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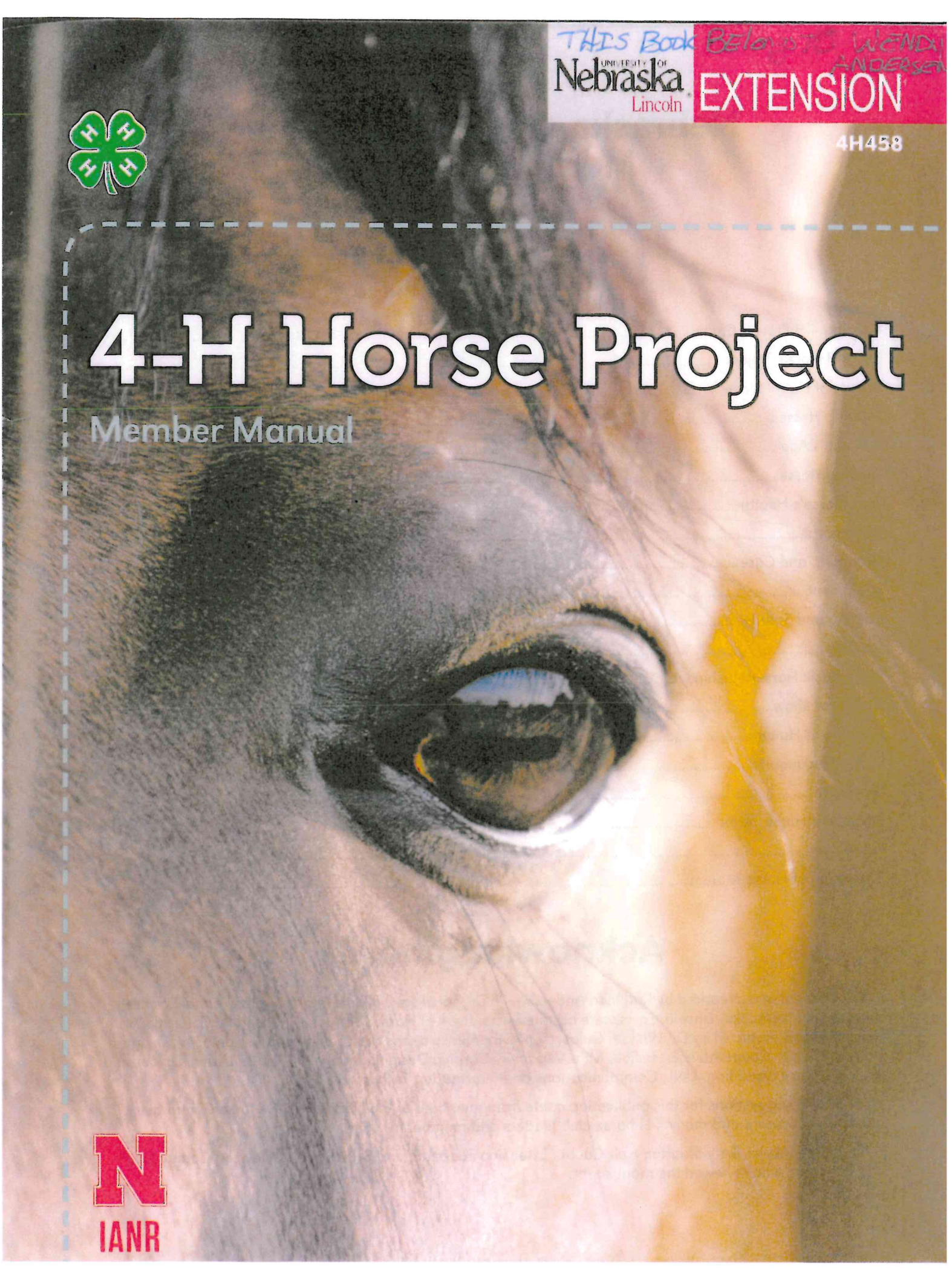
4H458

4-H Horse Project

Member Manual



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Nebraska 4-H Horse Project Member Manual

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Acknowledgments

This manual was prepared by Kathleen Anderson, Ph.D., horse specialist, Department of Animal Science, University of Nebraska-Lincoln. Parts were adapted from the 4-H Horse Manual, produced by Colorado State University and prepared by Dr. William Culbertson. Other illustrations are used by permission of Washington State University Cooperative Extension; Miro Vejozovic, Graphic Designer. Editorial – Linda Ulrich; Layout and Design – Gary Goodding, UNL, Communications and Information Technology.

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Leading 4-H Project Clubs

If you are a horse project leader, you probably know plenty about horses. But do you know how to organize and lead a project club? If you need help, contact your local Extension educator, other project leaders or *Piecing It All Together: 4-H Club Leader Handbook* (1998) which, although written primarily for community club leaders, contains information useful to project leaders as well. Topics included in that handbook which you might want to review include:

4-H facts

4-H leaders' task descriptions

safe learning environments for youth

volunteer registration

getting families involved

recognizing youth and adult efforts

recruiting volunteers

motivating parents and youth

the experiential learning model

effective teaching

fund-raising

keeping yourself energized

giving 4-H presentations

learning to judge

Other materials are available to project leaders from the State 4-H office. Those publications discuss:

steps in organizing a new project club

a discussion of "facilitator leadership"

tips to facilitate learning when you find that you lack expertise in a topic

a simple worksheet for planning an event or activity

a simple worksheet to develop a year-long calendar of activities for your club

a questionnaire to evaluate "teamwork" in your club

a checklist for planning productive meetings

suggestions for recognizing the efforts and accomplishments of youth

a diagram of "life skills" that you can learn through 4-H

To be an effective 4-H project leader, you need a philosophy consistent with that of 4-H. The mission of 4-H in Nebraska is to develop all youth to reach their fullest potential. 4-H uses the research base of the land-grant university system, helps youth learn by doing, and emphasizes the development of life skills. The focus of 4-H is on the youth. Some project leaders focus only on the project (i.e., the horse) and forget the project is only a means for youth development. Problems can occur when leaders have a focus conflicting with the mission and philosophy of 4-H.

Dr. Patricia Fairchild
4-H Curriculum Design and
Youth Entrepreneur Specialist

I. The 4-H Horse Project

The primary aim of this project is to develop confident, competent, caring individuals who have good character and are connected to their communities. Through the horse project, you will develop leadership, initiative, self-reliance and sportsmanship. While working with your project animal, you will experience pride, responsibility and the respect of your mount.

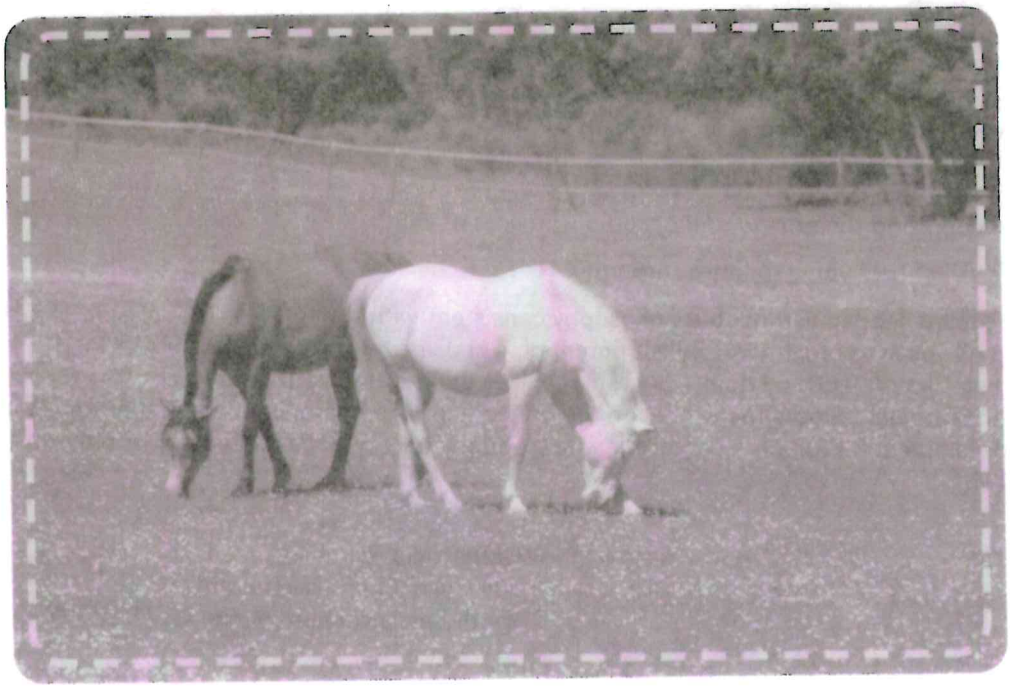
You also will develop a greater love for, and a more humane attitude toward, animals. Horse project members appreciate horseback riding as a beautiful and wholesome form of recreation. Furthermore, you will acquire skills in horsemanship, patience and understanding in handling horses and/or ponies. You will develop safety precautions to prevent injuries to yourself, your mount and others. Finally, participation in the horse project will help prepare you for citizenship responsibilities as you work together in groups and support community horse projects and activities.

To become a good horseman or horsewoman, you will need to train both your horse and yourself. There are no shortcuts or half-ways. Becoming a true "horseman" means learning all you can about horses and then using what you know every time you ride. Not everyone who rides is a true "horseman," and there are excellent horsemen who may never ride. If you work and continue learning, your reward will be a well-trained horse, one responsive to your wishes and willing to give you its best. Riding a finely trained horse is something you will never forget.

This manual covers breeds of horses, judging, feed and care, equipment, basic horsemanship and showing. Remember, it takes time and patience to learn the information and to become accomplished in all areas.

You may find it helpful to read this manual many times. The more you "ride" through these pages, the more you will learn, just as the more you ride your horse, the more experienced you become in handling horses.

Work with your club members and your leader. Being recognized as a good horseman is an honor you can enjoy, but you will not achieve this goal without hard work and patience. Don't get discouraged. You are developing into a better person and helping make your club stronger with each new experience and achievement.



II. Breeds of Light Horses

What is a breed? Names, such as Arabian, Quarter Horse or Thoroughbred, are often heard when talking about horses. These are the names given to some of the breeds of horses.

A breed is a group of animals that was started from a common origin. Each group, or breed, has definite characteristics not commonly seen in the other breeds. These characteristics are fixed in the genetic makeup of the breed and will be passed on from the parents to their offspring. Just like you can tell macaroni from spaghetti, you should learn to identify an Arabian from a Morgan.

The most popular saddle breeds include the Quarter Horse, Paint, Arabian, Appaloosa, Morgan, Thoroughbred, American Saddle Horse and Tennessee Walking Horse. Popular pony breeds for smaller riders are the Shetland, Welsh and Pony of the Americas. Excellent riding horses are produced by crossing these breeds. Your horseman's library should include a book with the history and descriptions of horse breeds.

Additional information on breeds of horses is available on the Web from Oklahoma State University at *www.ansi.okstate.edu/breeds/horses*. Your local Extension educator may have additional bulletins with information about major breeds.

A few popular breeds are shown in the accompanying photos. Learn to recognize the breed characteristics so you know when a horse is a Thoroughbred, Arabian or Quarter Horse. You will soon be able to tell when certain breed characteristics appear in crossbred horses.

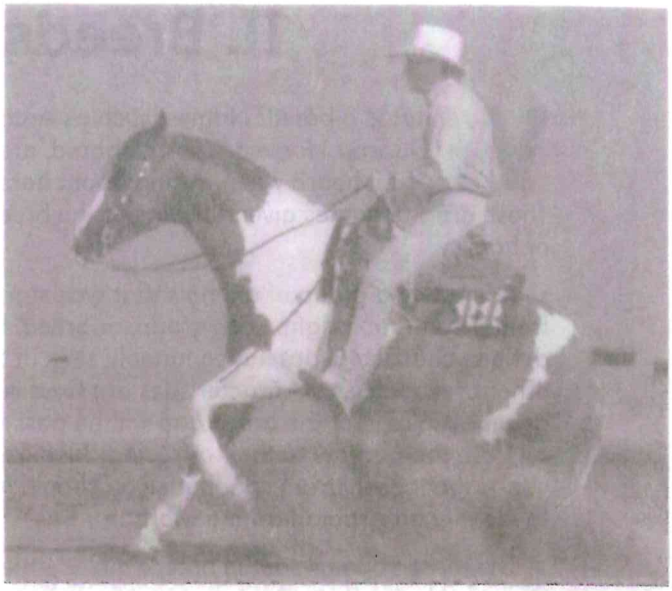
For your project, select a healthy, sound, well-mannered horse that is enjoyable and easy to work with. Your project horse does not need to be registered. Most horse enthusiasts usually prefer one breed more than others. As you consider different breeds and types of horses, you will find characteristics that are important in relation to the purposes for which the breed was first developed.

All horses, regardless of the breed, must have certain conformation characteristics to make them suitable for riding. Good feet and legs, sloping shoulders, bright, clear eyes and strong, short-coupled backs are a few desirable characteristics. Remember: Every breed has good points, but no matter what its breeding, your horse can only be as good as your ability to handle it.

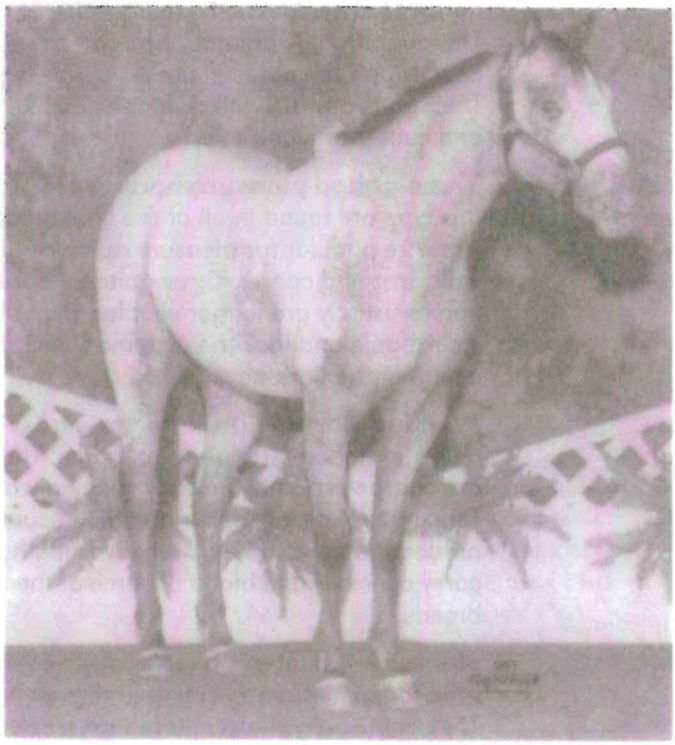
Horses are classified, regardless of breeding, by the purpose for which they are best suited. The following classification is a practical guide for selecting a 4-H mount. You will find the stock horse used most frequently for ranch work and also western pleasure riding. Three-gaited horses, hunters and jumpers are popular in a few local areas.

1. **Stock horse** — A short-coupled, deep-bodied, and well-muscled horse developed for work under the saddle on ranches, its popularity has now spread to all parts of the country. They are sure-footed, agile and hardy. Quarter Horse, Paint, Appaloosa, Thoroughbred, Arabian or Morgan breeding usually predominates in horses of this type. Their gaits are the walk, jog or extended trot and canter or lope.
2. **Three-gaited pleasure horse** — Horses of this type are found in all of the light breeds. They are popular for pleasure riding at the walk, trot and canter. Three-gaited pleasure horses usually are longer coupled than the stock horse and lack the extreme style and action of the park hack.
3. **Walking Horse** — These horses were originally developed for plantation riding. They are characterized by an easy running walk. Tennessee Walking Horse breeding usually predominates, although some walking horses carry considerable blood of some of the other breeds.
4. **Hunter** — A hunter is a large, clean-cut horse bred for cross-country riding and jumping. They are usually thoroughbred crosses or warm bloods and are selected for stamina, speed and surefootedness.
5. **Ponies** — Ponies are small horses that are under 14.2 hands in height at maturity. Most common are the miniature Shetland, Pony of the Americas and the medium-size Welsh pony. These breeds are often crossed with Arabians, Morgans, Quarter Horses and other breeds of light horses to produce larger, more spirited animals for experienced teenagers. Hackney ponies are noted for their high trotting action for light carriage use.

"The American Quarter Horse" by Orren Mixer is an artist's depiction of the ideal American Quarter Horse.



The Paint Horse — *Courtesy of the American Paint Horse Association, Ft. Worth, TX.*



The Pony of the Americas (POA) — *Courtesy of Pony of Americas Corporation, Indianapolis, IN.*

The Arabian Horse — *Courtesy of International Arabian Horse Association, Aurora, CO.*

III. Judging Horses

Horse judging is more than a contest or game. You judge a horse on its conformation and body structure in relation to the work it will be required to do.

All horses, regardless of the breed, must have certain body characteristics to make them suitable for riding. Good feet and legs, sloping shoulders, bright, clear eyes and strong short-coupled backs are a few examples. As you consider different breeds you will find characteristics important in relation to the purposes for which the breed was first formed. For instance, we have the size and ranginess of the Thoroughbred for racing long distances; the stock horse type of the well-muscled Quarter Horse for short bursts of speed, fast turns, quick getaway and weight for handling cattle; and the shorter coupling and docility of the Arabian matched with style and grace for endurance and beauty.

This section contains pictures and drawings that show the parts of a horse and how they should appear on an ideal horse. Learn these parts by name. Know the terms used to describe horses, the correct way the parts should appear and how they look when they are faulty.

There is no perfect horse. Each has its faults and good points. With experience, you will learn how to balance these points.

Viewing a class

Halter classes

The class is ready. As judge, you are expected to rank the horses and remember the good and bad points of each so you can give reasons for your placings.

Stay back—this helps you get a full view of each horse, giving you an idea of the general appearance. Because general appearance is the first division on a scorecard, look first for how the horse fits together.

After you have studied the general appearance, move in for a closer look. Develop a judging pattern each time you judge a horse. The best way may be to follow the order given on the scorecard. Go first to the head and examine the points listed for head and neck. Move then to the near side and examine the forehand, body and the side view of the hindquarters. Continue on to a position in back of the horse for a look at the hindquarters and legs from the rear. Stay back so you won't get kicked. You cannot get a good look too close anyway. Continue on around the off side of the horse. Compare the body and forehand from this side and end up at the head. Move quietly and steadily around the horse. Even though the exhibitor is handling the horse, speak to the animal any time you move in close, so the horse will know where you are.

Evaluate the horse's way of going as the handlers will travel each horse at the walk and trot. Observe how freely and straight the horse moves on its feet and legs. Notice how the horse moves from the side view and front and rear views.

By establishing and using a regular method in your judging, you will find it easier to remember the scorecard categories since you relate them to each horse in a definite order.

Another helpful tool is to picture each horse in your mind using an identifying feature of the horse. Was it the darkest horse in the class? The smallest? Did it have a blaze or stripe? This is how a horseman remembers horses he has seen and can tell you about them long afterward.

Terms used when talking about horses are listed in this section. The parts of a horse, locations of the unsoundnesses and the positions of the feet and legs are shown. These will help you understand the points on the scorecard.

Make a practice of mentally judging every horse you see. Study your own horse and soon you will find judging will become a habit.

Performance classes

Performance is judged based upon the ability of the horse and rider to do the work required. Two areas of knowledge must be combined to place the class:

How do each horse and rider perform the required routine? Was the rider handling the horse properly?

Did the horse perform lightly, willingly and do each phase correctly?

Did the rider and horse conform to all rules required for the class?

You must learn to recognize how a horse and rider look when they are performing properly.

Study and know the rules required for the performance classes you will judge. The rules will explain the class routine required, the appointments allowed and what elements of horsemanship are considered important.

Terms relating to horses

Definitions

Foal—a young horse of either sex up to yearling.

Filly—a young female under 3 years.

Colt—a young male horse up to 5 years. (Commonly used in a broad sense as any member of the horse family [Equidae], which includes the asses, zebra, etc.)

Mare—a mature female at least 5 years old.

Horse or stallion—a mature male.

Gelding—an unsexed male.

Main points in judging halter horses

As you view a class of horses at halter, look for:

Type and balance: Correct type and balance are first in importance. A balanced horse is one in which all body parts are proportional to make a more athletic individual. A well-balanced horse is denoted by short cannons, a short back, long hip, long underline, long sloping shoulder and a medium to long neck. This structure contributes to balance and, when combined with powerful muscling, enables a horse to perform at very high levels.

Muscling: Most breeds of horses should have clean, high-quality muscling as it provides the power required for the horse to move quickly and perform as asked. Both amount and type of muscling must be considered. Horses should be powerfully muscled throughout the body, especially through the area of forearm, thigh, stifle and gaskin. Muscling should be long and smooth, not "bunchy."

Structure: In order for a horse to perform properly, it must have a sound set of feet and legs free from abnormalities in structure. The legs should be straight and the knees and hocks deep, wide and free of coarseness. Feet should be tough, well-rounded and roomy with a deep, open heel. The feet should be set directly under the knees and hocks and should be straight. Bone should be flat, clean, free from fleshiness and puffiness and should be of adequate substance to properly support the horse during strenuous work.

Movement: Horses should move in a straight, collected manner, stopping with their legs well under themselves. As the horse is checked for way of going, it should travel straight and not move either inward or outward. The front legs should move out of the shoulder and the hind legs should track up deep and well underneath the horse.

Breed and sex character: Breed character is important in all classes, especially mares and stallions. Refer to section II (Breeds of light horses) for breed characteristics. Stallions should be heavier muscled and should have a thicker, more muscular neck and a stronger jaw than geldings or mares. Geldings should not show excessive masculinity. Mares should be feminine about the head and neck and more refined than stallions and geldings.

Quality and refinement: Quality in horses refers to the degree of refinement of feet, legs, bone and hair. You do not want excessive coarseness nor extreme refinement of feet, legs and bone. The most desirable horses are free of roughness in both skeletal structure and muscling.

Parts of a horse

The parts of a horse are shown in *Figure 1*. Learn the description of what is desirable for the different parts. If you do this, you will find you remember the description when you name the part. For example, when you name the eye, you will immediately think of a bright, full eye showing alertness and intelligence, in contrast to a small, narrow, dull eye that is not watching your movements.

Feet and legs

A horse's feet and legs are important. *Figures 2* through *5* illustrate correct leg positions as well as common incorrect positions. The influence of the positions on how the horse moves its feet (way of going) is also shown. *Figure 2* uses perpendicular lines to serve as guides in determining the correct positions of these parts.

Leg positions are important because they relate to the soundness of a horse's body structure. The effect of these positions on the way the horse moves has been shown. In the section on unsoundnesses, you will learn how poor leg positions result in bone and muscle changes that make a horse unsound.

The foot's structure is equally as important as the legs. Make it a habit to give regular care to your horse's feet. This care should be followed just as faithfully as the steps you take when brushing and saddling your horse before riding.

