanish
Kiko
Dairy
Doe
Buck
Kid
Wether
Gestation Period
Estrous Cycle
Doeling

Marking Harness
Fertility
Withers
Brisket
Muzzle
Jaw
Horn
Neck
Shoulder
Chine
Forelegs
Hoof
Heel

Sole
Pastern
Cannon Bone
Knee
Forearm
Point of Elbow
Heart Girth
Chest
Barrel
Back
Topline
Loin
Hindquarters

Rump
Hip
Thurl
Pin Bones
Tailhead
Twist
Thigh
Stifle
Escutcheon
Hock
Udder
Teats
Shank



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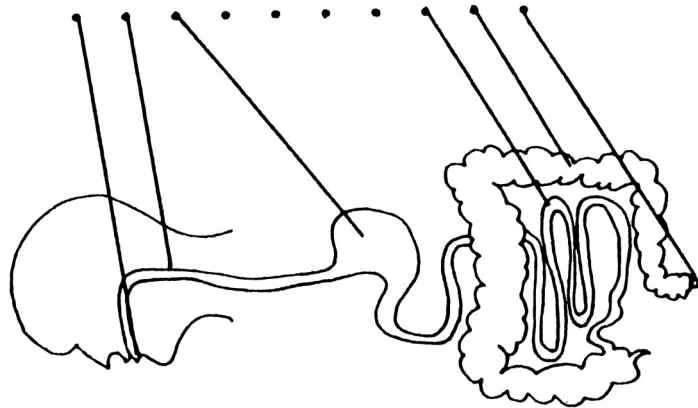


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Let's Compare...

Human

You have a MONOGASTRIC (single stomach) digestive system.



mouth
esophagus
stomach
rumen
reticulum
omasum
abomasum
small intestine
large intestine
anus

Goat

The goat has a ruminant (compartmented stomach) digestive system.



FEEDS *for Goats*

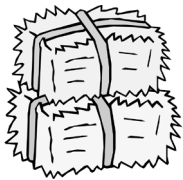
The feeds that are fed to goats can be broken up into two different groups. Basically, these two groups are **roughages** and **concentrates**.

Roughages are high in fiber (18% crude fiber or more). Fiber adds bulk to the goat's diet and keeps his digestive tract working well. Most roughages are forages, that is, they come from the green vegetative parts of the plant, for example, blades of grass. Forages tend to be low in energy.

In contrast, **concentrates** are low in fiber and high in either energy or protein. They often come from the seeds of a plant. Examples of concentrates include corn, oats, brewers' grains and soybeans.



HAY



Alfalfa and clover hay are legumes high in protein and calcium. Both are ideal for growing kids and milking does being fed high levels of grain. Timothy, brome and other grasses generally contain less protein and calcium than do legumes, but do supply adequate nutrition for basic maintenance of dry does and bucks. Mixed hay is a combination of legumes and grasses grown together. It combines a good protein content with a somewhat lower ratio of calcium to phosphorus. It is useful as a high-quality forage for goats on limited grain.

GRAIN

You can use corn, oats, barley or wheat, depending on availability and cost. Corn has the most energy and least protein. Wheat is highest in protein, but very heavy for its volume, and care must be taken not to overload the animals. By weight, oats and barley have similar protein and energy contents, but barley is more dense.

SUPPLEMENTS

You may use canola meal, soybean meal, dehydrated alfalfa or a commercial 32% supplement. Canola meal has about 40% protein with a calcium-to-phosphorus ratio of about 1:2, while soybean meal varies from 45-50% protein with a 1:2 ratio. Dehydrated alfalfa has a minimum of 17% protein – it is a good source of vitamin A with a ratio of about 7:1. If you mix the 32% supplement with grain as recommended, it will give a good supply of vitamins A and D; the calcium to phosphorus ratio is 2:1.

SILAGE AND HAYLAGE

Although their moisture content creates freezing problems in winter, producers who use these feeds report high production. However, goats must develop a taste for silage, so you have to accustom them to it gradually. Make certain that silage has been properly fermented and is not in any way contaminated – poor silage has been linked to the disease listeriosis.