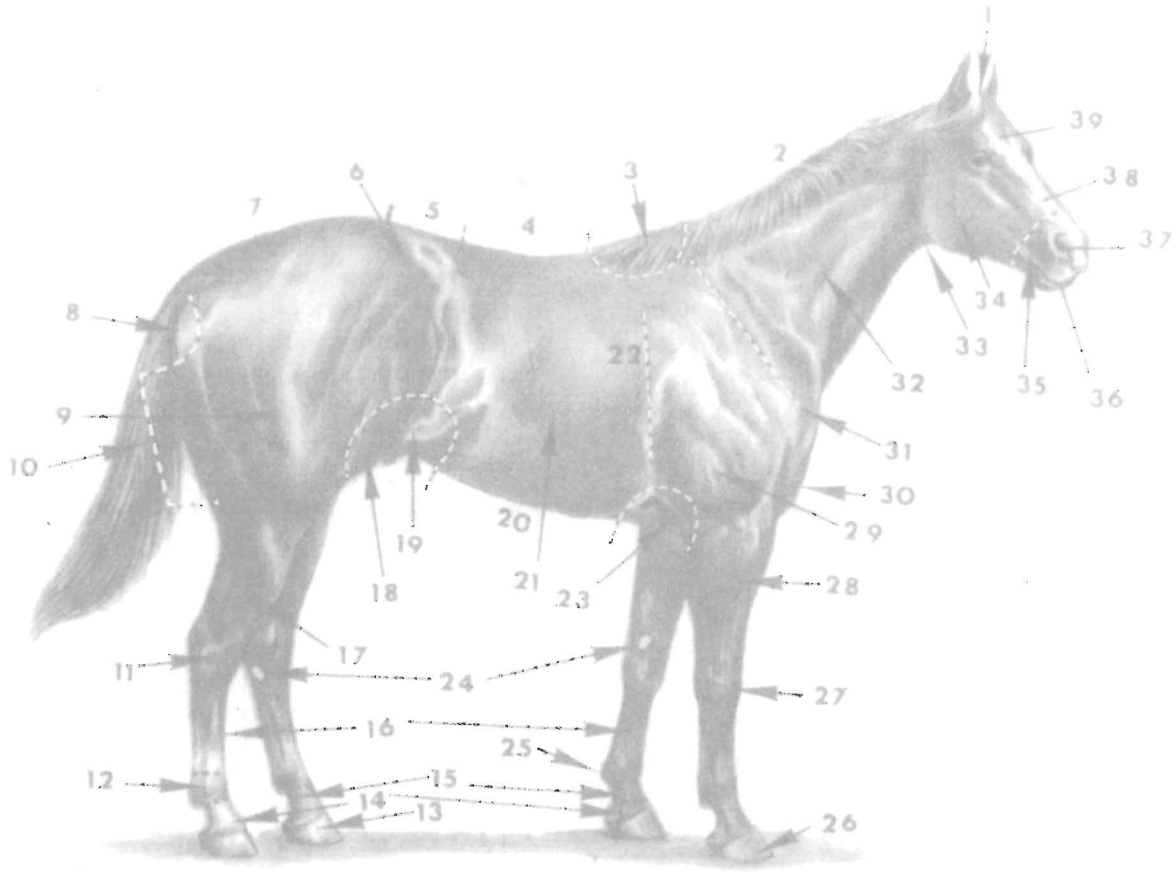
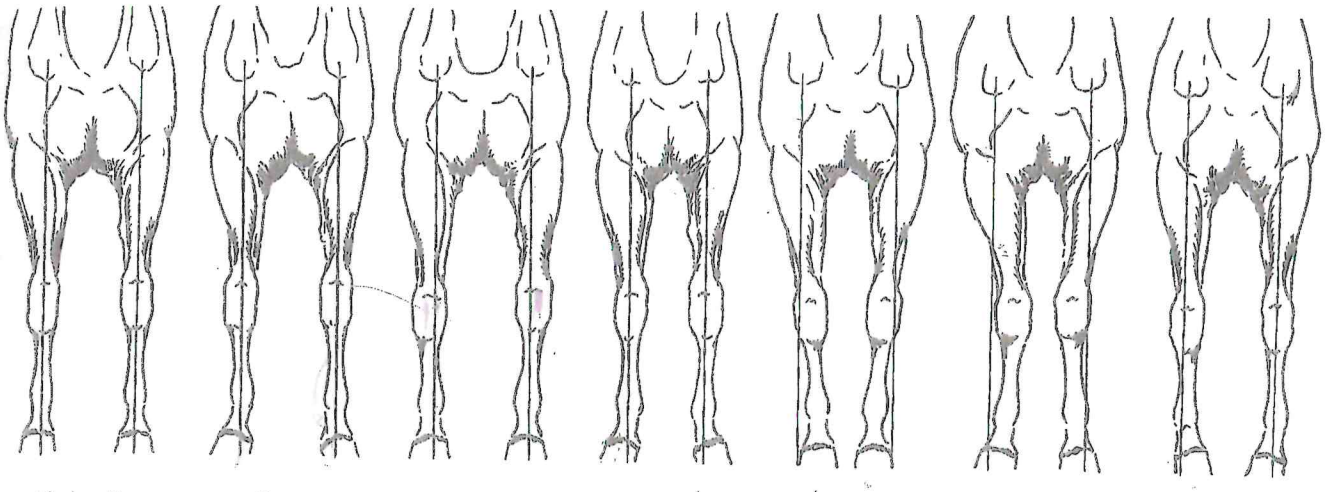


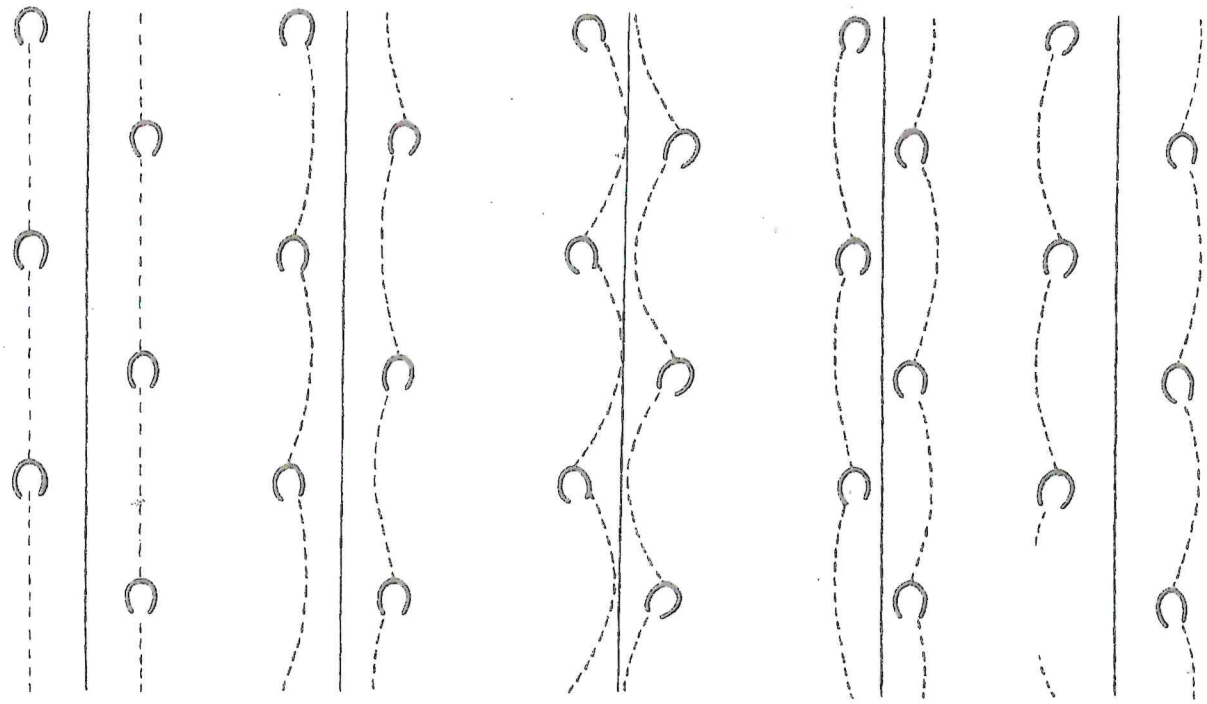
Figure 1.

1. Poll/foretop
2. Mane or crest
3. Withers
4. Back
5. Loin
6. Hip
7. Croup
8. Buttock
9. Thigh
10. Quarter
11. Hock
12. Fetlock or ankle
13. Hoof
14. Coronet
15. Pastern
16. Cannon
17. Gaskin
18. Stifle
19. Rear flank
20. Underline
21. Barrel
22. Heartgirth
23. Elbow
24. Chestnuts
25. Ergot
26. Quarter of hoof
27. Knee
28. Forearm
29. Arm
30. Chest
31. Shoulder
32. Neck
33. Throatlatch
34. Jaw
35. Muzzle
36. Lips or mouth
37. Nostril
38. Nose
39. Forehead



Ideal position | Toes out | Bow legged | Narrow chested toes out | Base narrow stands close | Knock kneed | Pigeon toed

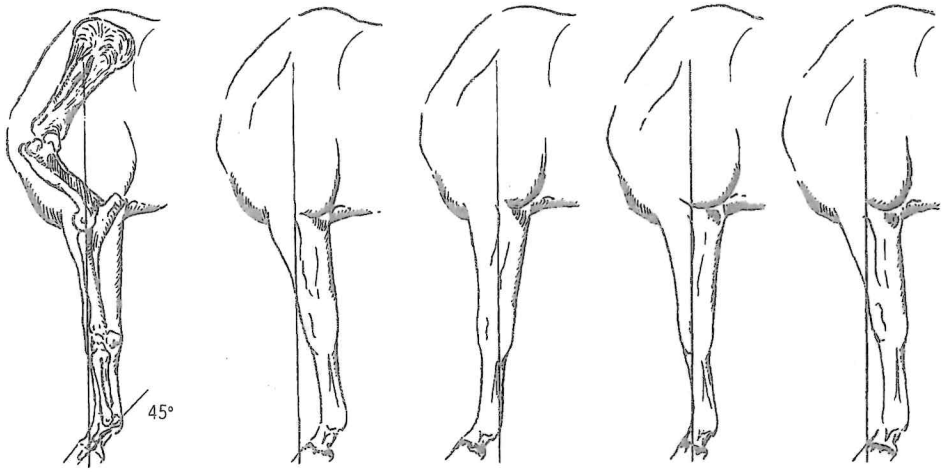
Vertical line from point to shoulder should fall in center of knee, cannon, pastern, and foot.



Path of the feet as seen from above

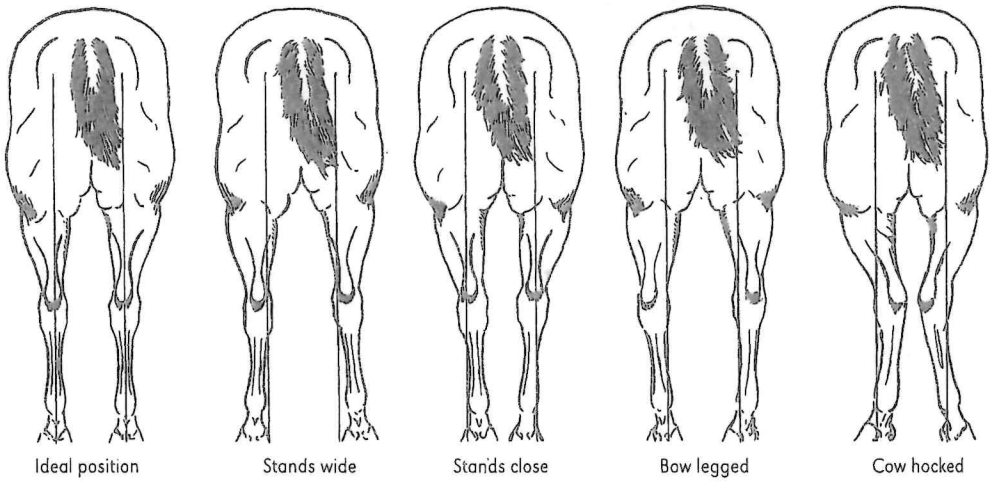
Normal foot moves in a straight line | "Base-wide" feet move forward in inward arcs | Splayed feet move inward in larger inward arcs | "Base narrow" feet move forward in outward arcs | "Pigeon-toed" feet move forward in wider outward arcs

Figure 2.



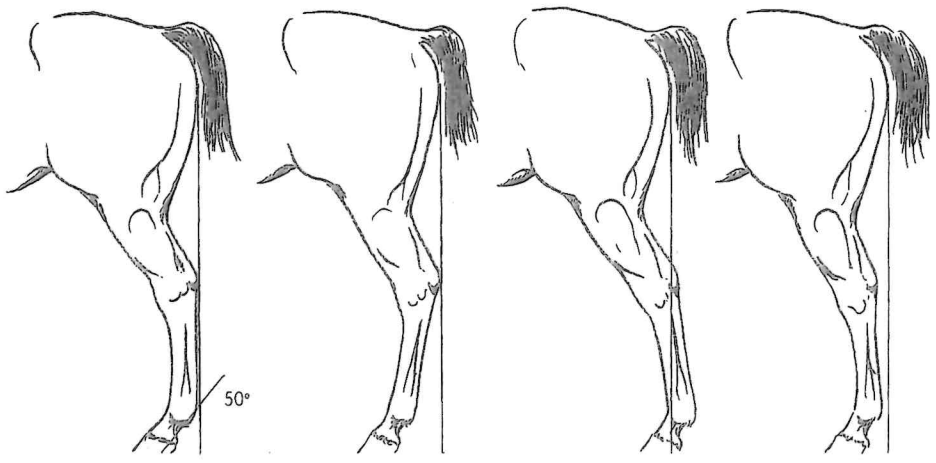
Vertical line from shoulder falls through elbow and center of foot.

Figure 3.



Vertical line from point of buttock should fall in center of hock, cannon, pastern and foot.

Figure 4.



Vertical line from point of buttock should touch the rear edge of cannon from hock to fetlock and meet the ground behind the heel.

Figure 5.

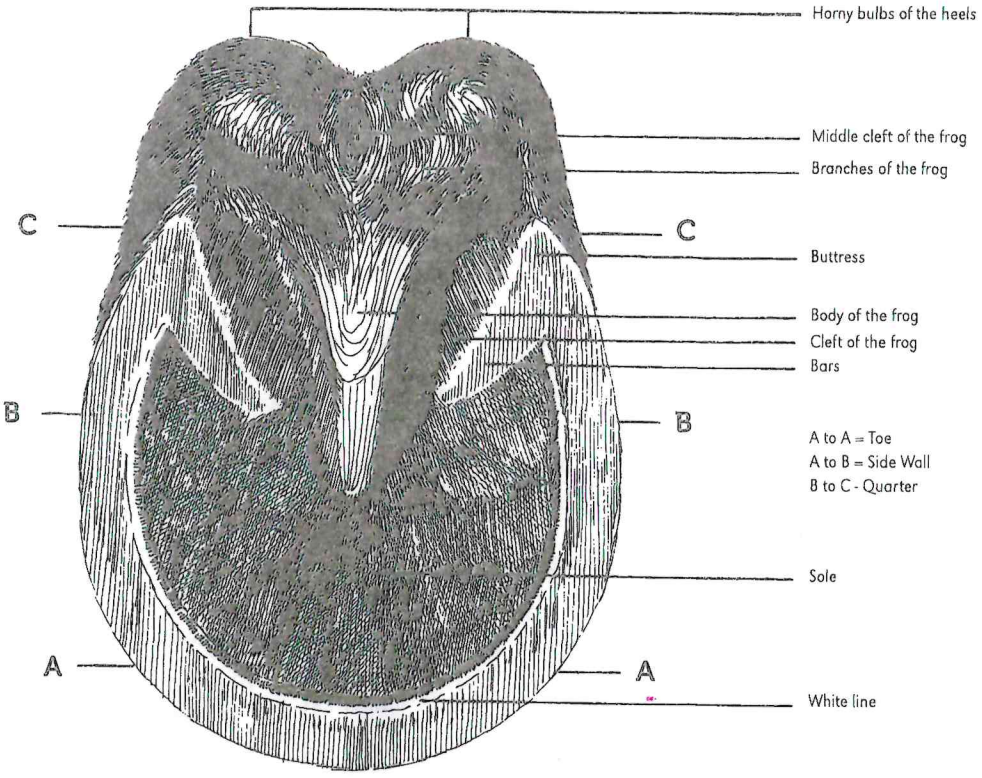


Figure 6.

The structure of the foot is shown in *Figure 6*. Understand the different parts of the hoof.

Figure 7 shows the proper angle desired in the pastern and hoof as seen from the side. The dotted line shows the ideal arc the foot will follow as the horse moves. The effect improper angles have on the foot's action are also shown.

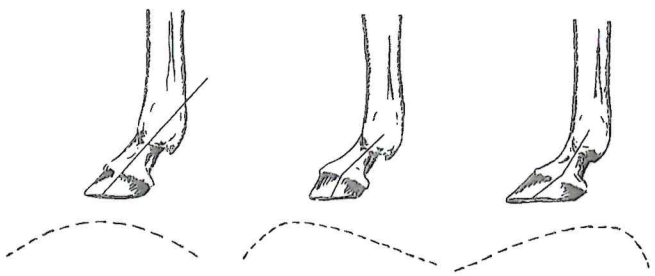


Figure 7.

The angles of the front pasterns are related to the slope of the shoulder. The angle of the foot and the slope of the shoulder are important factors influencing how smoothly and easily your horse moves. This, in turn, determines how smooth and easy the riding motion will feel in the saddle. The angle determines how the foot and pastern absorb the shock resulting from the foot hitting the ground.

Unsoundnesses and blemishes

Blemishes are imperfections found on a horse that do not affect its serviceability. Wire cuts, rope burns and saddle marks are examples of blemishes.

Unsoundnesses are imperfections affecting the serviceability of a horse. Many unsoundnesses are the result of weaknesses in a horse's body structure. These weaknesses appear when the horse is used in such a way as to strain the weak part.

No horse is perfect. Learn the common unsoundnesses and blemishes and you can judge their importance in relation to the way you plan to use your horse.

Figure 8 shows the location of most common unsoundnesses. Many good books on horses give descriptions of each of these. Study the descriptions. You might want to report to your club on these unsoundnesses.

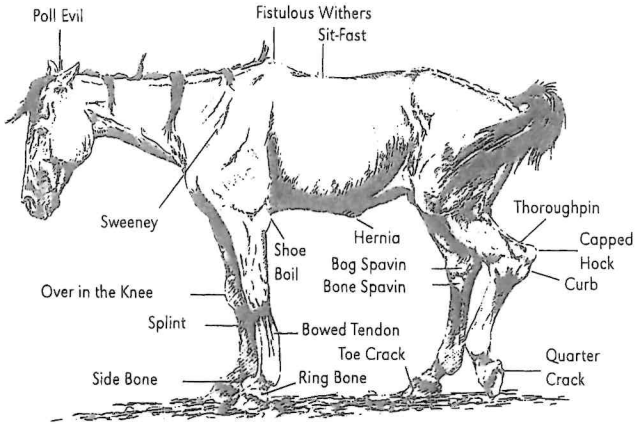


Figure 8.

Gaits

The three main gaits horses travel in are given in *Figure 9*. The **walk** is a natural, flat-footed, four-beat gait in which each foot strikes the ground independently of the others. Horses should move straight and true at the walk with a stride of reasonable length. The **trot or jog** is a two-beat diagonal gait, meaning the right fore foot and left hind foot strike the ground together. The trot/jog should be square, balanced and with straight forward movement of the feet. The **lope** or **canter** is an easy, rhythmical three-beat gait. When moving to the left, your horse should be in the left lead, meaning the right hind foot strikes the ground, following by the right front and left hind hitting the ground together, then the left fore foot hits the ground.

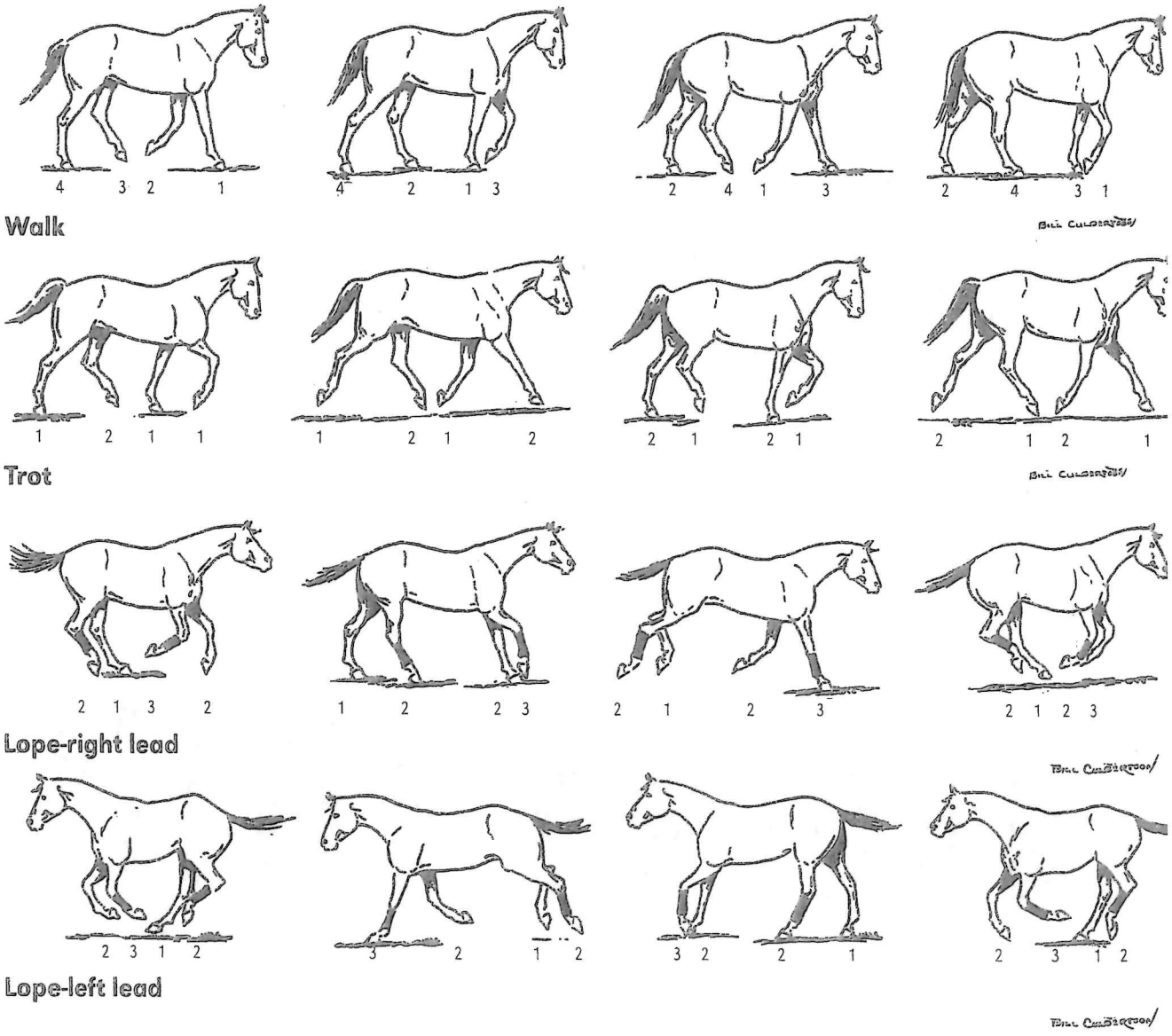


Figure 9.

Body color and markings

These terms describing body colors and markings are frequently used to identify a horse for registration or when just talking about horses.

The color guide and markings illustrated are based upon the official rules of the American Quarter Horse Association. Use them to help you remember a horse you are judging.

Bay	Body color ranging from tan to red to reddish brown; mane and tail, black; usually black in lower legs.
Brown	Body color brown, almost black, with tan or brown hairs on the muzzle or flanks. Mane and tail are black.
Sorrel	Body color is reddish or copper-red; mane and tail usually same color as body, but may be flaxen.
Black	Black color with fine black hair on muzzle. If question of dark brown or black, the color of the muzzle hairs will help decide.
Chestnut	Body color dark or brownish-red; mane and tail usually dark red or brownish-red, but may be flaxen.
Dun	Body color yellowish to golden dun, has a dorsal stripe, mane and tail are black or brown.
Gray	Mixture of white and black hairs. May appear as black at birth but coat changes to appear lighter with age.
Roans	Red or strawberry roan — has hairs of red, white and yellow intermingled, but usually darker on head and lower legs; can have red, black or flaxen mane and/or tail. Blue roan — black and white hairs intermingled, but usually darker on head and lower legs.

Breed associations have slightly different color descriptions. Other color patterns are also used in descriptions. They include:

Buckskin	Form of dun — yellowish or gold body color — black mane and tail, usually black on lower legs, no dorsal stripe.
Appaloosa	Solid color or mottled roan fore-parts with lighter color over loin and hips, containing dark round or egg-shaped spots. Some white with spots over entire body. Mares are often less colorfully marked, being a mottled roan over the entire body.
Dapple	Light or dark spots appearing over the basic body color.
Palomino	A golden body color, varying from light yellow to a bright copper color, with white mane and tail, no dorsal stripe.
Pinto, Paint, Pied	Piebald — white and black combination. Skewbald — white and any other color but black.

Following are descriptions of several of the color terms used above:

Black points	Horse has a black mane and tail and the extremities of the body (feet, legs, etc.) have black coloring.
Ray or dorsal stripe	Dark line found down the backbone of some horses.
Zebra marks	Dark stripes running horizontally on the forearm, knees, and cannon region.

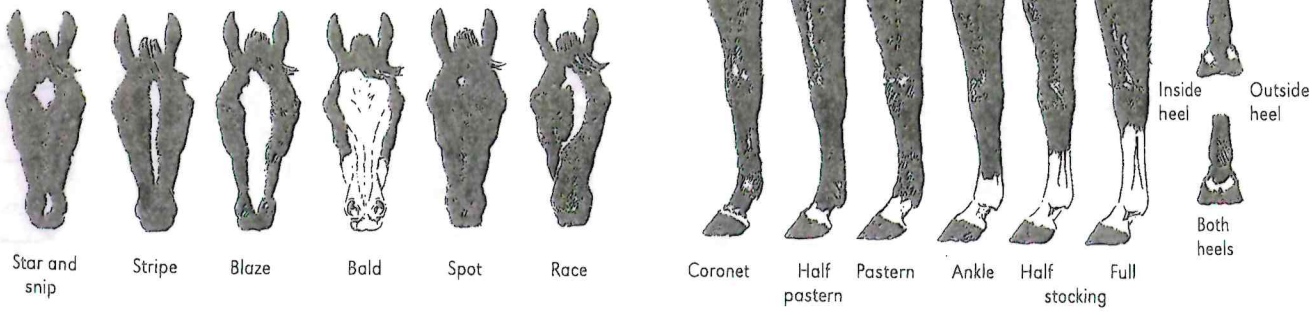


Figure 10.

IV. A Horse's Age

A horse's age is judged by looking at its front teeth. The material presented in the following sections and illustrations is designed to give you simple clues to follow in determining the age of a horse. Study the facts and then practice aging horses with the help of an experienced person.

A mature male horse has 40 teeth. There are 12 front teeth called incisors, 4 tushes or bridle teeth; and 24 molars or grinders. A mature mare has only 36 teeth. The 4 tushes are seldom present.

The young horse, either male or female, has 24 temporary, or "milk teeth." There are 12 incisors and 12 molars. These milk teeth are smaller and whiter than the permanent teeth.

First you must learn the names of the incisors as shown in *Figure 11*.

From birth to 5 years, the eruption of the incisors is used to judge the age. At 5 years the permanent incisors are all in place. After 5 years the age is determined by the wear of the incisors, the shape of the biting surface and the angle at which the incisors meet.

For general purposes you should learn to judge the approximate age range. Hold the horse's lower lip down for a quick glance to see the shape of the teeth, the angle at which the upper and lower incisors meet, and the degree of wear shown by the length of the teeth. You can then consider the age as being in the foal period, the full-mouth period (5 years), the smooth-mouth period (about 11 years) and the old mouth. Remember, most horses are beginning to serve their best at 8 years and many are still going strong at 15 years or more.

Study the following illustrations for the points given to look for at each year of age. Look at teeth every opportunity you have to do so.

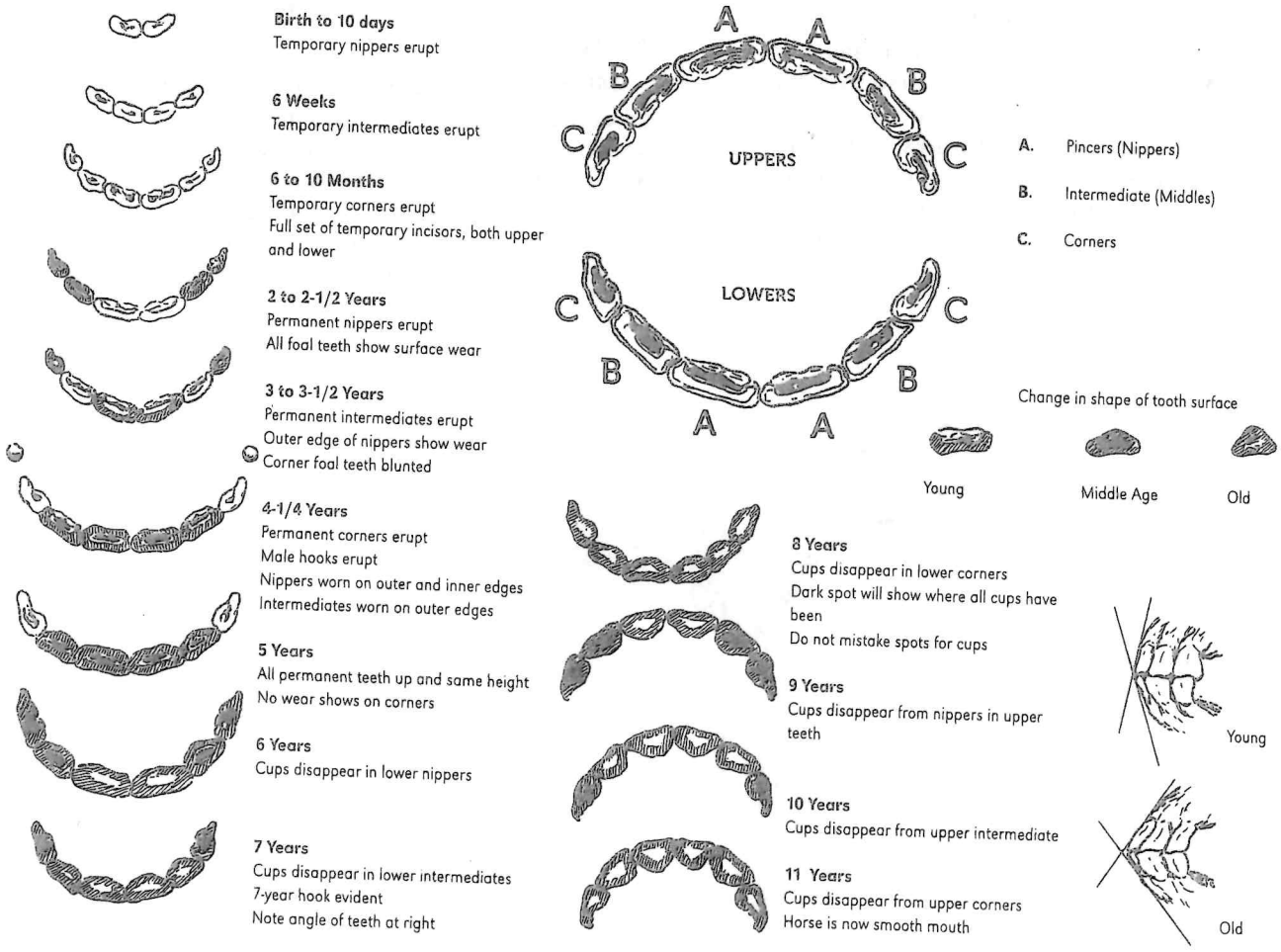


Figure 11.

V. Feeding Horses

Feeding your horse is an important part of taking care of it. When purchasing a horse, ask about the type and amount of feed it has received. Much information is available to help you do a good job.

Digestive tract of the horse

Your horse's digestive tract (*Figure 12*) can be divided into two divisions: foregut and hindgut. The foregut of the horse is made up of the mouth, esophagus, stomach and small intestine. A horse's digestive tract is made of a simple, one compartment stomach followed by the small intestine. The hindgut of the horse is comprised of the cecum, large colon, small colon and rectum. The cecum functions much like a cow's rumen, housing digestion-aiding microbes. The microbes in the cecum break down nutrient sources that would otherwise be unavailable to the horse.

Nutrient requirements

A horse requires a certain amount of feed each day. When fed properly, your horse's body is supplied with the energy, proteins, vitamins and minerals it needs and uses as it works. Although these daily requirements maintain the body, larger amounts are needed for work, growth or lactation. The harder your horse must work and the more nutrients it uses, the more nutrients must be supplied in its feed. The recommended daily nutrient requirements for an 1,100 pound (mature weight) horse (an average-sized stock horse) are given in *Table I*. The absolute nutrient requirements of horses of different sizes and conditions can be expressed as percentages of their daily ration. Recommended nutrient concentrations for typical rations are listed in *Table II*.

Energy – Energy, the fuel for various body processes, must be digestible and provided as carbohydrates and fats. Energy in feed is measured as Digestible Energy (DE), which is expressed in calories (or Mega Calories – 1,000 calories) and represents the amount of energy available to the horse.

Protein – Proteins are essential, forming the greater part of the muscles, internal organs, cartilage, connective tissues, outer tissues (skin, hair, hoofs) and the nervous system. Proteins are made up of amino acids, including lysine, which is the most important amino acid for growth in young horses.

Minerals – Minerals are present in very small amounts in feed but are absolutely necessary for growth and the functions of the skeletal system, blood and the body's soft tissues. Calcium and phosphorus are the two most important minerals for a horse's skeletal development and maintenance. The suggested calcium to phosphorus ratio

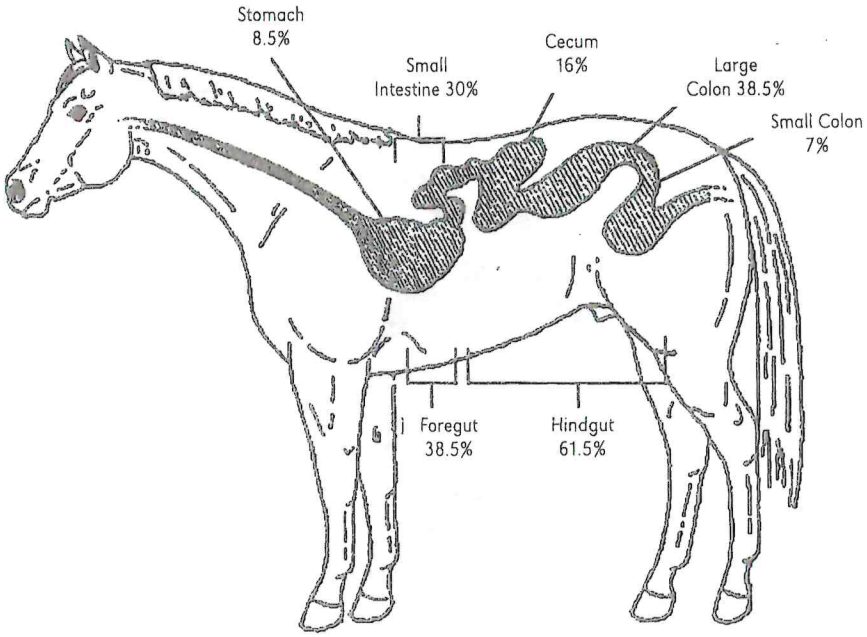


Figure 12.

Table I. Daily Nutrient Requirements for Horses (Mature Weight of 1,100 lbs)[1]

Type	Weight (lbs)	DE (Mcal)	CP (lbs)	Ca (g)	P (g)	Vit A (kIU)
Maintenance (average)	1102	16.7	1.38	20	14	15
Pregnant (9 months)	1177	19.2	1.757	36	26.3	30
Pregnant (10 months)	1208	20.2	1.854	36	26.3	30
Pregnant (11 months)	1248	21.4	1.968	36	26.3	30
Lactation (3 months)	1102	30.6	3.236	55.9	36	30
Lactation (6 months)	1102	27.2	2.788	37.4	23.2	30
Mature Work (light)	1102	20	1.541	30	18	22.5
Mature Work (moderate)	1102	23.3	1.693	35	21	22.5
Mature Work (heavy)	1102	26.6	1.9	40	29	22.5
Weanling (4 months)	370	13.3	1.474	39.1	21.7	7.6
Weanling (6 months)	476	15.5	1.49	38.6	21.5	9.7
Yearling (12 months)	708	18.8	1.865	37.7	20.9	14.5
18 months	853	19.2	1.761	37	20.6	17.4
18 months with train (moderate)	853	25	1.997	37	20.6	17.4
24 months	946	18.7	1.697	36.7	20.4	19.3
24 months with train (moderate)	946	24.8	1.957	36.7	20.4	19.3

[1]Adapted from **NRC for Horses**, 2007.

Table II. Recommended nutrient concentrations in rations for horses (90% dry matter basis)[1].

	Digestible energy[2] (Mcal/lb)	Diet Proportion		Crude protein (%)	Calcium (%)	Phosphorus (%)	Vitamin A (IU/lb)
		Grain (%)	Hay (%)				
Maintenance	0.8	0	100	7.2	0.21	0.15	750
Pregnant mare							
9 months	0.9	20	80	8.9	0.39	0.29	1510
10 months	0.9	20	80	9.0	0.39	0.30	1490
11 months	1.0	30	70	9.5	0.41	0.31	1490
Lactating mares							
First 3 months	1.1	50	50	12.0	0.47	0.30	1130
3 months to weaning	1.0	35	65	10.0	0.33	0.20	1240
Working, mature							
Light work	1.0	35	65	8.8	0.27	0.19	1100
Moderate work	1.1	50	50	9.4	0.28	0.22	970
Intense work	1.2	65	35	10.3	0.31	0.23	800
Weanling, 4 months	1.25	70	30	13.1	0.62	0.34	650
Weanling, 6 months							
Moderate growth	1.25	70	30	13.0	0.50	0.28	760
Rapid growth	1.25	70	30	13.1	0.55	0.30	670
Yearling, 12 months							
Moderate growth	1.15	60	40	11.3	0.39	0.21	890
Rapid growth	1.15	60	40	11.3	0.40	0.22	790
Yearling, 18 months							
Not in training	1.05	45	55	10.1	0.31	0.17	930
In training	1.10	50	50	10.8	0.32	0.18	740
Two year old							
Not in training	1.00	35	65	9.4	0.28	0.15	1080
In training	1.10	50	50	10.1	0.31	0.17	840

[1]Adapted from NRC, 1989.
[2]Values are specific for feeding a grain mix with 1.5 Mcal/lb and hay with 1 Mcal/lb dry matter.

Table III. Nutrient content of selected hay, grains and protein sources[1] (Dry Matter Basis).

	Digestible energy Mcal/lb	Crude Protein (%)	Calcium (%)	Phosphorus (%)
Hay				
Cool season grass - mid mature	.99	13.3	.66	.29
Legume (alfalfa) - mid mature	1.1	20.8	1.37	.30
Legume mature	1.0	17.8	1.22	.28
Grass warm season	.85	10.4	.49	.27
Grain				
Corn	1.7	.94	.04	.3
Oats, heavy	1.5	13.6	0.1	.41
Sorghum	1.7	11.6	0.7	.35
Wheat	1.75	14.2	0.05	.43
Protein sources				
Soybean meal	1.6	49.9	0.40	0.71

[1]Adapted from NRC for Horses, 2007.

is 1.5 to 2:1. There should never be more phosphorus than calcium in horse rations.

Salt aids the body in maintaining fluids and temperature regulation. Because body temperature is controlled by sweating during hot weather, salt and other minerals lost through perspiration must be replenished. It is vital to provide salt to your horse, either as block, loose or mixed in the feed in the form of trace mineralized or iodized salt. If your horse is pastured or does not receive a grain containing salt, it must have access to free-choice salt.

Vitamins — Vitamins are necessary for growth, reproduction, lactation and general health. Most vitamin requirements are supplied by forages and grains, although vitamin pre-mixes are often included in horse diets. Excessive supplementation of certain vitamins can be harmful. Feed vitamin pre-mixes only at recommended levels on the label.

Nutrient sources

Horses typically receive nutrients from hay, pasture, grain or a combination of these.

Forage - pasture/hay — Your horse needs long-stemmed forage to both maintain normal digestive tract function and satisfy its need to chew. If your horse consumes an all-hay diet, it will eat between 1.5 to 2 percent of its body weight per day (1,000 pound horse = 15 to 20 pounds of hay/day). Mature horses doing minimal work can be maintained on either all-hay or all-pasture. However, horses eating an all-forage diet must have access to trace mineralized salt.

Some of the most commonly used hays are alfalfa, brome and prairie (*Table III*). In general, forages are lower in digestible energy and higher in fiber than grains. Although crude protein content varies among forages, they supply large amounts of minerals and vitamins. Due to higher energy requirements, horses at hard work or brood mares with foals cannot eat enough all-roughage diet to furnish all the nutritional requirements.

Concentrates - grains/protein supplements — *Table III* lists the nutrient characteristics of several types of feed. Most grain rations consist of oats, corn and soybean meal although several other grains can be used. Oats are the primary grain in most horse rations because they are lower in energy and higher in fiber and their bulky nature results in less digestive upset. Corn is high in energy but low in protein quality and quantity. Corn is considered a heavy grain because it is denser and higher in energy per unit weight compared to oats.

Most grains fall into two basic groups: energy feeds and protein sources. Oats, corn, milo, barley and wheat are energy feeds. Protein sources include soybean meal, linseed meal and alfalfa pellets. Most grains have adequate protein to meet the needs of mature horses. Grains are high-energy, so they can meet the energy needs of any class of horse. The primary problems with most grains: low calcium content and high amounts of phosphorous. Therefore, most grain rations have added calcium to maintain a balanced ration. Because grains vary in density, feed according to weight, not volume. For example, a gallon of corn weighs about 7 pounds; a gallon of oats, 4 pounds.

There are many excellent horse-specific commercial feeds available. Some horse owners prefer to mix their own rations. *Table IV* provides sample rations for various classes of horses using common feedstuffs.

Table IV. Grain ration options

Ingredients[1]	Weanlings and yearlings %	Broodmares late gestation %	Lactation %	Maintenance %
Oats	58.5	90	72.5	97.5
Corn	25		15.0	
Soybean meal	10	5	7.5	
Molasses	2	2	2-	
Dicalcium phosphate	2		.5	1.0
Limestone	1	1.5	1	
Salt (trace mineral)	1	1	1	1.0
Vitamin premix	.5	.5	.5	.5
	100	100	100	100
Daily Allowances (lb feed/100 lb of horse)				
Grain ration	1.0-1.5	0.5-1.0	1.0-1.5	0.0-0.5
Hay[2]	1.0-1.5	1.25-1.75	1.5-2.0	1.50-2.0

[1]The grain rations could be reformulated using other common grains (barley, sorghum, wheat) and protein sources (canola meal) depending on availability.
[2]The hay used in this table is an average quality legume grass hay. Changes to the grain ration formula may be necessary depending on the type and quality of hay.

Table V. Crude fiber and digestible energy relationships of commonly fed grain rations for horses.

Crude fiber, %	Digestible energy, Mcal/lb
2	1.55
4	1.50
6	1.44
8	1.40
10	1.34
12	1.29

Reading the feed tag

Horse owners who purchase pre-mixed feeds rely on the commercial provider to create a balanced, quality ration. Understanding how to read the feed tag can ensure a correct diet is provided to your horse. The feed tag is required to list the minimum percentage of crude protein, minimum percentage of crude fat, the maximum percentage of crude fiber, maximum or minimum amounts of minerals and drugs and include a list of ingredients. Although the tag does not provide estimates of energy or how much of each ingredient is in the ration, it does give an idea of the feed's quality.

The crude fiber level on a feed tag is the best indicator of energy content (*Table V*). As fiber increases, energy content decreases. Rations consisting of high levels of grain will have fiber levels of 5 percent or less. In contrast, rations with fiber levels higher than 10 percent include roughage products, such as alfalfa hay. Another indicator of a feed's energy content is the minimum percentage of crude fat. Fat is extremely high in energy and increases stamina in some performance horses. While most horse rations contain 3 to 5 percent fat, some commercial feeds contain 5 to 10 percent supplemental fat, meaning the tag will show a minimum crude fat percentage ranging from 8 to 13 percent.

A feed should match a horse's needed protein level. Crude protein percentages ranging from 8 to 16 percent are common in most commercially prepared horse feeds. Young growing horses and broodmares need feeds with higher protein content.

The ingredient list indicates all ingredients in the commercial feed, usually from highest level to lowest. Many feed tags will supply some additional information, such as feeding directions, suggested feeding amounts, recommendations on feeding management and type of forage to include with the diet.

Feeding management guidelines

Feed horses according to body weight

Table VI shows recommended daily feed intakes by horses as a percent of body weight. To use this table, decide what class best fits your horse and determine your horse's body weight. While scales are most accurate for weighing horses, they are often impractical. One alternate method, a heart girth tape, is available from feed dealers, veterinarians and livestock supply companies. Another method is to use a body weight equation requiring only a measuring tape. One such equation is:

$$\frac{W = HG^2 \times BL}{330}$$

W = Weight in pounds
HG = Heart girth in inches
BL = Body length in inches

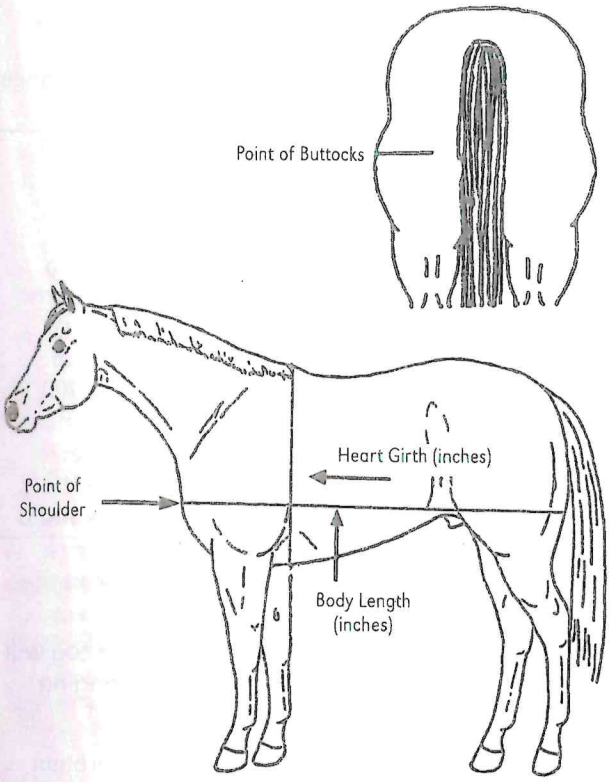


Figure 13.

As shown in *Figure 13*, heart girth is measured at the circumference. Run the tape around the horse, at the highest point of the withers. Body length is measured from the point of the shoulder, along the horse's side and to the point of the buttocks (half the distance from the corner to the tail).

Example to determine how much to feed your horse:

1. Determine the class of horse you have:
   Light working horse
2. Estimate the horse's weight:

   Heart girth = 70"
   Body length = 69"

   $$W = \frac{(70")^2 \times (69") = 1{,}024 \text{ pounds}}{330}$$

3. Requirements (*Table VI*)

   Intake is based on a percent of body weight. From *Table VI*, it is estimated this class of horse will have an intake of 1.5-2.5 percent of body weight.

Range in total intake (forage + concentrate)

*if intake is 1.5 percent of body weight, then:

Total pounds of feed fed = .015 X 1,024 pounds = 15.36 pounds/day

Table VI. Expected feed consumption by horses (percent body weight)[1]

	Forage	Concentrate	Total
Mature horses			
Maintenance	1.5-2.0	0-0.5	1.5-2.0
Mares, late gestation	1.0-1.5	0.5-1.0	1.5-2.0
Mares, early lactation	1.0-2.0	1.0-2.0	2.0-3.0
Mares, late lactation	1.0-2.0	0.5-1.5	2.0-2.5
Working horses			
Light work[2]	1.0-2.0	0.5-1.0	1.5-2.5
Moderate work[3]	1.0-2.0	0.75-1.5	1.75-2.5
Intense work[4]	0.75-1.5	1.0-2.0	2.0-3.0
Young horses			
Nursing foal, 3 months	0	1.0-2.0	2.5-3.5
Weanling foal, 6 months	0.5-1.0	1.5-3.0	2.0-3.5
Yearling foal, 12 months	1.0-1.5	1.0-2.0	2.0-3.0
Long yearling, 18 months	1.0-1.5	1.0-1.5	2.0-2.5
Two year old, 24 months	1.0-1.5	1.0-1.5	1.75-2.5

[1]Air-dry feed (about 90% DM).
[2]Examples are horses used in pleasure, equitation or working 1-3 hours per day.
[3]Examples are horses in ranch work, roping, cutting, barrel racing, jumping, etc. or working 3-5 hours per day.
[4]Examples are horses in race training, polo, etc. or working more than 5 hours per day.

*if intake is 2.5 percent of body weight/day, then:

Total pounds of feed fed = .025 X 1,024 pounds = 25.6 pounds/day

Forage - Range of forage intake - 1-2 percent of body weight (*Table VI*)

*If forage intake is 1 percent of body weight, then:

Pounds of forage fed = .01 x 1,024 pounds = 10.24 pounds of forage/day

*If forage intake is 2 percent of body weight, then:

Pounds of forage fed = .02 X 1,024 pounds = 20.48 pounds of forage/day

Concentrate - Range of concentrate intake is .5-1 percent of body weight (*Table VI*)

*If concentrate intake is .5 percent of body weight, then:

Pounds of concentrate fed = .005 X 1,024 pounds - 5.12 pounds concentrate/day

*If concentrate intake is 1 percent of body weight, then:

Pounds of concentrate fed = .01 X 1,024 pounds = 10.24 pounds concentrate/day

The horse in this example will need to eat between 10 ¼ to 20 ½ pounds of hay and 5 to 10 ¼ pounds of grain each day as long as the total daily feed consumption does not exceed 15 ½ to 25 ½ pounds of feed.