ROOT CROPS

Potatoes, parsnips, etc. are popular goat feeds where plentiful. They may be chopped at first, then later fed whole. The time and labor may not be justified unless cost is extremely low. Once used to these feeds, goats seem to thrive.

WHEAT BRAN

This is often used in concentrate mixes to provide bulk and phosphorus.



BEET PULP

This is used for its high energy and fiber content.

MOLASSES

Use sparingly, as it may cause digestive disturbances and off-flavor milk. A maximum of 3% in the concentrate may help stick the mixture together.

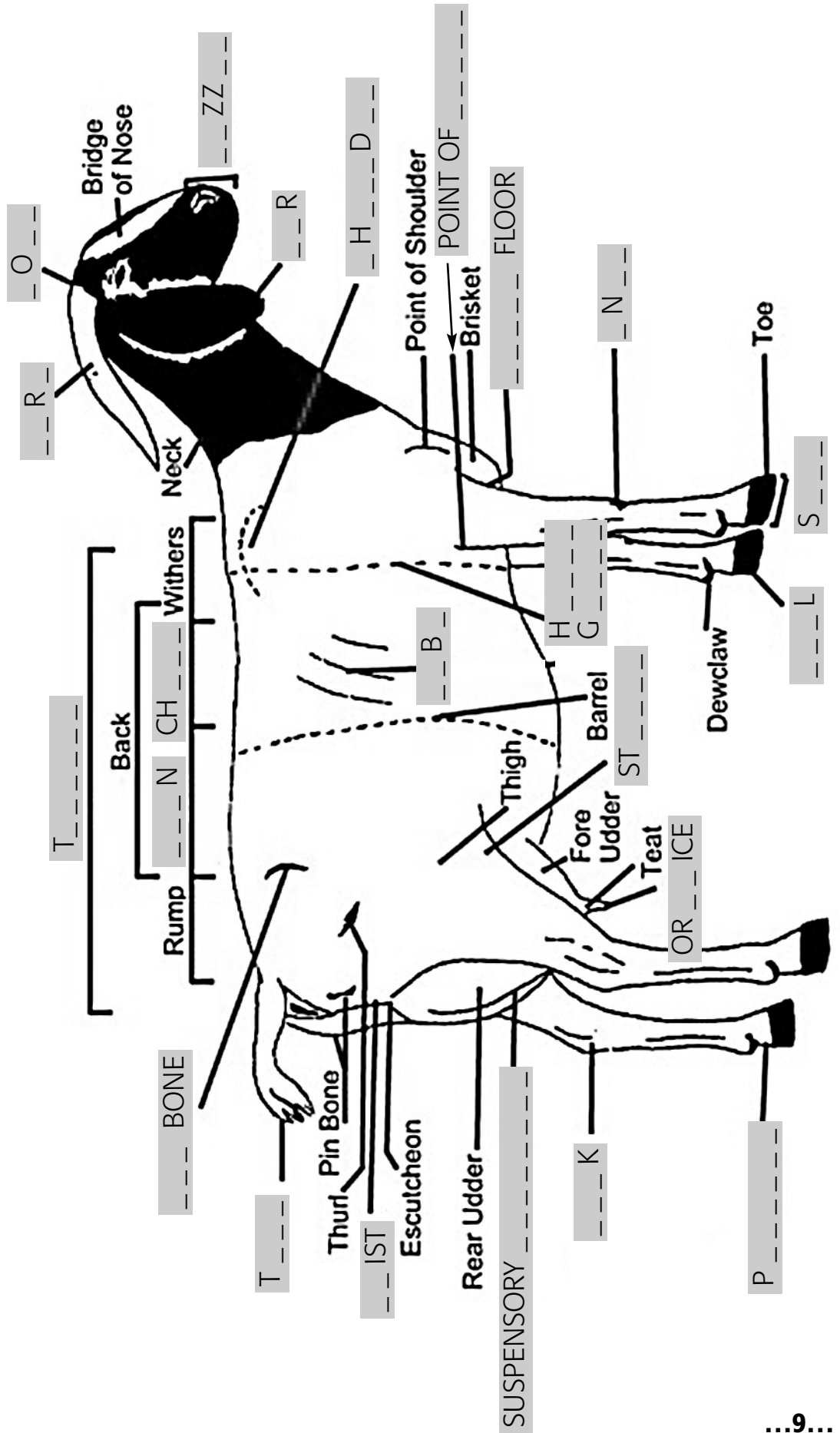


Canadian
MEAT GOAT
Association
P.O. Box 314
Lancaster, ON
K0C 1N0
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Fax (613) 347-1105



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Fill in the blanks to name all of the missing parts...



Teeth and Age of the Goat

The eight teeth in the lower front jaw of your goat can help you to tell his age. They are not an exact or perfect guide, as various factors such as diet will influence the growth of teeth. Also, every goat is an individual just like you and your friends. Remember, not all your baby teeth fell out at the same time as those of other children in your classes. A goat's teeth may grow and fall out at slightly different ages than the teeth of any other goat. There are no upper front teeth in the goat's mouth, instead your wether has a tough toothless "dental pad". Your goat does have teeth on the top and bottom of his jaw further back in his mouth. These back teeth help him to chew his cud. We do not use these to tell his age.

FIRST YEAR (kid)

All teeth are small and sharp. They will gradually be replaced by larger, permanent teeth, and this process is used to help determine the age of the goat.



SECOND YEAR (yearling)

The goat loses the two middle front teeth when it is around 12 months old, and they are replaced by larger, permanent teeth.



THIRD YEAR (2-3-year-old)

The teeth next to the middle pair are replaced by permanent teeth when the goat is about 24 months old.



FOURTH YEAR (4-year-old)