Evaluating rations

Most horse owners feed formulated feeds from commercial sources in combination with a forge source (hay and/or pasture). Diets may consist of 100 percent pasture forage to a combination of forage and grain mix. The choice of feed is influenced by the horse's requirements, availability of pasture, availability and cost of commercially prepared feeds, feedstuffs traditionally fed, and use and management of the horses. Nutrients should be supplied in the amount, form, and method that safely and efficiently meet the horse's requirements. Correctly supplying nutrition to horses requires knowledge of requirements, feeds, and nutritional management. The nutritional requirements for some horses can be found in *Tables I* and *II* and the nutrient content of some hays, grains and protein sources are found in *Table III*. Additional requirements for horses and content of feedstuffs can be found at *http://nrc88.nas.edu/nrh/.*

The basics of evaluating a horse's diet include determining the horse's requirements, calculating how much of each nutrient the horse is consuming from all sources (grain and forages), and comparing what the horse is actually consuming with what its requirements are. More information on evaluating a horse's diet can be found at *http://www.extension.org/pages/Evaluating_Rations_for_Horses.*

Feed horses to condition scores

While feeding your horse according to its body weight is ideal, use your horse's condition (degree of fat cover) as a feeding guide. Research has shown the amount of body fat, which is an estimate of stored energy, influences many functions, including reproduction in mares and performance in working horses. Condition scoring is a procedure where visual observations and/or feel of fat covering is done at seven body sites (back, ribs, mid-barrel, neck, behind the shoulders at the forerib, withers and tailhead) (*Figure 14*). These fat cover estimates are then compared to the descriptions on a condition score card (*Table VII*) to determine a condition score. Try to maintain your horse at a condition score between 5 and 7.

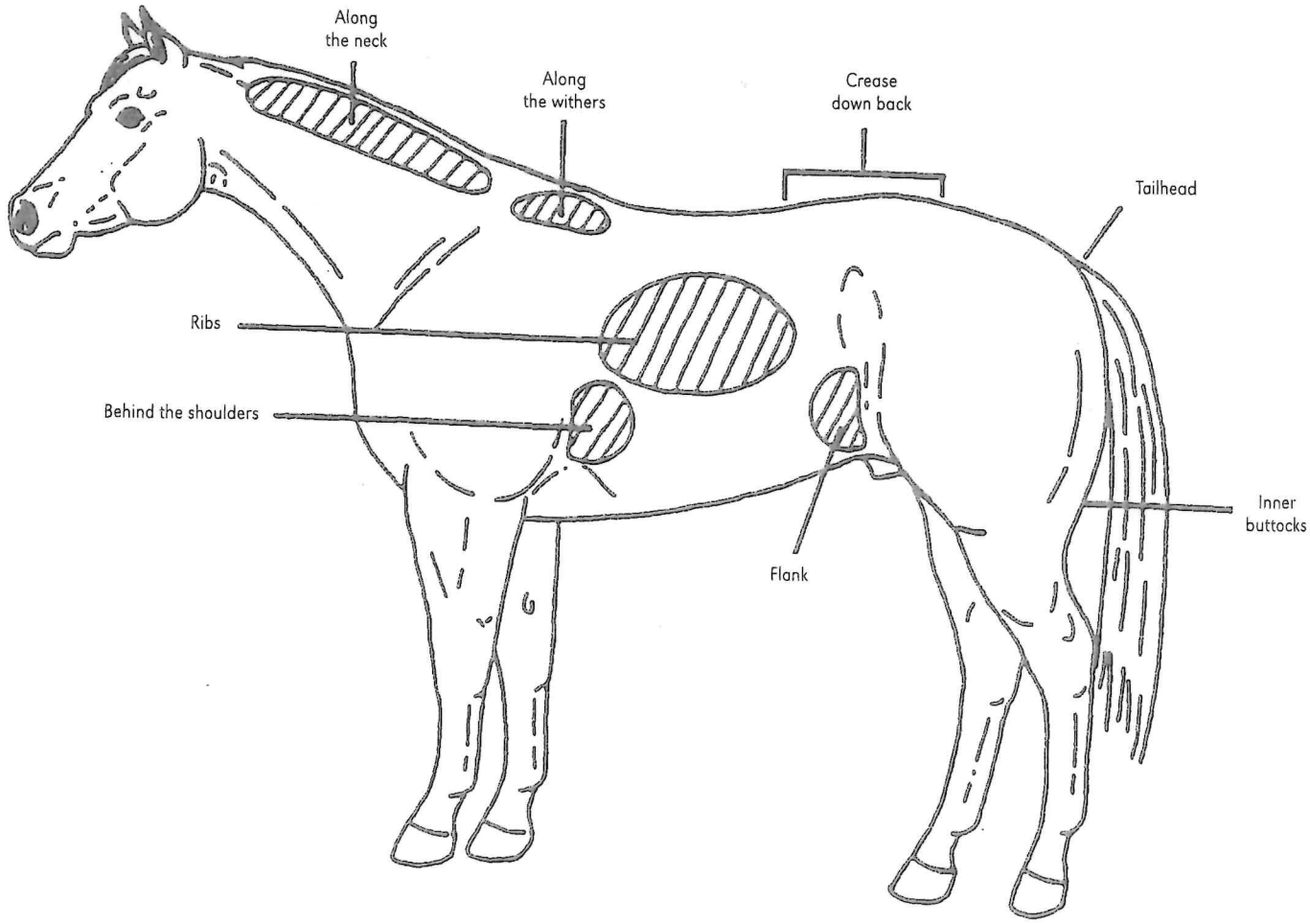


Figure 14.

Table VII. Condition scoring (degree of fatness) system.

Score	Back	Ribs	Neck	Shoulder	Withers
1	Very prominent vertebrae	Very prominent	Extremely prominent	Prominent	Prominent
2	Prominent vertebrae	Prominent	Very thin	Very thin	Very thin
3	Fat vertebrae - 1/2 way up	Can easily see	Thin	Thin	Thin
4	Negative crease	Can still see outline	Less thin	Less thin	Less thin
5	Level	Not seen but easily felt	Blends into easily felt	Blends smoothly shoulder	Rounded into body
6	Slight crease	Not seen, can be felt	A little fat	A little fat	A little fat
7	Average crease	Can barely be felt	Average fat	Almost level between shoulder and ribcage	Fat
8	Prominent crease	Difficult to feel	Fat	Level between shoulder and ribcage	Fat filled
9	Very deep crease	Cannot feel (patchy fat)	Bulging fat	Bulging fat	Bulging fat

1. Observe horses visually. Cautions: long hair will interfere with scoring; therefore, palpation of fat cover (i.e. ribs) will be necessary. Certain conformation characteristics or pregnancy status may influence the degree of fat appearance over certain body parts; therefore, use all locations in assessing a composition score. Be careful not to confuse fat for muscle tone of a physically fit horse.
2. Assign condition scores (CS) and record in whole or half units (i.e. CS = 5.5, CS = 8.0).

Feed adequate long-stemmed roughage

A horse naturally displays a need to forage or chew long-stemmed roughage. A horse requires a minimum of 0.75 to 1 percent of its body weight daily to satisfy this roughage need and allow for normal digestive activity tract. Horses grazing abundant good-quality pastures eat enough forage to meet this daily roughage requirement. When pasture is not available, you must meet this roughage requirement. A 1,000 pound horse, for example, requires a minimum of 7 ½ to 10 pounds of hay per day. When horses do not receive adequate amounts of long-stemmed roughage, they develop undesirable behaviors such as chewing wood, eating bedding, chewing tails and eating feces.

Long-stemmed roughage is needed even if a "complete" feed (both hay and concentrate incorporated into a pellet) is fed, to prevent wood chewing and other behavioral vices.

Feed all feeds by weight of the ration and not volume

Feeding by weight decreases the chance of overfeeding. For example, a coffee can full of corn weighs more than a coffee can full of oats, and a can of pelleted feeds weighs more than one of textured feed. Substituting a coffee can of corn for one of oats may result in feeding twice as much energy. Sudden changes in energy density can make a horse susceptible to digestive disorders such as colic or laminitis (founder). One of the most common causes of digestive upset is overfeeding of energy because differences in weight of grain mixes were not taken into account.

Always check feed weights, especially when new or different feeds or hays are purchased. Learn the approximate weights of different sized blocks of hay and the differing weights of various concentrates. Mark cans and other feed dispensing containers to standardize feed amounts.

How much to feed at one time and how often to feed

A practical rule of thumb is to never feed more than 0.75 percent of a horse's body weight in concentrate (grain) at any one feeding. For example, a 1,000 pound horse should never be fed more than 7.5 pounds of grain at any one feeding. If your horse is doing a lot of work and requires 16 to 20 pounds of feed in a day, split this into three or more feedings. A mature, non-working horse could be fed grain once a day but should have continual free access to long-stemmed roughage.

Feed daily at set feeding times

Horses are creatures of habit. When horses are fed on consistent time schedules, the chances of colic or founder are reduced. Horses also are more content, less likely to go off feed, and seldom develop stable vices when maintained on a regular schedule. In contrast, horses fed erratically usually appear annoyed in stalls and may develop vices such as digging, pawing, kicking, chewing or others.

Avoid abrupt ration changes

Ideally, changes in the type or amount of feed given your horse should be conducted over several days. When large increases in the amount of grain fed is necessary (e.g. fattening thin, milking mares) increase grain intake by one-half pound every two to three days.

Take similar precautions when changing a horse from an all-hay diet to lush pasture. Horses should be "weaned" onto the new pasture by turning them out for a few hours for two to three days, then half a day for two to three days, then left out. If this gradual introduction to pasture is not possible, feed the horses their fill of hay before turning them onto the lush pasture.

Provide all horses with fresh water

Your horse needs a good source of clean, fresh water, although intake should be restricted if the horse is hot. A mature, idle horse will drink approximately 10 to 12 gallons of water daily, more if milking or sweating.

Feed only high quality, clean feeds

Horses require top quality grains and hay. Clear, fresh feeds will aid against digestive and respiratory disorders. Examine all feeds for signs of mold or dust. Discard any feed (hay or grain) that is moldy, dusty or smells spoiled.

Do not feed too soon before or after exercise

Most horses should not be watered or fed hot. Avoid feeding your horse two hours before or after exercise. However, frequent sips of water to a hot horse will speed cooling and potentially avoid dehydration.

Routine dental checks and parasite control program

No matter how well you manage a feeding program, the overall health of your horse is also important. Every horse should have regular dental checks plus routine worming. Watch your horse eat. Any behaviors such as dropping large amounts of grain while chewing, holding its head sideways, eating very slowly, grain kernels in the manure or general poor condition could indicate a dental-related problem.

VI. Your Horse's Health

You have invested a large amount of money in your horse. You have found your horse to be an irreplaceable friend and companion. Your horse depends upon you for its health and well-being, and in turn, gives you enjoyment and companionship.

Learn to observe the health of your horse. You can control many factors affecting it, including sanitation of the stables and feeding equipment; clean, bright feed; exposure to disease as you use your horse; proper fit of riding equipment; hazards around the stables and pasture; constant observation for injuries or signs of disease; and finally, the way you use your horse.

Many of these factors are discussed throughout this manual. All of them are just basic horsemanship. You will learn them as you ride, but using them regularly is what counts.

Get acquainted with your veterinarian, your horse's "family doctor," who will help you plan and carry out a health program for your horse. The program will include worming, disease prevention, breeding records and problems and general first aid. Have confidence in the veterinarian, who will help you learn the basic facts of health every horse owner should know. Proper disease, injury and parasite treatment depends on two very important factors: correct diagnosis and knowledge of the proper medication. Every veterinarian knows what health and first aid measures you can handle safely and will teach you the proper procedures.

If you work confidently with your veterinarian, you will learn everything necessary for general care of your horse: how to recognize health troubles; what to do in case of sickness or injury before help can arrive; simple treatments and remedies safe to follow under certain conditions. Remember this – the most experienced horsemen are the first to call for trained professional help and they work with their veterinarians and follow their advice.

Recognizing your healthy horse

Certain information is necessary to accurately assess and monitor your horse's health. To determine if your horse is sick, you must be able to recognize your horse's normal behavior and vital signs. Observing changes in personality will help you tell if your horse is not feeling well. Good horsemen will make general observations of their horses daily. These observations should include general activity, body condition and appearance of the hair coat. Indicators of an unhealthy horse include staying away from the herd, discharge from the eyes or nostrils, difficulty in breathing, abnormal stance, painful swallowing and disinterest in eating.

If you think your horse is ill, do a quick evaluation of its vital signs. The temperature should be taken rectally and should be around 100°F – anything higher than 103°F is considered a fever. Normal temperature can be affected by hot weather, humidity and work. The normal pulse of a horse at rest is 30 to 40 beats/minute. The pulse can be taken under the jaw, at the pastern joint or with a stethoscope in the area of the heart girth. A horse's pulse rate can be elevated by exercise, excitement, heat and pain. The third vital sign to be taken is the respiration rate, which should be 8 to 18 respirations per minute. This can be observed by the rise and fall of the flank, or watching the horse's nostrils as it inhales and exhales. Exercise, excitement, pain, fever, poor ventilation and hot weather can all elevate a horse's respiration rate.

Common horse diseases and health problems

The following are brief descriptions of the most common diseases, parasites, injuries and general health problems. Study them for information on what you may encounter with your horse.

General:

Cleanliness is very important. The feed boxes should be cleaned often and bedding should be dry and clean. Manure should be forked out every time you enter the stable. The stable area should be well-drained.

If horses are stabled, be certain there is proper ventilation. Fresh air is needed even in the winter, but watch out for drafts. More fresh air is needed if the air smells "close" when you enter the stable. Keep the stable temperature and atmosphere close to that outside so your horse will be more capable of hard and fast work.

Diseases:

Influenza – A respiratory disease similar to flu in humans. Your horse can easily be exposed if you participate in shows, rodeos or trail rides where horses are brought in from many other areas.

Signs of the disease are fever (102 to 105°F), difficulty breathing, nasal discharge and a dry, hard cough. This disease is easily spread from horse to

horse through the air by inhalation. Influenza is not fatal but can lead to secondary complications such as pneumonia. For a full recovery, a long rest period is usually suggested after medication has been stopped. Complete rest (no exercise) is suggested for 30 days. A veterinarian should be consulted once your horse shows signs of influenza. There is an excellent vaccine for influenza available, and all horses should be vaccinated in the spring. Horses which will be in contact with others should be vaccinated every 60 to 90 days during times of high use.

Sleeping sickness (encephalomyelitis) — There are three types of this viral disease — Eastern, Western and Venezuelan. The Eastern strain is transmitted from birds to mosquitoes to horses and has a 75 to 90 percent mortality rate. The Western type, found all over the U.S., is transmitted from birds to horses and has a 10 to 30 percent mortality rate. The Venezuelan virus is primarily found in the southern U.S. and is transmitted horse to horse with a 70 to 90 percent mortality rate. All three types have similar symptoms, such as high fever, sound sensitivity, circling gait, drowsiness and paralysis. Death can occur within 2 to 4 days. Sleeping sickness can be prevented by annual vaccinations given prior to the mosquito season.

Equine infectious anemia (EIA) — This is a highly contagious viral disease transferred directly from horse to horse. Horses with EIA will have a high fever, poor appetite, loss of coordination and jaundice. They often die. The disease is transmitted in the blood from horse to horse by mosquitoes, flies, needles or bites. There is no cure or treatment for EIA. A Coggins test is used to detect EIA in horses and is required for horses traveling across most state lines. If a horse is diagnosed positive for EIA, it must be quarantined for life or destroyed.

Strangles (distemper) — This is an inflammation of the upper respiratory tract and lymph nodes. Commonly, horses become feverish, have a nasal discharge and inflammation in the throatlatch area. Abscesses occur below the jaw, side of the head and possibly the udder region. These abscesses can spread up to four weeks. Strangles is highly contagious and infected horses should be isolated. Consult your veterinarian once strangles is suspected.

Tetanus — Clostridium tetani is a bacteria found in the soil and is introduced into the horse primarily through deep puncture wounds. Horses with tetanus will have difficulty walking, a prolapse of the third eyelid and general stiffness. Although there is a nearly 100 percent mortality rate, annual vaccination can protect your horse from tetanus.

Rhinophneumonitis (Rhino) — The two types of Rhino are EHV-1 and EHV-4. Both are respiratory-type diseases. EHV-1 can cause abortion in mares and, in rare cases, paralysis. EHV-4 is primarily a respiratory disease of young horses. Both are spread by inhalation and signs include cough, nasal discharge and fever. There are vaccines available for both types of Rhino.

West Nile Virus (WNV) — This virus is transmitted by mosquitoes to horses and can cause inflammation of the brain (encephalitis). Mosquitoes acquire the virus from infected birds and then transmit it to horses. WNV symptoms in horses may take up to 15 days to appear and can include muscle tremors and altered gait. Horses also may experience hind limb weakness, fever head pressing, and other symptoms. WNV has a 30 percent to 40 percent mortality rate. Humans also may develop WNV from mosquito bites, but the disease is not transmitted between horses and humans.

Rabies — Rabies (hydrophobia) is a fatal viral disease of the central nervous system. The virus is transmitted through saliva. Horses become infected when they are bitten by an infected animal, such as a raccoon or skunk. Rabies' symptoms usually occur within two weeks following the bite. Symptoms include a sudden change in behavior, such as becoming vicious and attempting to bite without a reason, rolling extensively, and self-mutilizations. Drooling may or may not occur. Rabies can be transmitted between horses and humans, if bitten. Horses suspected of having rabies should be confined for two weeks. The horse will need to be destroyed if it does have rabies, but special care needs to be taken with the brain of the horse so the rabies virus is not exposed to the atmosphere.

Suggested vaccination schedule*

Disease/vaccine	Performance horses
Tetanus toxoid	Annual
Encephalomyelitis	Annual, spring
Influenza	Every 3 months
Rhinopneumonitis	Every 3 months
Strangles	Consult veterinarian
West Nile Virus	Annual, spring
Rabies	Annual, spring

*Assuming primary series was completed during foalhood. Foals should receive a two-shot initial vaccination for most diseases. Consult your veterinarian for recommendations for a vaccination schedule for foals.

Colic:

Compared to other domestic animals, horses have a poor digestive tract. This accounts for the frequency of colic in horses. Colic is a general term for all types of digestive upset. A horse can colic in various ways, some of which are gas, impaction,

twisted intestine and displaced parts of the digestive tract. A good horseman is careful to notice the first signs of colic and receives veterinary assistance as soon as a problem appears. The most common early signs of colic are:

- yawning and stretching
- looking at belly
- lying down and getting up often, only to lie down again
- sweating
- rising temperature, pulse, and respiration (TPR)
- being down and rolling, sometimes quite violently
- rising or falling gut sounds

Frequent observation of the horse will enable you to obtain help early in the course of the illness, and often prevent the serious, and potentially fatal, consequences of a severe colic. An inexperienced person can become familiar with the normal gut sounds by placing a stethoscope on the left and then the right flank of a normal horse for a few minutes. Listen to the normal rumblings in the horse's belly. Compare those sounds to what you hear in a horse you suspect has colic. If there is a great difference between the normal and suspect horse, seek help immediately.

Practice listening to gut sounds on a daily basis, before a problem occurs, so you will be confident and ready when a problem arises. (Knowing the normal gut sounds will also be a benefit for you in handling your horse after it has been stressed, i.e., long trail rides or trailering. When the horse has been stressed and has abnormal gut sounds, withhold all feed until normal sounds return. It is always better to err on the safe side and hold off feeding until you are sure the horse's system is ready.)

A horse's urine can vary in color from straw to amber and is generally cloudy and rather thick compared to other animal species. Any extreme variations in urine color should be noted, and again, if it continues, would warrant a check with your veterinarian.

Parasites:

Parasites are a serious problem to your horse's health, especially among young growing horses. Ascarids (large roundworms), stomach worms and strongyles (bloodworms) and bots are the four most troublesome. Retarded growth, lack of body condition and digestive troubles are common symptoms of parasites in horses. Death may result from heavy infestations.

Table VIII. Antiparasitic compounds for major internal parasites of horses

Class	Generic Name	Trade name	Methods*	Percent Effectiveness				Toxicosis factor
				Bots	Ascarids	Strongyles	Pinworms	
Avermectins	Ivermectin	Eqvalan®, Zimecterin®, etc.	P,T	95-100	90-100	95-100	95-100	60X
Benzimidazoles	Fenbendazole (FBZ)	Panacur®	T,F,P	0	90-100	95-100	90-100	100X
	Mebendazole (MBZ)	Telmin®	T,F,P	0	65-95	95-100	95-100	40X
	Oxfendazole (OFZ)	Benzelmin®	T,F	0	95-100	95-100	90-100	10X
	Oxibendazole (OBZ)	Anthelcide EQ®	T,F,P	0	95-100	95-100	90-100	60X
	MBZ + TCF	Equizole®	T,F	0	95-100	95-100	10-75	25X
	OFZ + TCF	Telmin-B®	T,F,P	95-100	65-95	95-100	65-95	1X
	TBZ + TCF	Benzelmin-Plus®	P	95-100	95-100	95-100	95-100	1X
		Equizole-B®	T,F	95-100	90-100	90-100	95-100	1X
Organo-phospates	Trichlorfon (TCF)	Combot®	T,P	95-100	95-100	0	90-100	1X
Phenylguani-dines	Febantel (FBT)	Cutter Paste®	T,F,P	0	95-100	95-100	95-100	40X
	FBT + TCF	Negabot-Plus®	P	95-100	95-100	95-100	95-100	1X
Pyrimidines	Pyrantel-pamoate (PRT)	Strongid®, Rotectin® P, EquiCide®	T,F,P	0	65-100	60-70	90-100	20X
	Pyrantel-tartrate	Strongid®-C™, Continuex®	F	(Prevents infective larvae from entering tissue)				
Moxidectine	Milbemycin	Quest® Gel	T	0	95-100	95-100	95-100	

*P = paste worm, T = tube worm, F = feed wormer.

Parasite control

There are three methods used to deworm your horse: paste, feed or tube worming by your veterinarian. Regardless of the method used, all rely on estimating your horse's body weight and getting the correct amount of dewormer into your horse's system. Many deworming products are available to treat the parasites your horse may be carrying. An effective program must be developed to guard against all types of parasites. *Table VIII* provides the types of deworming compounds and their trade names and indicates the types of parasites controlled by each. Most horses are placed on some type of 60-day deworming program. Consult your veterinarian to develop the best deworming program for your horses.

Horse bots — The bot fly annoys horses when laying eggs on the horse's body, and the larvae irritate the horse while burrowing through the body. The larvae attach themselves to the stomach and intestinal walls where they feed on the horse's blood.

Bot eggs are attached by the fly to the hairs of the horse. The location depends upon the type of bot fly. Check the hairs of the fetlocks and inside of the knees for eggs of the common bot fly; the hairs beneath the jaws for eggs of the throat bot fly; the short hairs of the lips for eggs of the nose bot fly.

Some control may be obtained by washing the eggs off the hairs with a sponge and hot water. If eggs are found, then bots are surely present in the body and a deworming program should be started. Watch for the small, yellow eggs on the hairs, especially in the late summer and fall. Internal treatment should begin one month after the first killing frost.

Flies and mosquitoes — These insects are irritating and may transmit diseases. Follow a fly control program around the barn or stable. Several insecticides are recommended for spraying your horse. If the spraying scares the animal, you may mix a solution to sponge over the body. Applying an insecticide to the body provides short relief. However, body sweat will remove the protection. Follow all insecticide recommendations and directions carefully.

Teeth wear

As the teeth wear down, sharp points may develop, making it painful for the horse to eat. This problem is most serious with young horses under 6 years of age and with older horses over 12 years of age. Have your veterinarian examine your horse's teeth once a year to determine if floating (filing off the sharp points) is necessary.

Wounds

Wire fences (especially barbed wire) cause a tremendous number of injuries to horses each year, as do loose nails and projecting boards. Minor cuts may not require suturing. If suturing is required, the sooner it is done after injury the faster and better the wound will heal. Wounds below the hock and the knee are the most difficult to heal. Most horses with wounds require a tetanus shot.

First aid kit

Every stable needs some first aid equipment for general use. Build your first aid supply and learn proper use of the materials. Some basic items to include in your first aid kit are (but not limited to) bandaging supplies, scissors, thermometer, foot care equipment, restraint equipment, disinfectants and a flashlight. Remember that when your horse is sick or injured, it depends on you for help and recovery. Use common sense and think clearly. If you have any doubt or question in your mind as to what is wrong with the horse or what to do to help it, call for qualified help. Don't gamble.

Hoof care

It is important to properly trim hooves to keep your horse standing squarely and moving straight. Watch young, growing horses and keep their hooves trimmed regularly so the muscles and bones of the feet and legs will develop correctly. A healthy hoof grows about 3/8 to 1/2 inch a month, fastest at the toe of the hoof. Trimming should be done every month or six weeks depending on the rate of growth. Do not let the hooves grow long during winter months, or when you are not using your horse, and expect a horse shoer to correct the feet at the first shoeing. Keep the hooves trimmed.

Corrective trimming and shoeing are sometimes done to improve or correct defects resulting from inherited faults in conformation. The work should be done only by someone fully experienced in the structure of the foot and leg and the knowledge of corrective measures. Learn the basic points of proper shoeing so you will know when your horse is being shod correctly. A poor shoeing can cripple your horse for long periods.

The hooves of a horse will dry out rapidly in dry climate and soils. A dry hoof will become brittle and crack, and the frog will lose elasticity. Keep your horse's hooves moist. A hoof left dry too long will cause the frog to shrink and the heel will contract. Hoof dressing may be applied. One of the best preventions is to have some moist ground, possibly around the watering facilities, where the horse will stand long enough for moisture to go into the hoofs.

Thrush – A disease caused by lack of sanitation and proper attention to the feet. The frog of the foot degenerates (breaks down) as a result of this disease, and lameness can result. A strong offensive odor is usually the first sign.

Grease-heel – A mange-like inflammation of the skin of the pastern and fetlock. Proper treatment and good sanitation must be followed to prevent the development of running sores. This disease is most commonly found on coarse-legged, thick-skinned horses.

Hoof cracks – Vertical cracks or splits in the hoof wall from the coronet down. May be called toe crack, quarter crack or sand crack (of the frog and sole) depending upon the location of the crack. Usually started by faulty conformation, brittle hoofs or accidental injury, cracks may become serious if the underlying sensitive hoof areas become involved.

Corns – Similar to corns found on humans, these injuries are caused by bruising of the sensitive sole of the foot, usually between the bar and the wall. Faulty conformation of the foot is the major cause of corns. Corns are not easy to heal and qualified help should be sought early.

Laminitis (founder) – A condition indicated by inflammation of the sensitive laminae of the hoof resulting in rotation of the coffin bone. Depending on the severity, laminitis can cause temporary or permanent lameness. Numerous, stressful conditions can cause a horse to develop laminitis such as overeating of grain or lush green pastures, excessive concussion of the foot, sudden changes in feed, a "hot" horse drinking too much cold water, a mare retaining her placenta after foaling and other unknown factors. Signs of "foundering" are heat in the feet, a strong digital pulse and standing with his weight off the front feet. Call your veterinarian as soon as you think a horse has developed laminitis. Often, the quicker the treatment, the better the prognosis. Treatments often include anti-inflammatory medication and special shoeing and exercise programs.

VII. Shelter

For most of the horses used in 4-H, needed shelter should furnish protection from hot sun, wind or stormy weather. The type of shelter will depend upon the facilities available. This may vary from an open shed in the corner of the pasture to a small, complete stable building with a box stall, tack room and one or two stalls.

A stable does not need to be fancy, but should be well-constructed for safety and arranged so it can be kept clean. If mares are to be foaled, a box stall will be handy for caring for the mare. Some standard dimensions for use in figuring space requirements are given below:

Box stall	10' x 10' to 12' x 12'
Tie stall	5' wide, 12' long, including manger
Ceiling height	8' minimum
Doors	4' wide, 8' high
Hay manger	28" wide, 38" high top edge
Grain box	24" to 30" long, 8" to 10" deep, 38" to 42" from floor to top edge

Your stable or shelter may not fit the above dimensions exactly. It is important, however, to be certain it is roomy and ventilated, but not drafty.

Arrange the grain box so it can be easily cleaned. The hay manger should be constructed with an open space at the bottom so chaff, dirt and trash will fall out, or so you can easily clean debris from the bottom.

No matter where you keep your horse, be alert for loose boards, nails and any projections that can cause injuries. Pick up all wire and hay bale twine.

The best fences are constructed of poles or boards. Wire fences, especially barbed wire, cause many horse injuries. A smooth top wire, or a board or pole fastened to the top of the fence, will help. Check fences regularly and keep them tight and in good repair.

The care you use when maintaining your horse's home reflects your interest in your horse.

VIII. Grooming and Care

Your horse likes to be thoroughly groomed. If you groom properly and regularly, you will achieve three goals: a clean, shiny coat and skin; a stimulation for the muscle tone of the horse; and a gentling of most horses. While grooming, you can also watch for cuts, bruises and hoof or foot problems that might otherwise be missed.

The basic grooming tools include a metal or rubber curry comb, a dandy (coarse bristle) brush, a body (fine bristle) brush, a wool polish cloth, a hoof pick, shears and a coarse-toothed mane and tail comb (*Figure 15*). A hacksaw blade, bent double with the two ends fastened together with tape, is a handy tool to use as a scraper during the spring when the horse is shedding winter hair. A sponge can be used to clean muddy legs and other dirty areas.

Keep your tools simple. The results are determined by how you use the tools, not by their quality.

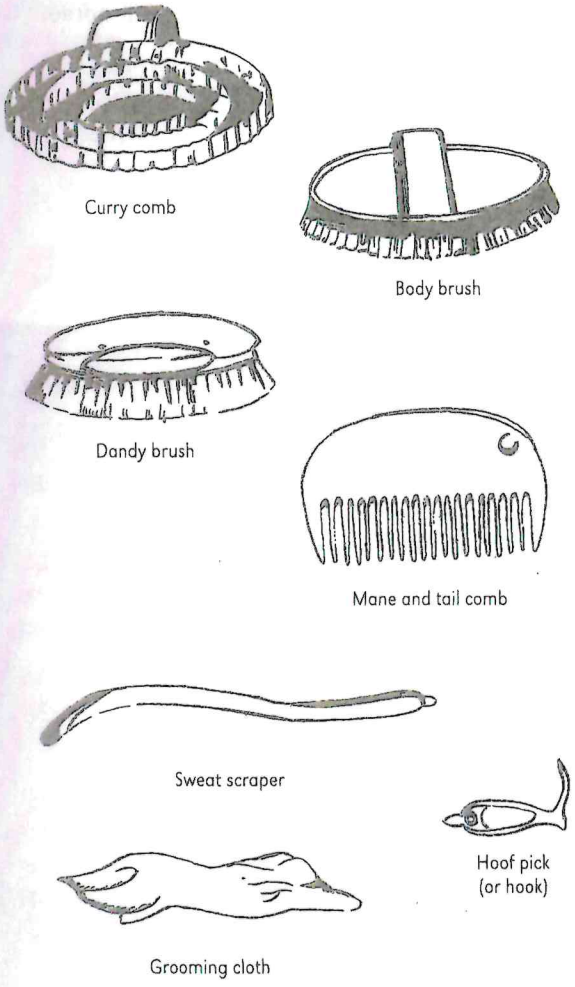


Figure 15.

Your club leader can give you steps to follow in grooming your horse and show you how to use the grooming tools properly. You might plan a demonstration on proper grooming, and present it to your club.

Before you ride, allow some time each day to groom your horse. If you follow a system, you will thoroughly and efficiently clean the horse. Start at the head and work back on the near side including the feet and legs. Then go to the off side and work back. Don't neglect the head (be gentle here) and the area around the tail. Do not use the metal curry comb around the head or below the knees and hocks because there is no fat or muscle in these areas to cushion the comb's hard edges. Use a wet sponge or soft brush to remove dirt from these areas. The newer rubber curry combs may be used carefully to help remove caked dirt.

Brush in short, brisk strokes (*Figure 16*). Flick the bristles up at the end of each stroke so they will throw the dirt from the hair. Brush with the lay of the hair; this changes direction at different points on the body, so look for these changes.

You may also use your hands. Many old-time grooms used their hands and fingers to rub and massage the hair and muscles. You won't see this done much these days because it takes time. If you use your hands to rub, scratch and massage when training a young foal, you teach it to allow you to handle every part of its body.

Grooming

Styles today favor short manes and long tails for most stock horse breeds. However, horses used in reining and/or cutting competition generally have long, flowing manes and tails, and different breeds favor different styles of manes and tails. For example, Arabians should have long, flowing manes and

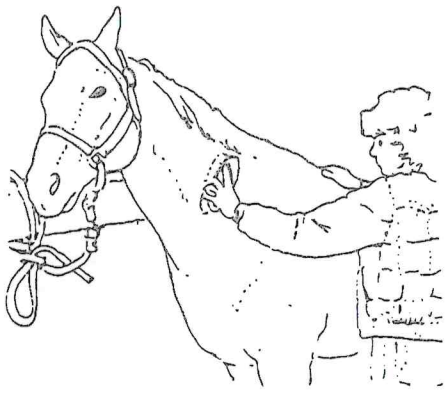
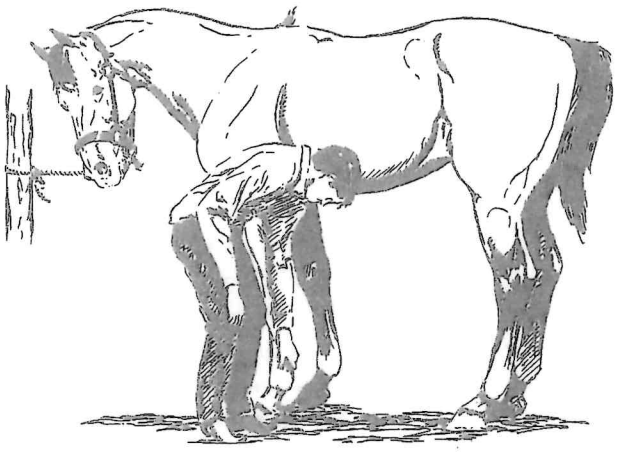


Figure 16.



Near Forefoot: Slide your left hand down the cannon to the fetlock. Lean with your left shoulder against the horse's shoulder. Reverse for picking up the off forefoot. When the horse shifts weight and relaxes on the foot, pick it up.

For a quick cleaning, hold the hoof in your free hand. When shoeing or during a long cleaning job, it will help to place the horse's foreleg between your legs. Hold your knees together to help support the weight of the horse's leg.

Near Hindfoot: Stand foreward of the hindquarter and stroke with your right hand from the point of the hip down the hip and leg to the middle of the cannon. As you move the right hand down, place the left hand on the hip and press to force the horse's weight to the opposite leg. Grasp the back of the cannon just above the fetlock and lift the foot forward.

When the horse is settled, move to the rear, keeping the leg straight, and swing your left leg underneath the fetlock to help support the horse's leg. Never pull the foot to the side – your horse will resist. Reverse sides for picking up the off leg.

Figure 17.

tails. If a short mane is preferred, make it neat and natural looking. On all saddle horses, the mane is usually clipped where the crown-piece or headstall of the bridle crosses behind the ears. This "bridle path" is usually about 1 1/2 to 2 inches long. Because the forelock should match the length of mane, horses with short manes should wear their foretop approximately even with their eyes. The tail should be allowed to grow long and flowing. Tangles in the mane and tail should be worked out with the fingers and a coarse-toothed comb. Various detangling products are available and can be extremely helpful in care of the horse's mane and tail. Watch for burrs or sticks caught in the mane and tail and carefully remove them.

To properly clean a horse's foot, you must pick it up. Every foal should be taught to consent to having its feet picked up and handled. If you trim the feet as the foal grows, you should have no trouble when it becomes full grown.

The illustrations (*Figure 17*) show how to pick up your horse's feet properly. These positions are used by veterinarians who handle strange horses constantly.

Always work in order — near forefoot, near hind, off fore, off hind. Clean the hoof from heel to toe, paying particular attention to the area around the frog. The cleft and commissaries should be cleaned thoroughly to prevent thrush and other foot infections. Watch for rocks, nails, injuries and loose shoes. Check the growth of the hoof for the proper time to change shoes.

Your pride and interest in your horse are reflected in the way you maintain its appearance. Shortcuts and halfway measures can't be hidden.

IX. Equipment

You don't need fancy, flashy equipment for your 4-H horse project. Buy well-made equipment fitted to you and your horse. This quality equipment, and the way you take care of it, brands you as a horseman or horsewoman — not its flash and glitter.

The more formal name for your equipment is tack. The types of tack and the names of the individual pieces are illustrated in *Figures 18* and *19*. To talk "horses," you will need to know these terms and how to use them.

For most 4-H purposes, your riding tack should include a saddle, saddle pad or blanket, headstall and a good bit, halter and lead rope. Other equipment such as slicker, chaps or a lariat will depend upon the type of riding you do. Spurs are considered optional in most show classes. If you use spurs, they should be used as aids, not as punishment or force.

Tennis shoes are not safe to wear when riding or working around horses, because they are not secure in the stirrup and do not offer protection if a horse steps on your foot. Boots are the safest, but any leather shoe with a heel and reinforced toe is acceptable.

Tapaderos, light cavalry-type stirrup hoods, are used many times on saddles for small riders. They are considered safer in preventing small feet from sliding through a stirrup. Show rules generally prohibit use of tapaderos in western classes. They are, however, necessary equipment to protect the feet in some brushy areas.

Proper care of your gear is important. Keep all leather clean and oiled. Replace all worn parts. Have saddle soap on hand and use it regularly. Neatsfoot oil is commonly used on leather but can be messy and will come off on clothes when you ride. Many stables use other, less messy leather oils and apply them to the underside of the leather after cleaning. Use just enough oil to keep leather soft and pliable.

Know the parts of your saddle (*Figure 18*), and take good care of it. Build a saddle rack or rope hanger to store your saddle between rides. Cut an old broom handle long enough to reach through both stirrups. Twist the stirrups into the position you want them for riding and hold them in this position with the broom handle when storing your saddle. This will train the stirrups to hang so your feet slip easily into them.

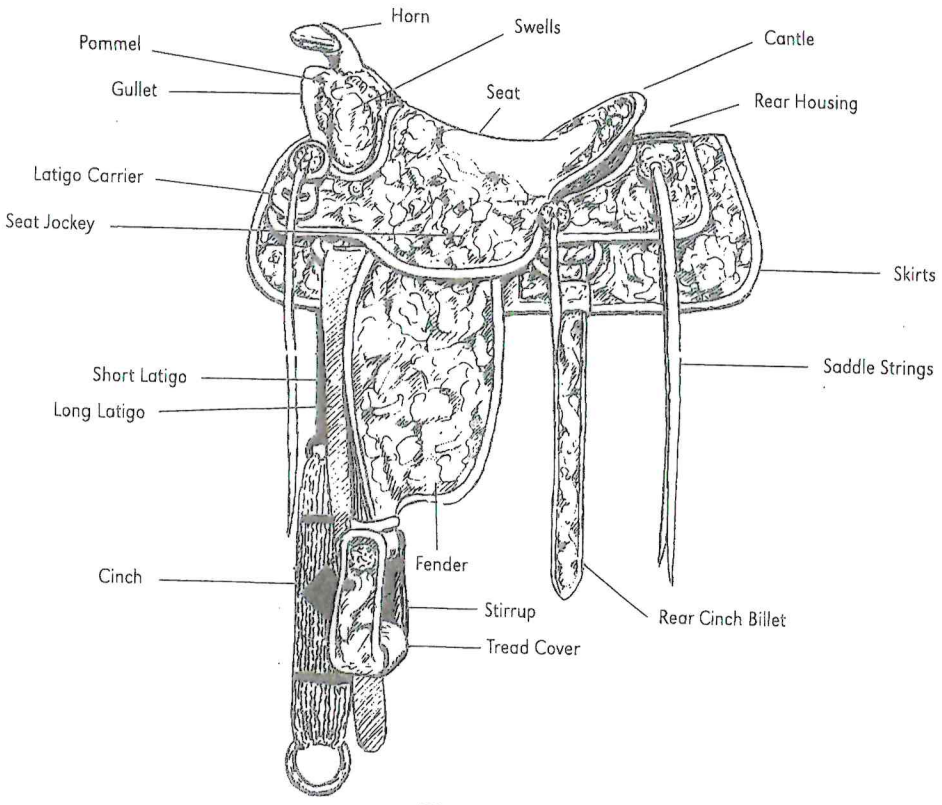


Figure 18.

Place your saddle pad or blanket over the saddle or hang it so air will circulate and dry the sweat. Keep your blanket clean and free of caked dirt and sweat.

Hang your bridles, halters and ropes on pegs when you are finished. Never leave them laying in the dirt or hanging on a post outside.

The headstall and bit are two pieces of equipment that need special attention. The headstall should be made of strong leather, narrow in width to cut down on weight. Wide leather straps and fancy metal spots are heavy for your horse to carry. The bit should be as light and as mild as possible. Heavy leather and severe bits are used too often as a substitute for good horsemanship. Do everything possible to keep your horse's mouth soft and responsive.

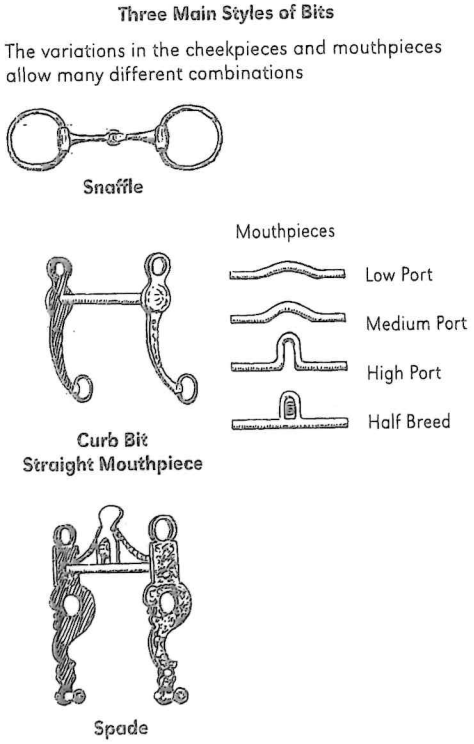
Many different types of bits (*Figure 19*) are used on horses. You should become familiar with the different types of bits and understand the differences in how they work on your horse's head and mouth.

Snaffle bits: Snaffle bits are the simplest type of bit and work by direct action. With this bit, there is a direct line of communication from the rider's hands to the horse's mouth. Snaffle bits may have solid or jointed mouthpieces or various shapes and thicknesses. In general, the thinner the mouthpiece, the more severe the bit. The reins are attached to rings, which are attached directly to the mouthpiece, and the bit applies to the corners, bars and tongue of the horse's mouth.

Curb bits: Curb bits, used in more advanced stages of training, work by leverage action. The curb chain is attached to the shank above the mouthpiece and the reins attached to the shanks below the mouthpiece to provide the leverage action. When the reins are pulled up, the curb bit rotates in the horse's mouth as the lower jaw is pressed between the mouthpiece and curb chain in a vise-like leverage action. The pressure points curb bits work on are the poll, bars, tongue, roof of the mouth, corners and chin. These bits may have either a jointed (broken) or solid mouthpiece. Curbs will have vertical cheek pieces (shanks), which attach above and below the mouthpiece, and MUST have a curb chain or strap. The longer and straighter the shank, the more severe the bit; also the higher the port, the greater the action on the roof of the mouth and tongue. The overall effect on the horse is one of flexion—or the horse breaking at the poll and giving his lower jaw.

Bosal or hackamore and mechanical hackamore: In general, hackamores apply pressure to the horse's nose, chin, poll and do not have a mouthpiece. A bosal or rope hackamore works by direct action, similar to a snaffle bit. They are generally made of braided rawhide or rope and rest over the horse's nose about 4 inches above the top of the nostril.

A mechanical hackamore has a nose band of sorts (but no mouthpiece), a curb chain and the reins attached to shanks. This type of hackamore works by leverage action and is considered a curb bit.



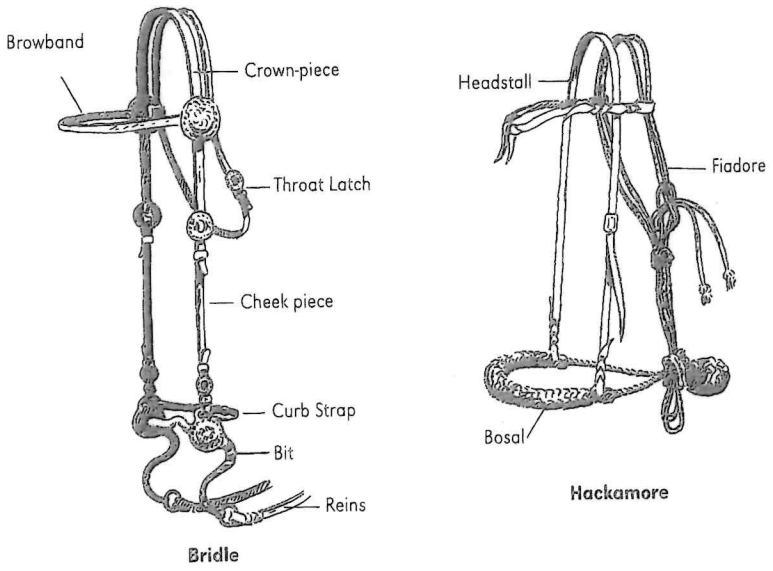
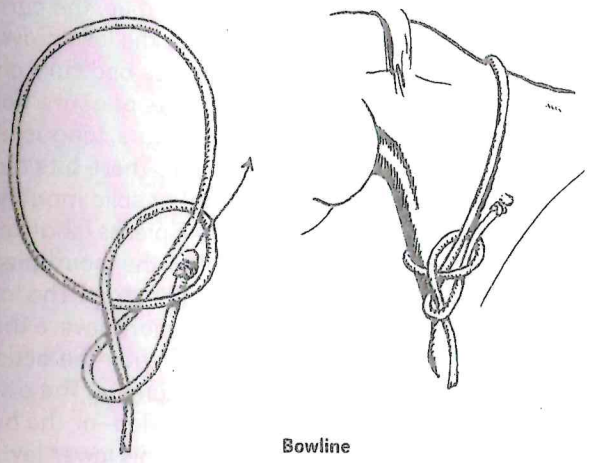


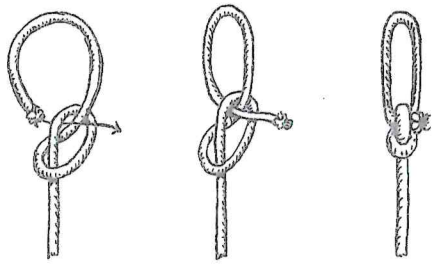
Figure 19.

Proper knotting is important both for safety and appearance of your gear. Knot-tying and braiding is fun to learn and does not take long. Well-tied knots will make your equipment look neater.

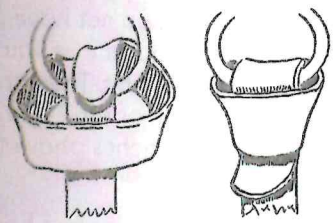
Study the illustrations (Figure 20) showing how to tie and use simple knots. Remember, your equipment reflects your pride in being a good horseman or horsewoman.



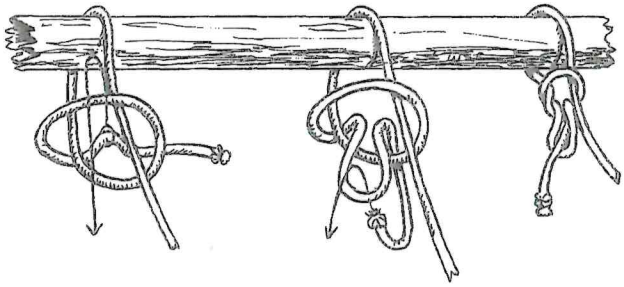
Bowline



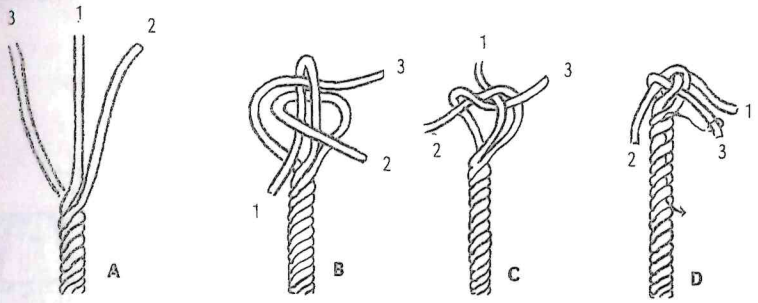
Honda Knot



Cinch Knot



Manger Tie



Ends (1, 2, and 3) may be braided back into rope at "D" or finish tying to full Crown Knot shown in steps "E" and "F"

Crown Knot

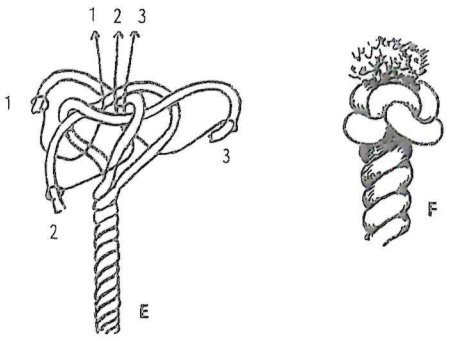


Figure 20.

X. Bridling and Saddling

Develop good habits when bridling and saddling your horse. Be firm but gentle when working around the head and your horse will respond accordingly.