The goat now has six permanent teeth, with only one pair of kid teeth remaining.



FIFTH YEAR (4-year-old and over)

The set of 8 front teeth is complete. The age of the goat beyond 5 years must be guessed at from the amount of wear on the teeth. This is very variable, and diet has a big effect. Goats on a rough, coarse diet will grind their teeth away faster than does on an easily eaten diet. Does grazing on rough pasture will show considerable wear sooner than barn-fed does on a better quality ration. Teeth spread, loosen and finally drop out as the goat ages.



P.O. Box 314
Lancaster, ON
K0C 1N0
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Fax (613) 347-1105

(Excerpted from *New York State 4-H Meat Goat Project Fact Sheet #11* by Dr. E.A. Oltenacu, revised April, 1999 by Dr. Tatiana Stanton, Cornell University, Ithaca, NY 14853.)

A Goat or a Sheep?

What exactly *is* the difference?



GOAT



SHEEP

<p>GENETIC:</p> <p>60 chromosomes</p>	<p>GENETIC:</p> <p>54 chromosomes</p>
<p>ANATOMY:</p> <p>Most breeds have an erect tail</p> <p>Upper lip is not divided</p> <p>Males (and some females) have beards</p> <p>Have sebaceous glands beneath the tailhead</p>	<p>ANATOMY:</p> <p>Tail always hangs down</p> <p>Upper lip divided by a distinct philtrum</p> <p>Do not have beards</p> <p>No sebaceous glands</p>
<p>BEHAVIOR:</p> <p>Browser – preferring to feed on shrubs, bushes & trees</p> <p>Less tolerant of rain; readily seek shelter in wet weather</p> <p>Bucks rear up on hind feet & come down forcefully to butt heads</p> <p>Practice “lying out” behavior with kids left in groups for a good part of the day while does feed</p>	<p>BEHAVIOR:</p> <p>Grazer – consistently feed at ground level</p> <p>Quite tolerant of rain</p> <p>Rams back up & then charge forward to butt heads</p> <p>Lambs are almost constantly at the side of ewes early in life</p>



P.O. Box 314
 Lancaster, ON
 K0C 1N0
 Phone (613) 347-1103
 Fax (613) 347-1105

(Text excerpted from *Goat Medicine* by Mary C. Smith, DVM and David M. Sherman, DVM, MS.
 Photos from the Department of Animal Science, Oklahoma State University website.)