Bridling

Bridling a horse safely starts with untying your horse's lead rope and draping the lead shank over your right shoulder. Drop the nosepiece of the halter off the nose and fasten the crownpiece of the halter around the neck, or loop the bridle reins over the neck so you will have something to hold if the horse jerks. (A good horseman loops the reins over the neck to keep them out of the dirt.) Follow the steps shown in *Figure 21*. Notice how the rider stands close to the horse's neck, just behind the head. This is a safe position because the horse cannot throw its head and hit your face. The right arm held over the neck and poll will help keep the head down and may be dropped around the neck if necessary to help hold the horse. Work firmly, but gently. With the right hand, pull the headstall up so the mouthpiece of the bit is pressing against the teeth. Use your left hand to guide the bit between the lips. When the teeth relax and open slightly, pull up with the right hand and the bit will slide smoothly between the teeth. If the horse is stubborn about opening its mouth, press the lip against the jaw bone with your left thumb at the gap between the incisors and the molar teeth. Do not jerk or pry at the mouth with the bit.

Handle the ears gently. Move your left hand to hold the crownpiece of the headstall high above and in front of the ears. Cover the far (right) ear and gently lay it forward with your right hand. Move the crownpiece back over the ear and your hand, then release the ear and remove your hand. Repeat with the near (left) ear.

Check the bridle's fit. The bit should rest in the corner where the lips join. Some horsemen want the bit tight enough to form a wrinkle in the skin just above the corner of the lips. The curb strap should be loose enough to allow two fingers to be inserted between the jaw and the strap. Buckle the throat latch with enough slack to prevent choking when the horse flexes its throat. Make sure all strap ends are properly fitted through the keepers.

There is also a proper way to remove the bridle. Use the left hand to slide the crownpiece forward over the ears. When free of the ears, hold the headstall loosely, just long enough for the horse to "spit out" the bit. You will feel this happen. Lower the headstall for the bit and curb strap to fall freely from the mouth and chin. Hold the horse and rub the head and poll where the headstall has rested. Your horse will soon learn to expect this rubbing and will wait patiently for it.

Saddling

Before saddling, always brush your horse and be sure the back and cinch areas are clean. Check the saddle pad and saddle lining for sticks, burrs or matted areas.

After brushing, you are ready to saddle up. Lay the saddle blanket on the horse's back, so it drapes evenly. Always lay the blanket several inches forward and slide it to the rear, which smooths the hair under the blanket. Remove all wrinkles.

Some individuals fold the off stirrup, cinches and saddle strings up over the seat of the saddle. If the stirrup leathers are short, hook the stirrup tread over the horn. Slip your right hand into the hole formed by the fork in front of the seat and lift the saddle over the horse's back. Lift just enough to clear the withers and hold the saddle steady at the top of the lift so it will settle easily on the back.

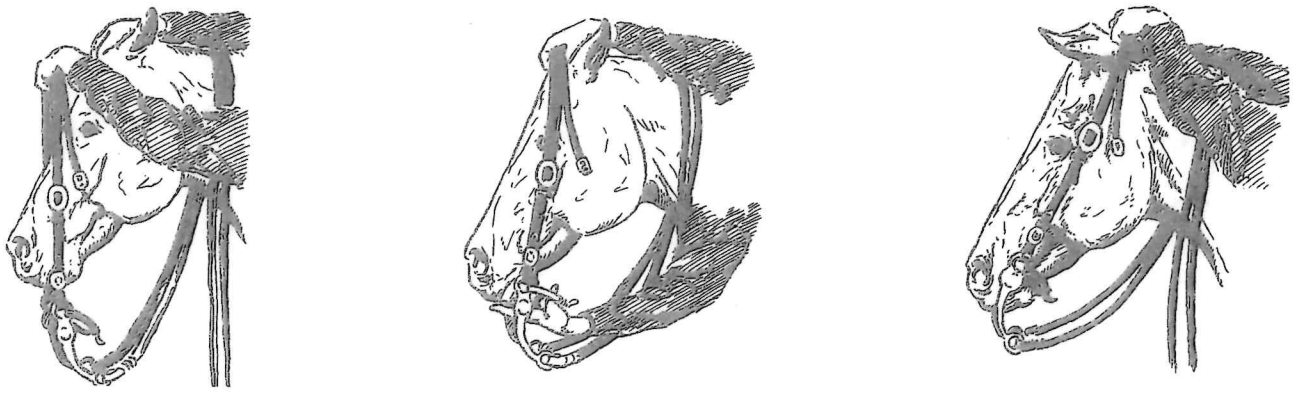


Figure 21.

Steady the saddle by placing your left hand on the edge of the front skirt. Smaller riders will find it necessary to use both hands and hold the saddle under the gullet with the left hand while grasping the rear skirts or cantle with the right hand. Many western riders have developed the habit of swinging the saddle up with the off stirrup and cinches flying. Watch how horses flinch their bodies to help absorb the hard knocks when the stirrup hits. Don't get this habit.

Next, ease the off stirrup and cinches down from the seat, holding them to prevent dropping. Walk to the off side and check the stirrup, cinches and strings.

Return to the near side, check the position of the saddle, raise the pad edge where it lays over the withers to allow air space, swing the near stirrup over the seat and tighten the cinch.

There are several safety points to remember when cinching. Always reach under the belly with the left hand to get the cinch. Always fasten the front cinch first. Learn to tie the cinch knot, even if you use a tongued cinch ring or a tackaberry.

On double-rigged saddles, remember this rule: front cinch first, then back cinch when saddling — back cinch first, then front cinch when unsaddling. Always check to be sure the back cinch is connected to the front cinch. If they are not connected, the rear cinch may catch in the horse's flank and cause it to buck.

Tighten your front cinch enough to allow your hand, with fingers held flat, between the horse's body and the cinch. The rear cinch should be loose, but not dangling.

You are ready to ride, but one more step must be taken. Untrack, or lead, your horse a few steps. Then check your front cinch again. Generally, you will be able to tighten it several notches. Check the front cinch again after you have ridden a short distance.

When unsaddling, always lift the saddle slightly before pulling it off. This loosens the grip of the sweaty leather and blanket on the horse's hide.

English saddling

The saddle pad or blanket

Horses with high, thin withers will need a saddle pad or pommel pad placed under the English saddle to prevent the gullet of the saddle from resting on the withers.

Place the pad well forward on the horse's neck, then slide it back into the withers area to smooth down the hair. There should be 3 to 4 inches of blanket in front of the English saddle; the pad should also extend beyond the back of the saddle (*Figure 22*).

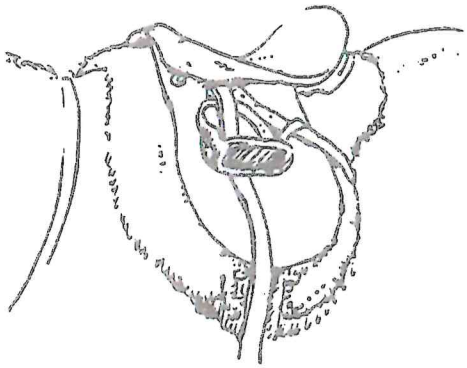


Figure 22.

The saddling process

The saddling process with the English saddle involves five steps, done in the proper order. Get the saddle ready by putting the girth over the seat. The irons should have already been run up the stirrup leathers and placed out of the way under the skirt flap.

Working from the horse's left side, gently place the saddle on the horse's back. The front end of the saddle should be close to the upper rear edges of the horse's shoulder blades (*Figure 22*). Be sure to leave 3 to 4 inches of the pad in front of the saddle. The pad should also extend past the rear of the saddle. Next, move to the right side, and bring the girth down and check for twisting. Also check to make sure the billets are properly attached to the girth buckles. Most saddles have three billets and two girth buckles. Horses with narrow chests and big bellies should have the girth buckled on the last two billets to the rear to prevent sores in the foreflank. With a broad-chested horse, you can use the two front billets. To prevent irritation to the horse's withers, push the pad well up into the gullet of the saddle. Now you can go back to the left side to begin cinching:

a. Reach under the horse and grasp the girth. Bring it up to the left side of the horse.

b. Lift the skirt and fasten the billets to the girth buckles. Buckle the two billets that correspond to the two billets on the off side (the horse's right side). If a leather girth is used, the folded edge should be to the front.

When you first buckle the girth, adjust it so you can fit one finger between the girth and the horse's barrel.

Remember, some horses can become very sensitive to saddling. After the horse is saddled, lead it several steps and check to see if the girth needs to be tightened.

XI. Training

Horse training requires patience, careful handling and skill to develop a safe and enjoyable horse. Your objective is to develop a friendly, obedient animal that is enjoyable to work with and that respects you.

Don't "baby" your horse, young or old. Be firm about what you want it to do. Use correct discipline when it is needed, but don't be overly harsh or cruel.

Training methods vary with both trainers and horses. A good trainer knows many methods and, more importantly, when to use them. The secret of all training methods is to get the horse to obey without fighting back. Horses learn to do these things by habit, and some learn faster than others. As the trainer, you must know what you want and remember to ask for it in exactly the same way each time. Be patient. You will sour and confuse a horse by asking too much too soon.

Training can be separated into two categories: that done from the ground (generally for the young horse) and that done from the saddle. The proper method and need for handling the feet has been explained, and the basic training done from the saddle is explained in the section "Basic horsemanship." The early training on halter breaking and leading remains to be covered.

Halter breaking foals

Frequent handling of very young foals will make both halter breaking and training much smoother. Many horsemen choose to conduct "imprint training" on their foals within the first few hours after birth. Foals that have been "imprinted" are said to be much easier to handle, trim feet, clip and work with than non-imprinted foals.

The first step in halter breaking a foal is to place a halter on it and let it become accustomed to the feel of the halter on its head. Some individuals will attach a lead shank to the halter and let the foal drag it around. This should only be done in a stall or very small enclosure. Next, a handler needs to work with the foal holding the halter, brushing and handling the foal all over its body. It should learn at this time not to fight the halter and tie-rope. This is important since you will be using lead ropes, tie-ropes and reins to control your horse all the rest of its life, and it must respect this equipment.

Some individuals tie the haltered foal near its dam for short periods of time. Others begin halter breaking by leading the foal separately when the dam is being led. To prevent injury to the neck muscles, some owners use a nonslip loop tied around the foal's body immediately behind the withers and elbows with the end running out between the front legs. The end may be run through the halter ring and tied to a post, or it may be run around the post and then back to the halter ring for tying. When the foal tries to pull back, the pressure of the body loop will increase and the foal will stop. Another method is to tie the foal to old tires hung on a fence. If the foal pulls back, the tires will "give" some, reducing the risk of injury to the foal, yet teaching the foal to stand tied.

This is not cruel as long as you watch to ensure the foal does not become entangled. The foal must learn to respect the rope and halter if you desire control and obedience later on.

Teach your foal to respond willingly to the lead rope. This is easier if the foal has learned respect for the halter. A good practice: Make a loop with your lariat and drop the loop over the rump of the foal (*Figure 23*). The loop should lie just ahead of the point of the hip and drop to the back of the rump under the buttocks. The rest of the lariat is held so a slight pull will give pressure at the loop if the foal holds back. Never jerk or pull at the head if the foal balks. This will cause the foal to fight harder. Pet the foal when it performs correctly. After the foal moves out willingly, train it to walk up with its neck even with your shoulder. It should walk freely at the same speed you are moving and increase speed to a trot when it sees you moving faster. This is very important training for good halter showing.

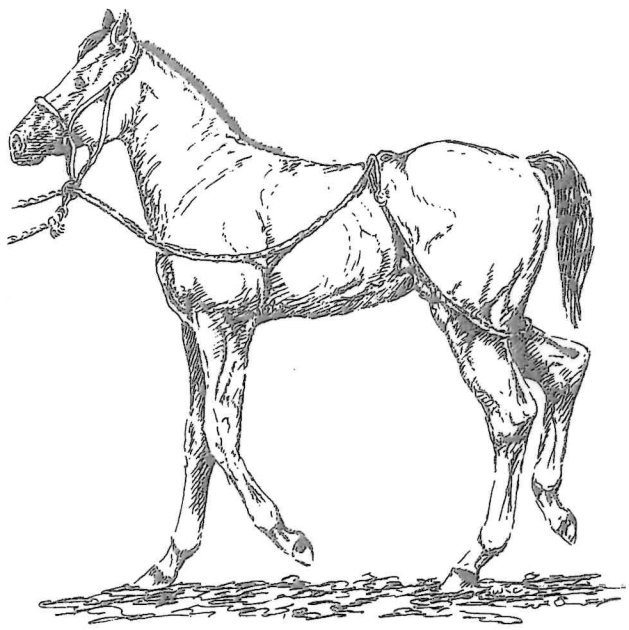


Figure 23.

Catching the horse

To "catch a horse" means to approach it with a halter and properly place the halter on the horse's head. Catching a horse safely and correctly, however, is not so simple. To catch a horse the right way, you must know how a horse sees, hears and responds to touch. You must also know the parts of the halter and leadrope (*Figure 24*).

Catching a horse safely involves three stages:

1. Organizing stage: getting the halter ready.
2. Approach stage: getting next to the horse to catch it.
3. Haltering stage: putting the halter on the horse.

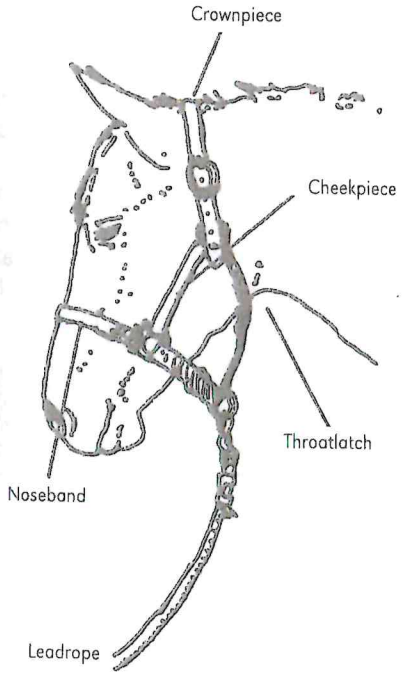


Figure 24.

Organizing stage

Catching begins by getting the halter and lead rope ready before entering the horse's stall, pasture or paddock (*Figure 25*). Get ready by:

a. Putting the unbuckled halter in the left hand with the crownpiece of the halter sticking up;

b. Then putting the end of the leadrope in the first two fingers of the left hand so the end of the leadrope is sticking up.

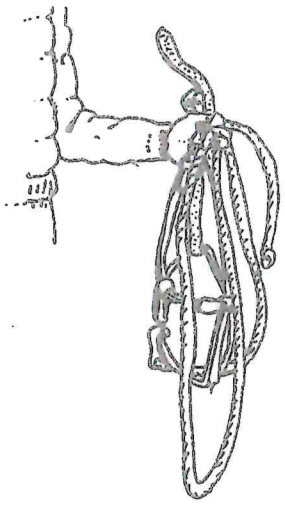


Figure 25.

Approach stage

This is the most important part of catching. Always approach the horse from the left side. If you don't approach the horse safely, you could get hurt. Remember, the horse can't see an object closer than 4 feet in front of its face or an object directly behind its hindquarters. Also, the horse is sensitive to touch around the ears, eyes, and nose — so go slowly as you approach these areas. The approach stage is divided into five steps:

a. Walk up to the horse's left shoulder, making sure the horse sees you.

b. Firmly place your right hand with the leadrope on the horse's shoulder (Figure 26).

c. Slide the leadrope over the neck until 1 or 2 feet of rope are hanging on the horse's right side.

d. Move the leadrope up the neck; then grasp both parts of the rope together with your right hand (*Figure 27*).

e. Rotate the rope in a clockwise direction (toward you) so the right hand and the end of the leadrope are at the top of the poll (*Figure 28*).

Safety precautions:

Never approach the horse:

- At its head. This is a sensitive area to touch and the horse can't see you clearly.
- Directly behind. The horse can't see you and may kick.
- At the hip. This will make the horse move forward and also it can't see you clearly.

Always speak to a horse to make sure it sees you and to reassure it.

Haltering stage

The halter will still be in the left hand. The right hand is at the poll holding the lead rope to keep control of the horse.

a. Move the halter under the horse's neck so the right hand can grab the crownpiece and place it over the poll.

b. Then slide the noseband up and over the horse's nose (*Figure 29*).

c. Finish by fastening the crownpiece to the buckle on the halter. Be sure the noseband of the halter is about 1 1/2 inches (2 finger widths) from the cheekbone (*Figure 30*).

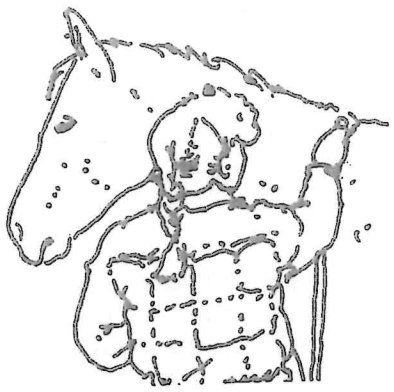


Figure 26.

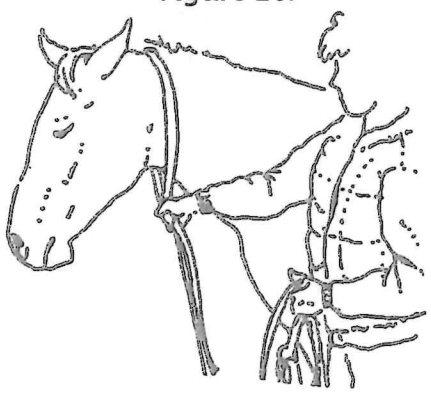


Figure 27.

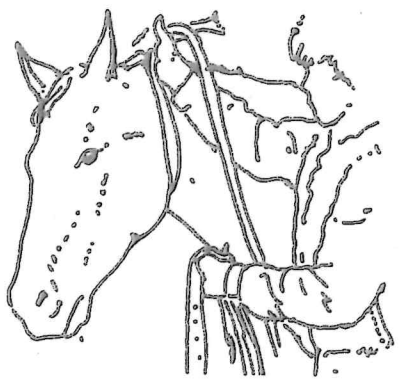


Figure 28.

Some horsemen give their horses small rewards for being caught willingly. The reward may be a handful of grain or a good rubbing or scratching at some favorite spot such as the withers — anything to show the horse it has performed correctly. This pays dividends if the horse must be caught in a pasture.

The longe line

Many horseowners use a longe line when training and conditioning horses. 4-H members will find the longe line training very useful, especially for early training on young horses.

A longe line may be a lariat or light nylon or cotton rope not less than 30 feet long. One end is fastened to the halter and the rest of the rope is held in the hand. The trainer stands in a small area and works the horse as it circles.

It takes patience to teach a horse to circle. Until now, you have trained your horse to walk by your shoulder.

Figure 29.

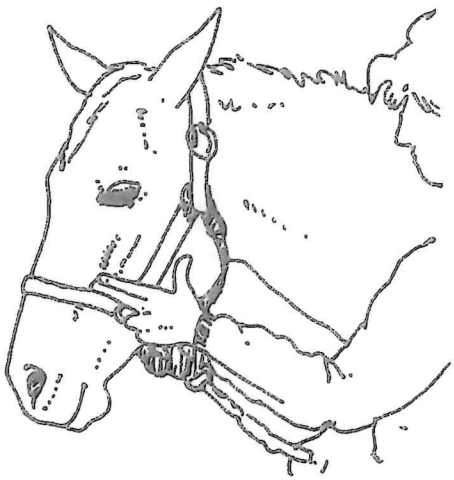


Figure 30.

Start by teaching your horse to walk a small circle around you. As the horse learns and responds, increase the size of the circle by increasing the amount of the line you let out. A light whip may be used to make your horse move out but never strike hard. A touch of the whip or a light flick on the hindquarters is all that is needed. Soon you will not need the whip.

Figure 31 shows the position you should be in to keep the horse moving around you. Most horses will move in response to changes in your body position. When you want the horse to move forward, stand toward the "point" of the horse's hip. When you step toward the shoulder or neck, this signals the horse to slow or stop. Also use voice cues to either "cluck" when asking the horse to move forward or "whoa" when wanting it to stop.

After your horse has learned to circle freely at a walk, and stops when you step forward and say "whoa," you can begin working at the trot and slow canter. Always circle both directions so your horse will develop muscles and skill both ways of the circle. This is an excellent way for your horse to learn and use the correct leads at the canter and develop its natural balance and grace without the weight of a rider.

Do not work your horse at the faster gaits in a small circle. This is difficult for the horse to do and may make it less willing to walk on the line. Make your circle larger as you ask your horse to trot or canter/lope.

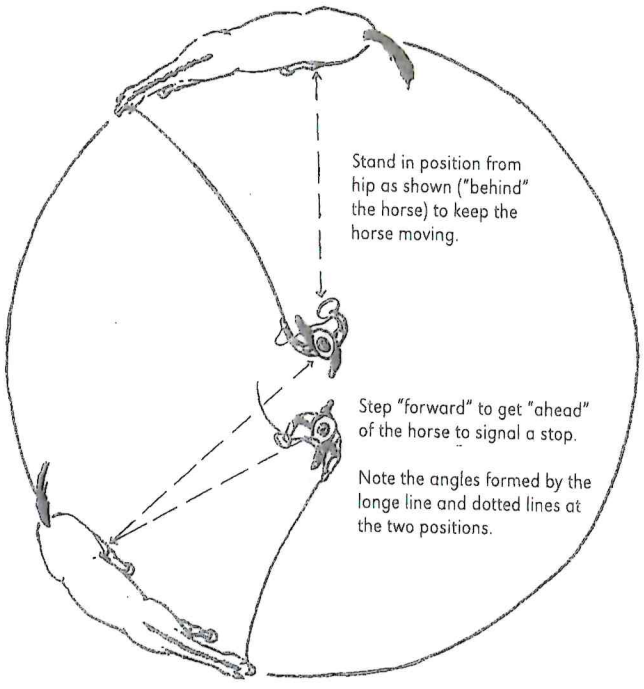


Figure 31.

Always use the same voice commands and soon your horse will respond to these words.

Use a longe line for regular exercise and training. This is a good way to exercise and work the edge off your horse at a show. Train your young horses and your older horses to respond to the longe line.

A true horse lover does not spend all of her or his time in the saddle. Learn the fun of training and working your horse from the ground. You will experience a difference in the way your horse responds when you ride.

Ask your club leader to arrange a club demonstration by someone experienced in the use of a longe line.

Reining

Correct reining is a must in good horsemanship. A well-reined horse will turn so easily and quickly on a light neck rein that the rider will have the feeling the horse is ducking right out from under the saddle.

Neck reining is the Western style. Much of the neck reining used today is not true neck reining, but is direct reining in the opposite direction the rider really wants the horse to turn. True neck reining is accomplished by signaling the horse with the weight of the rein against the neck; not by the pull of the rein. In neck reining, pressure is applied to the opposite side of the neck from the direction of the turn.

To learn good reining techniques, think first of what is happening when you rein your horse. Study *Figure 32* and decide which horse turns most like yours. Note the angle of the head and the rider's hand. The ideal to strive for is that the horse follows the nose.

Schooling your horse to better respond to your reining signals can be done as you ride. Settle your horse before schooling. If your horse begins to charge when you take up the reins or shift weight, you cannot school properly. Get control of your horse and ride until it settles down. School at a walk first. Progress to a slow trot and finally to the slow collected lope, but only after you are getting results. Forget speed.

Listed on the next page are common types of rein aids. Nearly all trainers use combinations of these rein aids when riding. The response of the horse should be the primary determining factor when different types of rein aids should be used:

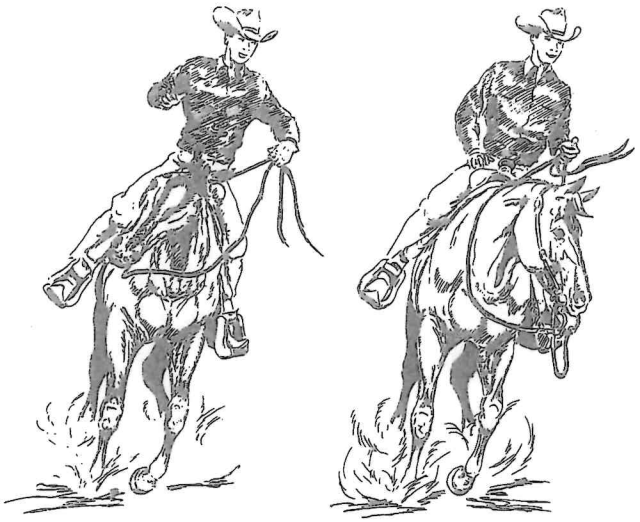


Figure 32.