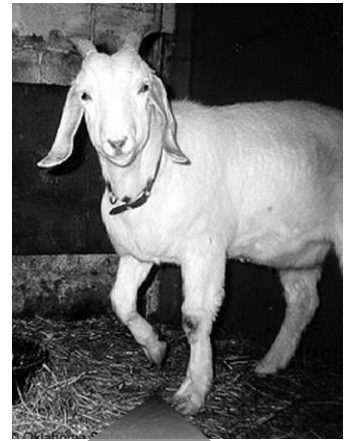
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K0C 1N0
Phone (613) 347-1103
Fax (613) 347-1105

Breeding & Kidding

WORD SEARCH

D Y S T O C I A Y C N A N G E R P
 S E M A L E W O T E A R T A G E A
 U A A T I K A G W E T H E R O P R
 O R R T O I C B R E E D I N G R T
 C L K O D D O U A S C G A B E O U
 U I I O I R T S B T Y R S G O D R
 M N N E N A V E L R C R E D D U I
 S G G T E K L I M U L P V E A C T
 T I H H C A E R B S E L O B P T I
 L I A T G N I G G A W A L U O I O
 H T R I B R E T F A N C G T L O N
 E E N N G S U T E F R E S H E N T
 M M E M B R A N E S H N I P P L E
 A I S I N G L E H E A T W I N S I
 S L S E A S O N S O N A W A R T S
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 T O X E M I A I M M U N I T Y U C
 I S Y A D R O C L A C I L I B M U
 S I S O T E K N S T A I L H E A D
 U D R V B I E D A I A D R E T A W
 R H S U P L M N C M R P E L V I S
 E V U L V A E I K E G N I S R U N
 T D W A X Y F A N O I T A T S E G
 U I F T A E T C C G R A I N T Y D
 E X P E L A H Y S H E A T L A M P