A. Open, leading or plow rein: This type of reining is primarily used on green horses ridden with a snaffle bit, side pull or bosal. The horse's head is pulled directly in the direction of the turn. There is a direct signal from the hand to the horse's mouth as the hand is taken out wide to the side.

B. Direct rein: This type of rein aid is most effective with a snaffle bit, side pull or bosal and is used on horses at all stages of training. More subtle cues than the leading rein are needed and the pull is more indirect. When reining in this manner, the hands remain closer to the horse's withers.

C. Neck rein: Neck reining is primarily used with curb bits in more advanced horses. This type of rein aid applies pressure to the opposite side of the neck from the direction of the turn. Additionally, the leg is applied on the same side as the turning rein to further cue the horse.

D. Indirect rein: The rein is applied on the side opposite the direction of the turn and is applied either in front of or behind the withers. Indirect reining is used in lateral movements, and moves the shoulder laterally away from the rein.

Most trainers use direct reining (plow reining) when starting young horses. Some use a snaffle bit and long driving lines, others use a bosal or side-pull. Many use both at different stages. The purpose is to school the horse to "give" its head to the light signal of the reins. You can use these ideas on your horse while schooling. After the horse is going properly, begin neck reining with direct reining until the horse responds to the neck rein alone. This is the phase of training you can use to school your horse – light neck rein and some direct rein in combination.

Don't hesitate to use both hands on the reins. At this point, you are schooling, not showing. After some practice and response from your horse, you will find you can go back to one hand and signal with your fingers.

Neck rein to turn, but do not pull on the neck rein. Just lay the weight of the rein on the neck. At the same time, apply pressure with your leg on the same side as your outside rein. With your other hand, give a light pull on the inside rein. Pull lightly with your fingers, then relax the rein. Pull lightly again, then relax. Continue pulling lightly and relaxing until the horse gives you its head. Don't worry about the full turn yet, you are trying to school your horse into giving its head to the direction of the turn. Work your horse in both directions until it will respond to the weight of the neck rein.

With this style of reining, you will find your style of riding changed also. You will be lighter in the saddle and more in balance with your horse. You will have stopped bracing your body to get force to lift your horse around. You will shift your body to be in balance with your horse, which helps the horse turn more smoothly.

Schooling takes time and patience. Your horse must be schooled when it is calm and controlled. Don't rush things. As you ride, use the reining discussed above to turn your horse around natural objects encountered in your path. Stay at a walk. This gives your horse a reason for turning and it will naturally learn to follow the shifting of your body when you want to turn at other times.

Some riders use bats and spurs to get response by tapping the neck or spurring the shoulder. Some horses need this, but it is important to know when to stop using the bat or spur. Don't get the habit of batting or spurring your horse into every turn. Use bats, whips and spurs as aids to your signals or **don't use them at all.**

More points on use of the hands, legs, feet and body weight as aids in schooling your horse are in the "Horsemanship" section. Learn these points and use them. You will be surprised at the way 1,200 pounds of horse learns to respond to your slightest signals.

XII. Some Basic Horsemanship

There are riders and horsemen. Every horseman is a rider, but not every rider is a horseman.

As the rider, you must learn basic principles of riding and practice them until they become habits. These basic principles will develop your balance, rhythm, confidence, skill and knowledge. As you become a good horseman or horsewoman, you will learn to discipline yourself, have patience, be determined and acquire a desire to know and apply.

Every horse is an individual. Each will respond in a different way to training, and some will learn to do certain movements more easily and rapidly than others. Study how cues are used to tell your horse what you want, and learn how to apply these cues under different circumstances. You will always be learning — this is necessary to become an accomplished horseman or horsewoman.

You must be willing to be patient and take the time to school your horse before trying to perform in the events for which you are schooling. You are on the road to becoming a good horseman or horsewoman when you become as interested in the progress you are making during the schooling of your horse as you are in how it will perform.

Horsemanship is the art of riding in a manner appearing as if it is the easiest thing in the world to do. It can only be achieved when you and your horse are working together as a happy, relaxed team.

The following material will help you in becoming a better horseman or horsewoman. It can be applied to every type of riding with only slight modification. You will learn of different methods used by some trainers and instructors as you become more aware of what can be done with a horse.

Mounting and dismounting

Western

There are two positions considered proper for mounting.

The first position (*Figure 33*) shows the rider standing by the horse's left shoulder with his body facing a quarter turn to the rear. The rider's head is turned so the rider can watch both ends of the horse. This is the safest position to use when you are mounting green-broke or strange horses. It is also easier to place your left foot into the stirrup from this position. Don't let the toe of your boot rake the horse along its side as you swing up. Brace your knee against the horse for support to keep your foot out from the side.

When using this position, it is generally best to take one hop on the right leg and go into the second position briefly as you swing into the saddle.

The second position (*Figure 34*) is used when you are tall enough to stand and place your left foot in the stirrup without moving back to the rear of the horse. You should face squarely across the seat of the saddle. Turn your left foot so the toe of your boot is pointed forward or into the cinch.

In both positions, the reins are held in your left hand with just enough tension to steady your horse. Place your left hand on the horse's neck just in front of the withers. Steady the stirrup with your

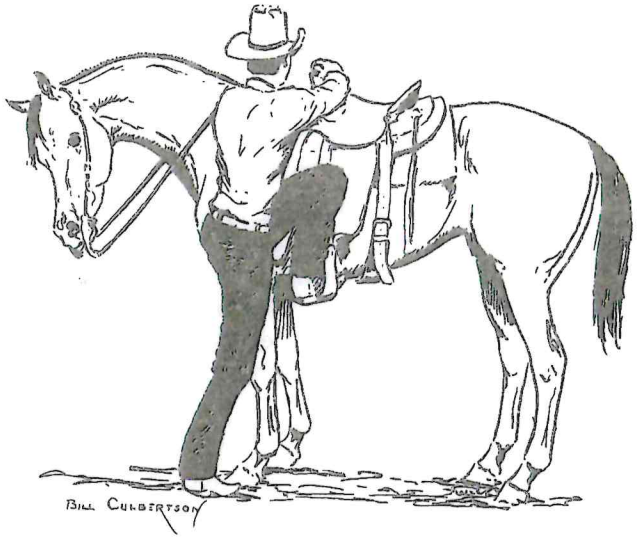


Figure 33.

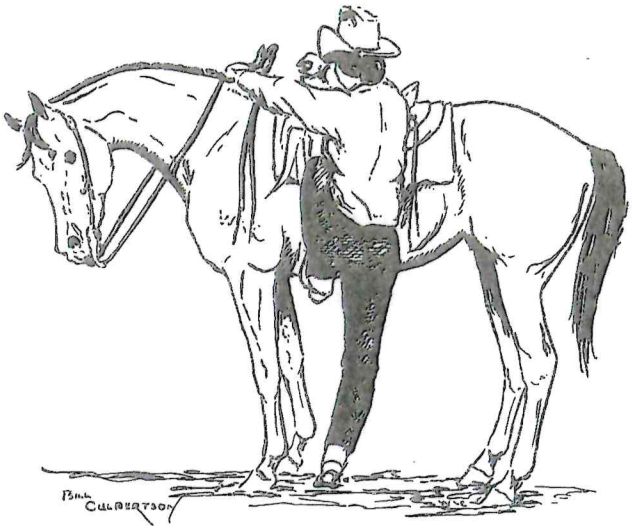


Figure 34.

right hand until your left foot is in the stirrup. Then place your right hand on the saddle horn and your left knee against the horse.

Swing up and into the saddle with a spring, pushing with your right leg. Your body is balanced by the triangular base of support formed by your two hands and your knee. Spring hard enough with your right leg to carry you up and over the saddle with a minimum of weight on the left stirrup. Lower yourself smoothly and lightly into the seat of the saddle. Practice not swinging too high and plopping into the saddle.

If you consistently pull the saddle to the side, you are not swinging up hard enough.

With practice you will mount in a smooth, easy motion faster than these instructions can be read.

Use the same hand positions when dismounting. Take the slack out of the reins to steady the horse, place your left hand (holding the reins) on the horse's neck, grasp the saddle horn with your right hand, loosen your left foot in the stirrup and shift your body weight slightly to your left leg, keeping your left knee in close to the horse. Your right foot should be free of the stirrup.

Swing out of the saddle, keeping your right leg close to the horse without hitting the cantle of the saddle or the horse's rump. Do not swing your right leg in a wide arc. Keep it in close to the near side of the horse so you will be facing slightly forward when your foot touches the ground.

Push down on your left heel to allow your foot to slip out of the stirrup (*Figure 35*). Do not roll your left foot on its side to slip it out of the stirrup.

Face more to the front when dismounting at the faster gaits.

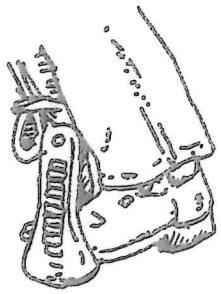


Figure 35.

English mounting and dismounting

Before mounting, be sure the girth is tight. Next, shorten the reins so you can feel the horse's mouth. The reins should be short enough to keep the horse from moving forward, but not so short that the horse moves backwards. The reins should also be the same length — if one rein is shorter than the other, it may cause the horse to move away from you or into you. Stand with your left shoulder next to the horse's left shoulder. Place your left hand in front of the withers and grasp the mane. Turn the left stirrup clockwise with your right hand and put the left foot in. Be sure your toe does not jab the horse in the ribs (*Figure 36*). Hop on the right foot to a position facing the side of the horse (*Figure 37*). In one motion, push off the right foot, grasp the cantle with your right hand, hold the mane with your left hand and swing lightly up (*Figure 38*). Once up, swing the right leg over the horse's rump and sink slowly and softly into the saddle. Then place the right foot in the stirrup. Finally, adjust both reins and assume the basic riding position.

There are two ways to dismount from an English saddle, either stepping down or sliding down. They both begin the same way. Put both reins in the left hand and place the hand on the horse's neck. Place the right hand on the pommel, slide the left foot slightly out of the stirrup, then remove the right foot from the stirrup. Next, swing the right leg over the horse's back without touching it.

To slide down, shift the right hand to the cantle and keep the weight of your body on your hands (*Figure 39*). Remove your left foot from the stirrup and drop lightly to the ground.

To step down, continue the motion of the right leg swinging over the horse's rump and just step down. In one smooth motion, take the left foot out of the stirrup.

After dismounting, run the stirrups up the leathers and bring the reins over the horse's head.

Safety precautions when dismounting, English and western:

- Be sure your left foot is slightly out of the stirrup before stepping down. This is so you can get it out of the stirrup easily if the horse moves.
- Face the horse's body or its head when your right foot touches the ground so you will be in balance if the horse moves forward.

Remember, these techniques are basic. The best techniques to use may vary, depending on the rider's height and size.

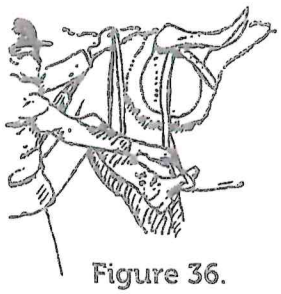


Figure 36.

Figure 37.

Figure 38.

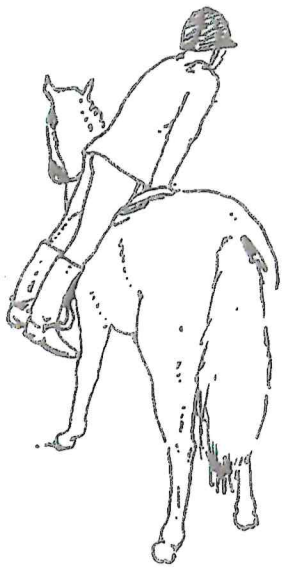


Figure 39.

The seat position — western riding

Position in the saddle is very important for correct use of aids and in maintaining balance and rhythm for ease of riding.

Sit "tall in the saddle" in a balanced, relaxed manner. Keep your back erect and flex with the horse. Do not slump in the saddle and never sit back on the cantle with your feet shoved forward. *Figure 40* shows how not to sit in the saddle. You will find it necessary to change your seat slightly for different types of riding, but the basic principles remain the same. You should sit where the horse can be controlled with aids, in a comfortable riding position and keep your body weight where it will help, rather than hinder, your horse's movements.

Study *Figure 41*. Note how the rider is sitting erect and securely in the saddle. The rider's seat is deep in the seat of the saddle and not up on the cantle. The point of contact is on the rider's crotch and not on the fleshy part of the buttocks.

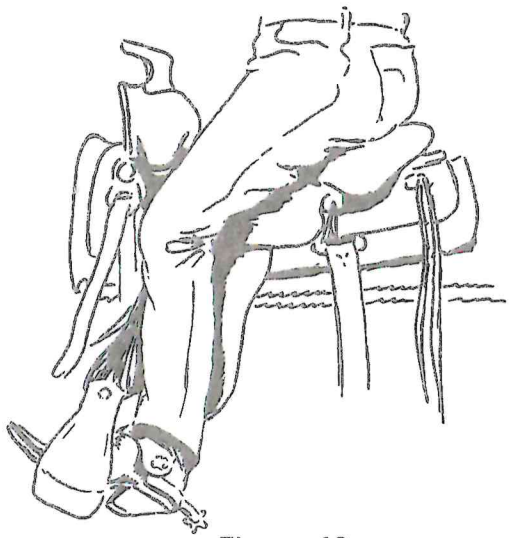


Figure 40.

Light contact with the horse's body is maintained through the rider's inside thigh and the upper calf of the leg. The rider's feet are turned out slightly at a natural angle with the weight on the balls of the feet and the heels lower than the toe.

A line dropped from the center of the rider's shoulder falls near the back of the heel. A line from the point of the knee falls near the rider's toe. Your foot position is nearly correct if you can see the point of your toe as you look down over your knee. As you ride, however, your feet will move forward and back about 1 foot in length from the above position.

Note the rider's shoulders are back, held evenly and the arms are held close to the body. The rein hand should be held just above and in front of the

saddle horn. The free hand is held in a relaxed, not sloppy, position.

Your body position will change slightly in riding the different gaits. These changes are shown under the section on gaits. Study these changes and learn to adjust your body. Remember not to over-exaggerate the degree of change. Learn to flex your body and stay supple, poised and balanced, in rhythm with your horse's motion.

The aids

Your voice, hands, legs and weight are the basic aids used in controlling your horse. Your horse must be trained to respond to these aids. The aids must be applied in a very definite manner in the early stages of training, but as you progress, you will find your horse responding to lighter application of the aids. If all goes well, your horse will eventually respond to very light applications of the aids until they become what are called "imperceptible aids."

Specific aids for the different movements of your horse will be covered under the section gaits and movements, but the following descriptions indicate how the different aids affect your horse.

Voice: Your voice is a very important aid when working your horse. Certain words such as "whoa," "easy" and "back" are readily understood by a horse. Many show horses have learned the words "walk," "trot" and "lope" or "canter" from hearing them when being longed and when used repeatedly in the show ring. Some riders do not use complete words but have developed voice sounds like "hup" to mean something to their horses.

Be consistent, use the same word or sound each time and repeat it often.

Your tone of voice means as much to your horse as the actual words. The tone of your voice indicates irritation, displeasure or pleasure. Always use a low, soft voice when working around your horse. Screaming and yelling will only frighten it.

Hands: Your hands control the forehand of your horse directly by use of the reins. In advanced riding, your actions on the reins will have an indirect influence on the hindquarters.

Good hands are steady, light, soft and firm in their actions. They can be this way only if your body is in balance and in rhythm with your horse.

As you study the sections on reining and rein cues, remember the importance of holding your arms, elbows, wrists, hands and fingers in a relaxed, flexible manner. Hold your reins with a small amount of slack to relieve pressure on the bit while still allowing you to keep a light contact with the horse's mouth. The degree of contact should

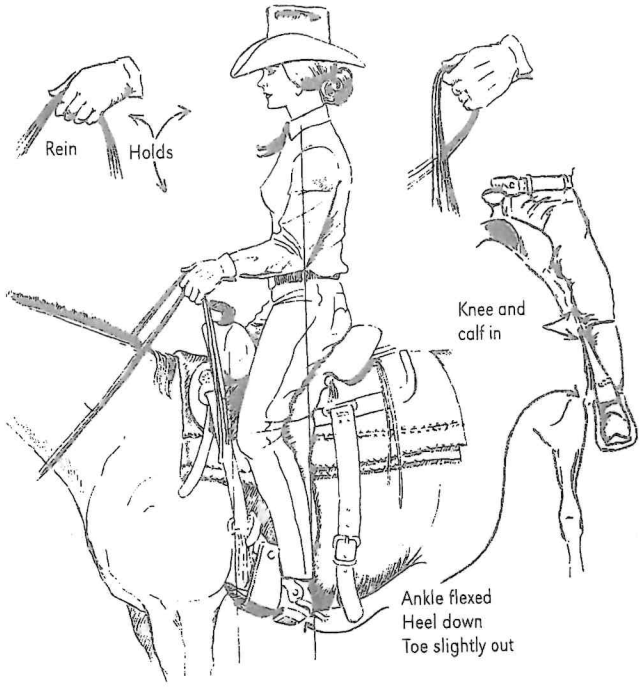


Figure 41.

be just enough to keep your horse working "up into the bit."

Learn to use a flexing motion as you signal or cue with your reins – a give and take action. This can be done by a simple opening and closing of your fingers, if you have the correct degree of contact with your horse's mouth. It is especially important to learn to use two hands on the reins when schooling or polishing the performance of your horse. The proper use of two hands is the mark of a horseman. As your horse responds, you may gradually switch to the use of a single hand on the reins. But if at any time outside the show ring, you think your horse isn't handling as smoothly as you desire, it is wise to use two hands until your horse is corrected.

Learn what it means to "finger" the reins and how your horse will soon respond to cues given by light "fingering." This is not cheating – it is helping your horse learn to react to your cues in a "feather-light" manner.

If you plan to show your horse, study the rules on how you may hold your reins and learn to use the method that allows you to have the softest hands on your horse's mouth.

Legs: Use your legs to both control the forward motion of your horse and to control the hindquarters.

Teach your horse that when you squeeze your legs, it should shift its weight back to its hindquarters, lightening its weight on the fore-

quarters, and be ready to move out. Some western trainers call this, "getting its hind legs under it." Getting your horse to respond to this cue is very important because you will need it every time you move your horse; when you call for a change of gait; as a preliminary cue for stopping; preparing your horse for backing; and as a corrective cue when your horse stops forward motion (gets behind the bit or rears).

You control the hindquarters of your horse by applying pressure with your calves and heels slightly behind the front cinch. As you press with one leg or the other, your horse should respond by swinging its hindquarters away from the pressure, or holding them from swinging against the pressure. When your horse responds to your leg cues properly, you will find less cuing is required by your reins.

You can also control the front end of your horse with your legs. To move your horse's shoulders, apply pressure with the calf and heel of your outside leg at the cinch. If you wish to move your horse to the left, pressure is applied with your right leg in the area of the front cinch. Rein aids will help to reinforce what your legs are telling your horse.

Spurs, whips, bats and crops should be used only to help with your leg cuing. First you press the horse with the calves of your legs (really a squeeze). If your horse doesn't respond, use your heel. Finally, it may be necessary to tap with your bat or touch with a spur — always in the spot where your leg will touch. Give the lightest cue first. If your horse doesn't respond, go to increasingly forceful cues. You are then telling your horse to respond or light discipline will follow. Remember, though, to give the horse time to learn the cues before going to punishment.

Learn to ride in balance, maintaining your position by contact in the seat of your saddle and with your thighs. Use only light contact below the knee so your lower legs can be used for cuing.

Weight: Your body weight becomes a cue when you shift position in the saddle. This does not mean to "throw your weight" by leaning excessively. Actually, you can give a weight cue by putting more pressure on one stirrup than the other; by shifting your seat to press more firmly on one seat bone (this is the same as shifting your seat on a hard chair or bleachers); or by inclining the upper part of your body slightly to be in rhythm with your horse.

As you school your horse, you will find responses coming from very slight weight shifts. If you study the effects of your weight on the horse's back, you see the horse shifts its balance to match yours. As this takes place, certain parts of the horse, especially the legs, are either held in place by weight or left free to move because they bear little weight.

Learning to be a good horseman or horsewoman means learning the effects of the aids, how to combine them to make your horse perform, using them in schooling and, finally, performing with your horse.

Body position and aids in motion

The change in position of your body, the degree of contact with your horse's mouth through the reins and the contact pressure of your legs all change as you ride different gaits. A common fault is to overdo the degree of change. This results in a loose form of riding. You should learn to stay poised, supple and balanced, just as you want your horse's movement to be supple and balanced.

Forward motion: Before your horse can make a move of any kind, there must be "forward motion." Backing is forward motion in reverse.

You can bend your horse's head completely sideways and nothing will happen — it won't move. Also, if your horse tucks its nose against its chest and stops when you are trying to make it back, you can do nothing until you move it ahead. In both instances you have lost forward motion.

The squeeze of your legs causes a horse to collect its body and prepare to move. Action of the reins tells the horse what move to make. Forward motion has begun at this stage and the degree of application of your legs and rein cues governs the amount of force of forward motion.

After forward motion has begun, you will be able to control your horse's movements.

Study *Figure 42*. Keep your horse moving straight and true from the thrust of its quarters. If you don't, it will be like trying to guide the rope in the figure.

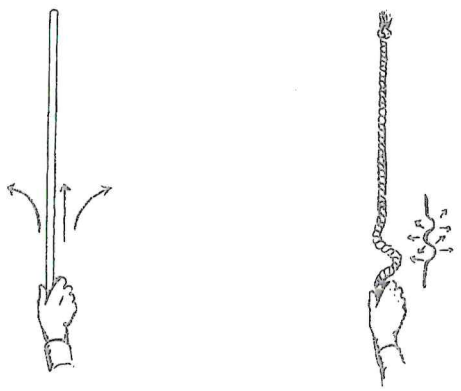


Figure 42.

Walk: The walk is a four-beat gait in which your horse should stride freely and willingly. Your body is more relaxed at the walk, but don't slouch your back and shoulders. Sit erect with your weight on your crotch and not on your buttocks. This position will help keep your horse walking in a brisk, alert manner.

To cue for a walk, settle your position in the saddle, take up lightly with the reins and squeeze with your legs. These cues alert your horse to collect itself and get prepared for some action.

When you feel the horse is collected, release pressure on the reins and squeeze just enough to let the horse move forward. You control the speed of motion by tension on the reins and leg pressure.

The upper part of your body is inclined forward just enough to remain in balance with the forward motion of your horse. See *Figure 43*.

When the horse is walking at a brisk rate, it is relaxing and bobbing its head. The rein tension should be very light to allow free movement of the head and you should be relaxed, but alert, in the saddle.

Slow trot (jog): The trot is a two-beat gait ridden in the western style with your seat deep in the saddle and just enough weight on your ankles to help absorb some of the motion (*Figure 44*). "Posting" a trot is not considered western. At a fast trot, most western riders stand slightly in their stirrups. However, in the show ring western riders should **always** sit the trot.

To cue a trot, apply more leg pressure and move your horse up into the bit, maintaining just enough rein pressure to hold your horse at the desired speed. It will be necessary to shorten your rein length to allow for the natural raising of the horse's head.

Incline the upper part of your body to balance with the rate of forward motion. Body balance is important so you do not get into the habit of balancing by "riding" your reins. Your arms should remain close to your body with your hands and fingers relaxed, flexing lightly with the action of your horse's mouth.

Lope: The lope is a collected, three-beat gait ridden with your seat deep in the saddle and your body inclined forward from your hips to remain in balance with the forward motion (*Figure 45*). Relaxed hands are very important at this gait to allow rhythm with the movement of the horse's head.

Cuing for a lope is done by collecting your horse, shifting your weight back to the horse's outside hindleg and applying sufficient pressure

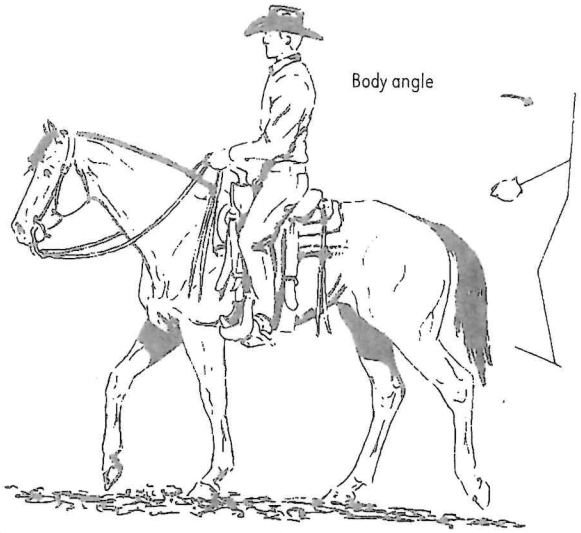


Figure 43.