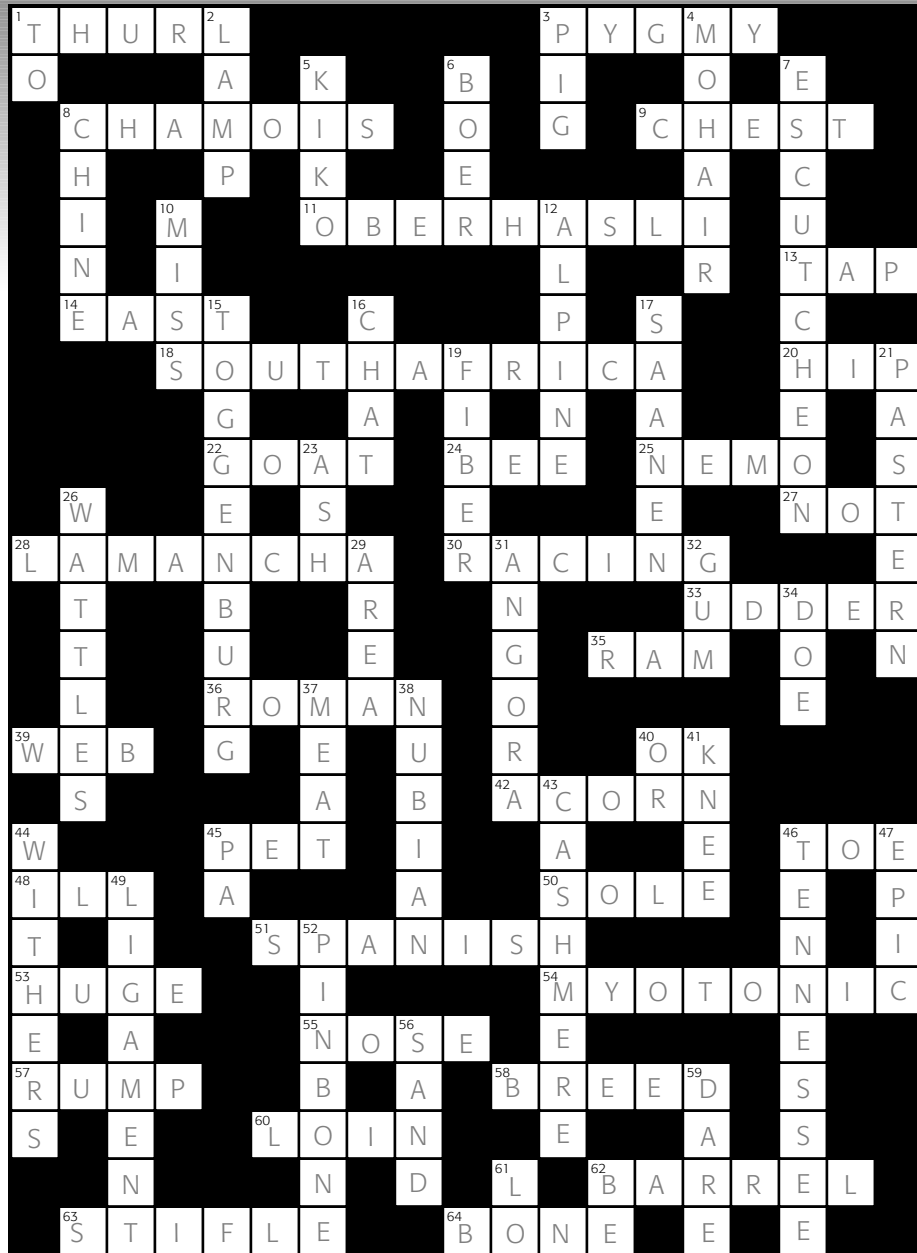
afterbirth
 bag
 bleach
 breach
 breeding
 buck
 colostrum
 creep
 cud
 cycle
 days
 doe
 drench
 dystocia
 eartag
 estrus
 expel
 fertility
 fetus
 freshen
 gestation
 gloves
 grain
 heat
 heat lamp
 ketosis
 kid
 navel
 immunity
 iodine
 labour
 lime
 marking harness
 mastitis
 membranes
 milk
 mucous
 newborn
 nipple
 nursing
 ovulate
 parturition
 pelvis
 placenta
 pregnancy
 push
 reproduction
 sack
 season
 single
 straw
 tail head
 tattoo
 teat
 time
 timing
 towel
 toxemia
 triplet
 tube
 twins
 udder
 umbilical cord
 uterus
 vulva
 wagging tail
 water
 waxy
 wether
 yearling



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 MEAT GOAT
 Association
 P.O. Box 314
 Lancaster, ON
 K0C 1N0
 Phone (613) 347-1103
 Fax (613) 347-1105

The left over letters tell you something you need to know when planning breeding and kidding...

GOAT BREEDS crossword answers



P.O. Box 314
Lancaster, ON
K0C 1N0
Phone (613) 347-1103
Fax (613) 347-1105



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Agriculture et
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Canada

Agriculture and Agri-Food Canada (AAFC) is pleased to participate in the production of this publication. AAFC is committed to working with our industry partners to increase public awareness of the importance of the agriculture and agri-food industry to Canada. Opinions expressed in this document are those of the Canadian Meat Goat Association and not necessarily AAFC's.

C'est avec plaisir qu'Agriculture et Agroalimentaire Canada (AAC) participe à la production de cette publication. Avec nos partenaires du secteur nous nous engageons à sensibiliser davantage les Canadiens et Canadiennes à l'importance de l'agriculture et l'industrie agroalimentaire au pays. Les opinions exprimées dans cette publication sont celles de l'association canadienne de la chèvre de boucherie et non pas nécessairement celles d'AAC.