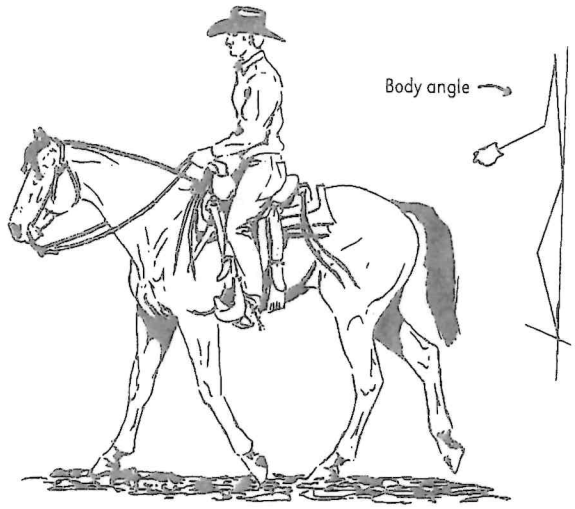


Figure 44.

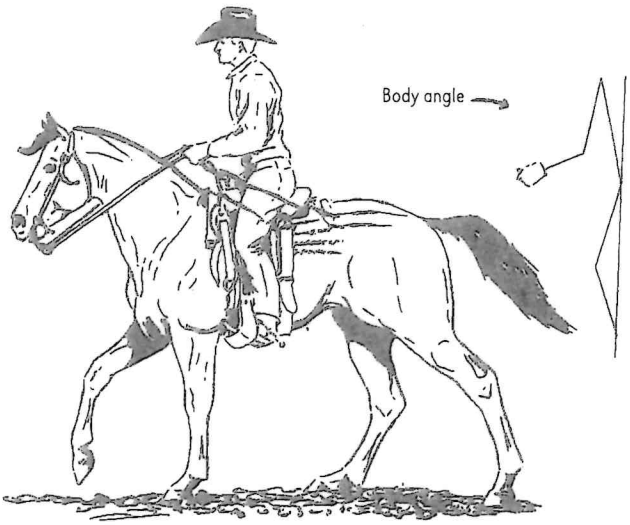


Figure 45.

with your outside leg to instruct the horse to strike out in the proper lead. Train your horse to assume a lope from a standstill, walk or trot. More information on proper cuing is found in the sections on right and left leads.

Work on urging your horse from a trot into a lope in a smooth, fluid change of gait. It will be easier for you to stay in balance and rhythm if a smooth change occurs.

A lope is not a fast gait. The horse is working off its hindquarters, light in the forequarters, with a rhythm in its action making this gait a pleasure to ride if you are in balance.

Keep your body weight over your feet with slight pressure on each stirrup to help keep your balance and to allow your ankles to flex to absorb some of the weight. Your heels should be down with your toes turned out at a natural angle and your lower legs maintaining a light contact with your horse's body.

Some general pointers: Practice the proper cuing until your horse will move into any gait lightly and smoothly. This will help you keep your balance and avoid any punishing of your horse's mouth and sides with the reins or spurs, which will occur if you lose balance.

Make it a habit to get light control of your horse with the reins before cuing with your legs to avoid the horse charging out and then having to be pulled back.

Try not to pull back on the reins when checking or stopping your horse. If you keep your horse working "up in the bit" lightly, you can check it or stop it by applying a resistance on the bit when you close your fingers or hold your hands steady instead of flexing them.

Backing

Backing is unnatural and hard on a horse. Be patient and ask for a step at a time. Stop when the horse begins to resist enough to stiffen and refuses to move. Relax it by stepping it ahead and rewarding it with a pat and soft words. Then try again.

Your body position for backing should be erect in the saddle with your weight slightly forward from the horse's loin to prevent interference with the hindquarters (*Figure 46*). Grip with your thighs.

Squeeze with your legs to collect the horse while maintaining light rein pressure to prevent it from moving ahead. When your horse is collected, use the word "back," flex with your reins lightly, fingering each rein alternately and continue squeezing with your legs. You are asking the horse for forward motion, but in reverse.

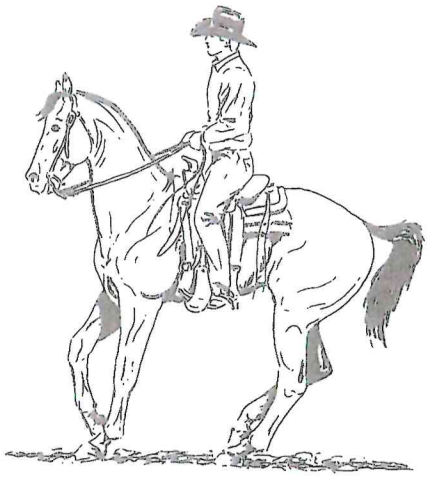


Figure 46.

Hold your reins low to allow your horse to flex at its poll and tuck its nose. Use the light flexing pull on each rein alternately so your horse will keep its jaws and neck muscles relaxed. If the horse stiffens its jaw and neck muscles and refuses to move, loosen the rein pressure and use your legs to urge it ahead a few steps, then start over as soon as the horse is relaxed. Work to keep your horse relaxed and light in its head, neck, and forequarters.

Control the direction of backing by the degree of pressure of one leg or the other.

As schooling progresses, increase the length of backing to the point where your horse will continue to back until you release your leg pressure and drop the reins on the neck.

Stops

A good stop is a balanced, smoothly executed stop with the horse's hindquarters well under its body to balance its weight, and the forequarters, neck and head are kept light. Study *Figure 47*. Notice the horse is balanced and ready for action, whether it be to settle and stand, move on ahead, pivot or roll back and dash off in another direction.

Figure 47.

Timing is very important when asking for a stop, especially from a lope. Use a preliminary cue to alert your horse that a stop is coming, allowing it time to adjust its balance in preparation. This preliminary cue may be a quick tap on the neck just in front of the withers, the voice command "whoa," a light flex of your reins or a squeeze of your legs. Whichever cue you use, give it a second before applying the stop cue.

Cuing for a stop should involve the following actions. Squeeze with your legs to get your horse to bring its hind legs under its body to balance for the stop. Use a firm, flexing (give and take) pull of your reins (preferably alternating the pull from one rein to the other) in time with the horse's rhythm. Try to flex your reins in rhythm with the horse's leading foreleg hitting the ground – this is the moment when the horse is bringing its back legs forward.

Sit erect, "settle" your seat into the saddle with your body weight forward, and grip with your thighs. Push down on your heels to help absorb the shock. Do not get the bad habit of thrusting your feet forward, throwing your weight back, and "hauling" back on the reins.

School your horse to stop easily on the cues at a walk, then a trot and finally at a slow lope. This will allow you time to perfect your cuing and timing and give your horse time to learn what the cues mean. You will work more softly on your horse's mouth by going slowly at first. Get the rhythm, feel and response from your horse before attempting to stop at a fast gait.

When stopping at the slower gaits, make your horse stop completely and stand, preferably on a slack rein. Do not let the horse walk out. It is wise to vary the time of standing so your horse will not anticipate a short stop and begin to move.

Don't rush your schooling. You are making progress when you feel the horse's hindquarters sink under you slightly when you stop. Keep working for light response and don't overdo the number of times you ask for stops. As you work, be sure to vary the places where you ask your horse to stop so it will not anticipate a stop when it passes a certain point.

Turn on the forehand

Your horse should be taught to move or hold its hindquarters in response to pressure from your heel or calf applied just behind the front cinch. This control is very important in backing, side passing, two tracking, holding the hindquarters on pivots and roll backs and obtaining correct leads.

Turning on the forehand means your horse will hold its forelegs in a small area and step with its hindlegs in a circle around the forelegs in response to pressure from your outside leg.

Start training for this movement from the ground. In fact, a horse trained properly for halter showing will respond quickly and easily to your cues.

Begin with a swing to your right. Stand by your horse's near shoulder and grasp the lead shank with your left hand. Pull your horse's head slightly to the left to bend its backbone. Use a short hold on the lead shank to steady the head and keep your horse from moving forward or back. Now push with your right hand at the same spot on your horse's barrel where you cue with your heel when you are mounted. You may need to push or tap with the stirrup, a stick or the butt of a crop, but use care. Push or tap just enough to get your horse to take one step at first – then reward it with a pat on the neck. Don't expect a full circle right away.

Now go to the off side and work on a turn to the left. Hold the lead shank in your right hand and push on the horse's barrel with your left hand. Work from both sides as you school (*Figure 48*).

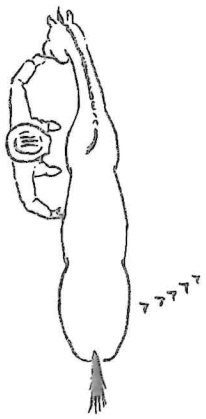


Figure 48.

After your horse responds to cues from the ground, try working when mounted.

Use two hands on the reins at the beginning and learn the degree of tension needed on each rein to bend the horse's head while steadying the head and forehand in the position required. Do not neckrein – this is a cue to move the forehand – but use the inside rein to bend the horse's head and the outside rein to steady the horse. Keep your hands and reins out to the side. Bend the horse's head until you are just able to see its eye. Keep your hand light, soft and flexible.

When you feel the front of the horse is steady, lightly brace against the reins and begin cuing

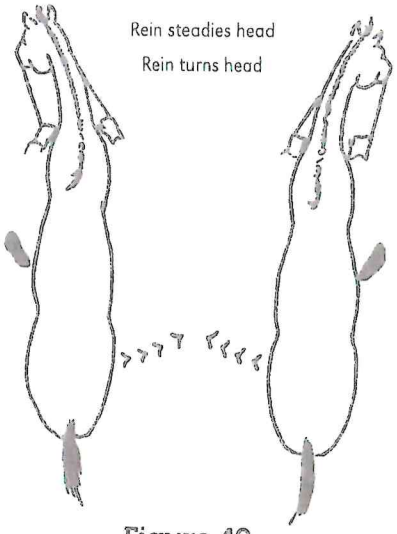


Figure 49.

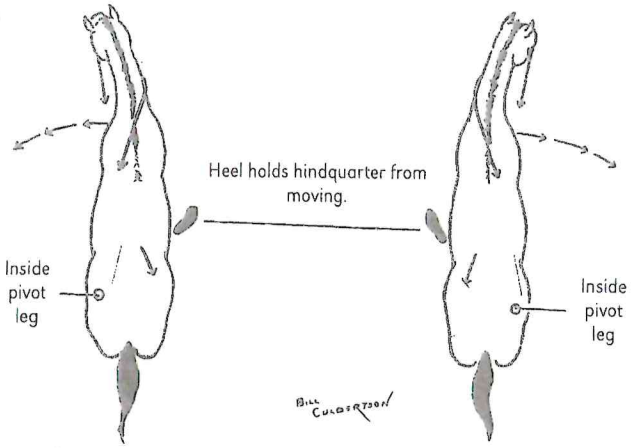


Figure 50.

with your outside leg or heel to start your horse moving its hindquarters away from your leg. Use your outside leg (the left leg, for a swing to the right and the right leg for a swing to the left). Study *Figure 49*. Note the position of the reins and the foot used to cue.

Work patiently and firmly. When you get the first couple of steps, let your horse relax and reward it with a pat on the neck and a few kind words. Work a step or two at a time until your horse has learned to balance its body.

Control is important. Your horse should do a full circle or be under control enough to stop at any point on the circle.

Turn on the hindquarters or pivot

The turn on the hindquarters is opposite the turn on the forequarters. Your horse will step its forequarters in a circle around its hindquarters. The back feet remain within a small area at the center of the circle. The inside back leg is the pivot leg.

The turn on the hindquarters is the basic movement for controlled, smooth, fast turns in pivots, roll backs, pole bending, barrel racing and working cattle. The horse learns to roll back over its hocks.

Study *Figure 50* for the cues for this move. Tuck the nose very slightly opposite the direction of the turn to take weight off the inside foreleg. At the same time, bring your hands back and rein in the direction of your inside hip, which is also in line with the horse's inside pivot hip. Shift your seat (body weight) slightly back to the horse's outside hip and press lightly with your outside leg to stop the horse from swinging its hindquarters.

To turn to the left, tuck the horse's nose slightly to the right; rein back to your left hip as if to lightly lift the horse's front around, shift your seat to the horse's right hip, and hold your right leg against the horse's barrel in the area of the front cinch. For a right turn, use the opposite cues: tuck the nose to the left, rein back to the right hip, shift your weight to the horse's left hip and hold your left leg against the horse.

These movements require study, patience and practice. It is natural for a horse to spin both ends around a center point of its body like a spinning bottle. You are attempting to shift the pivot point back to the hindquarters — to the inside back leg. To keep control, you must begin a step at a time and not let your horse rear and spin. The crucial points occur at about each one-quarter of the circle. At this stage, your horse must move its back legs, and it is natural for it to step sideways rather than to lift its feet and put them back down. If you are not alert, the horse will move before you can stop the swing with your outside leg.

Move the front quarters a step at a time, always under control. When you are about to complete a quarter turn, stop and hold until your horse has shifted its back legs and is again in balance before going into the next quarter turn. As your horse learns to balance over its hindquarters, you will find the forequarters moving around in a smooth, controlled circle.

When this is accomplished, you can pivot and roll back your horse without rearing, lunging and uncontrolled turns.

Side pass

The side pass is the movement of your horse sideways, stepping to the right or left with both the forequarters and hindquarters moving evenly together. The horse should have slight forward movement so the legs cross in front of the opposite supporting legs.

Side passing is necessary for smooth opening and closing of gates.

Figure 51 shows the cues used to side pass. You will cue with the reins, your weight and your legs.

To side pass to the right, use the left rein to turn your horse's head slightly to the left and hold light contact with the right rein to make the horse move to the right. At the same time, shift your body weight to the left (away from the direction of the side pass) and use your left leg or heel to move the hindquarters to the right. The reverse cues are used to side pass to the left. The right rein tucks the nose to the right slightly, the left rein moves the forequarters to the left, your weight is shifted to the right and you use your right leg or heel to move the hindquarters to the left.

You will need practice to learn the "feel" of the correct rein tension needed to move the forequarters to the side without making the horse back or move forward. Face a fence or the side of a barn to keep the horse from moving forward. If the horse backs, relax tension on the reins slightly and use your legs to move it up into the bit again.

You will notice a "seesawing" action at first, so be patient and work quietly until you get the proper "feel" and your horse learns what you want and how to balance its body while doing the movement. When your horse is trained, you will be able to neckrein the forequarters with light rein action while cuing the hindquarters with your legs.

Two track

Two tracking is the movement in which your horse moves forward in a diagonal direction with its front feet and back feet making two sets of parallel tracks (*Figure 52*). A horse trained to two track will quickly learn to take the simple change of leads.

Work on the two track should only be practiced for a short time and always be followed by energetic forward movement. On both the side pass and two track, the body of the horse should remain parallel to the long side of the course or arena in competition or at inspection time. The pace should remain regular, supple and free.

Two tracking is excellent for developing muscle, coordination and a supple, athletic body on your horse. Begin at the walk and then go to the trot and lope.

Cuing for the two track is the same as cuing for a side pass; however, rein tension must be lighter and you will need more leg or heel pressure. You want your horse to move forward at an angle so more forward motion is needed. This is obtained by holding the reins in the same positions, but

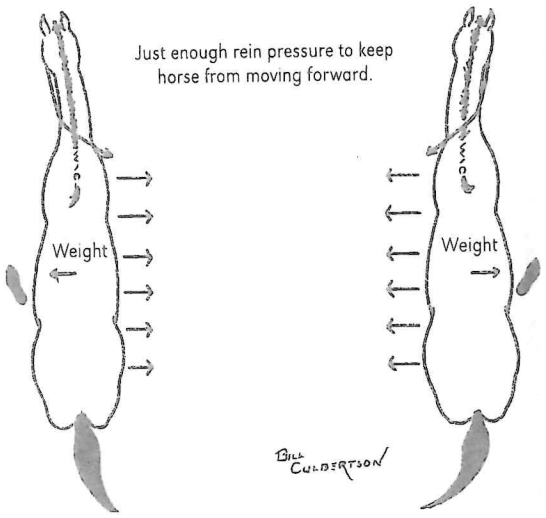


Figure 51.

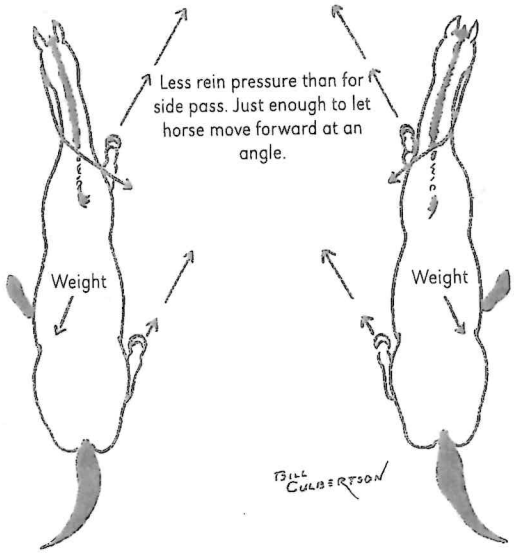


Figure 52.

much lighter and pushing your horse forward as well as sideways with more leg pressure.

Some horses begin a two track more easily at a jog trot because they have more forward motion to help them move. Take advantage of this to get the "feel" of cuing and then school at the walk. When your horse will two track at the walk and trot, try at the lope.

As rider and mount become more proficient at the early two track training illustrated in *Figure 52*, more advanced two track training will become necessary. Study *Figure 53*. It suggests the horse be bent round the inside advancing leg of the rider. The horse's body is now bent away from the direction to which he is moving. The horse should not be at an angle of more than 45 degrees to the

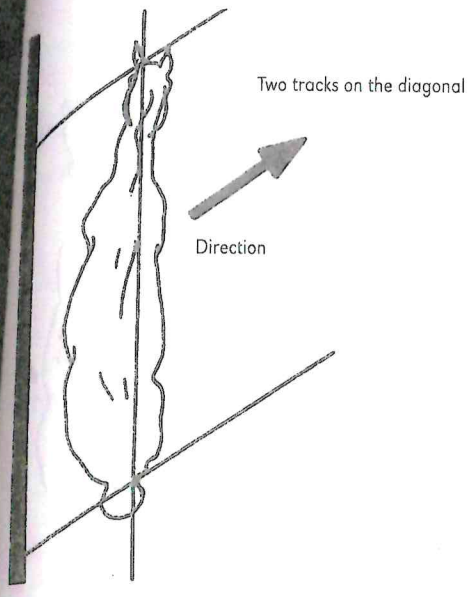


Figure 53.

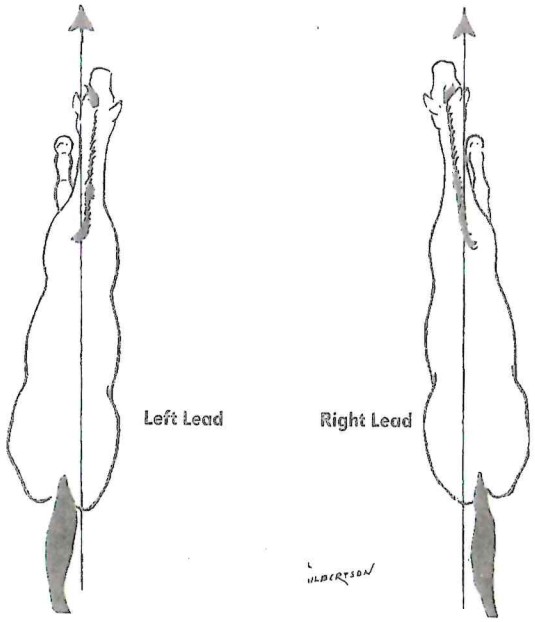


Figure 54.

direction in which he is moving. Good flexion at the pole is now evident as all advanced two track movements require the horse be bent in the direction he is looking. Further training on leads, circles and figure eights will also find the best performing horses bent toward the direction they are looking.

Leads

The correct lead: When your horse is loping, cantering or running, its body is moving at a slight angle to the direction it is traveling (*Figure 54*). This happens because one pair of legs (one foreleg and one hind leg) on the same side of the horse's body are reaching farther ahead, or "leading," the pair on the other side of its body. If the left foreleg and left hind leg are moving ahead, the horse is in the "left lead." In a "right lead" the right foreleg and right hind leg are reaching farther ahead. If one foreleg and the opposite hind leg are leading, the horse is "cross leading."

The correct lead is very important when circling or making tight turns. The legs on the inside of the circle should be leading. A horse will naturally take the proper lead or change leads when running free, but will not do this when carrying a saddle and rider. Show ring rules place a great deal of judging emphasis on proper leads. A well-trained horse will change leads at the will of the rider.

You should learn to know which lead your horse is in. You can check by looking at the point of your horse's shoulders. The point of the leading shoulder is moving farther ahead of the other shoulder. Do not develop the habit of leaning forward to see the horse's legs.

Training your horse to assume the lead you want requires patience and practice. Most horses favor one lead over the other. Work on getting either lead, but spend a little more time on the weaker lead by loping in a circle requiring that lead. Keep the lope slow and easy when schooling so you can cue properly.

Your horse should be trained to assume the correct lead at a lope directly from the walk and from a trot. At any time the correct lead is not taken, slow the horse to a walk or trot and try again.

The cues for obtaining either lead are shown and described. Study and learn these cues and use them until they become habits. Have control of your horse's head before cuing with your legs or your horse will charge out, throwing you off balance and disrupting your cues. School your horse to move smoothly into a lope. This will make it easier to apply your cues with proper timing. Work on cuing your horse into a lope from a swinging trot. The trot is a diagonal, two-beat gait with alternate fore and hind legs working together. Time your leg cues for a lope when your horse is supported on the hind leg opposite the lead desired. This will allow the horse to push off with this hind leg and bring the leading hind leg forward.

When your cues and timing are correct and your horse is working willingly, you will feel a slight lifting of your horse's body on the lead side as it takes off. This results from the horse shifting its weight back to the rear leg and readying to lightly spring forward and reach out with the leading hind leg.

Remember, if you rein your horse into changing leads, it will change in front but does not have

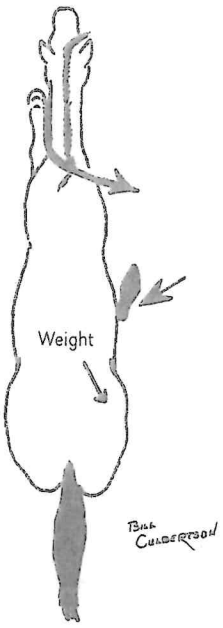


Figure 55.

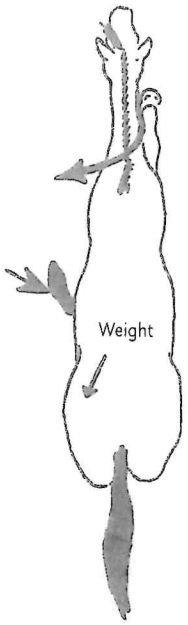


Figure 56.

to change in back. Many don't. Use leg pressure to get the horse's hindquarters changing first. If you get the change in the hindquarters, the front quarters must follow.

The following cues are used by many western riders. In early schooling they must be applied firmly, but as your horse progresses you will find a lighter, more subtle application of the cues will work. When used properly, you will find an improvement in riding circles, figure eights, serpentines, quadrilles or just turning.

The left lead: Use your reins to tuck the horse's head slightly to the left (*Figure 55*). At the same time, sit back and shift your seat very slightly to the horse's right hip. Apply pressure with your right heel to signal your horse to move out.

The right lead: Tuck your horse's head slightly to the right. Sit back and shift your seat very slightly to the horse's left hip (*Figure 56*). Apply pressure with your left heel.

Some general tips

Use two hands on the reins when schooling your horse. Keep the horse working "up in the bit" with a light feel of its mouth in your hands. This allows you to "feel" your horse and to help it learn to position its body. As your horse learns and responds, you will get results by light fingering of the reins. The only place two hand schooling is not allowed is in the show ring. Good trainers are, however, constantly using two hands to polish the performance of their horses.

Using two hands will help your body balance. Your horse will work more smoothly and you will find yourself in rhythm with its motion.

Don't try to neckrein too soon. Learn to neckrein by laying the weight of the rein against the horse's neck – don't pull on the neckrein. Until your horse learns to respond lightly to the neckrein, use the inside rein to tuck its nose into the turns and neckrein at the same time. Gradually, switch to the neckrein alone.

As your horse learns to respond to leg cues, you will find it less necessary to use full rein cues. Your horse will respond to light fingering and light vibrations through the reins to the bit.

Your horse will become lighter and more responsive as you school and cue correctly.

English riding

A. Rising or posting trot—diagonals

The trot is a two-beat, diagonal gait. That is, the left front and right hind legs move forward together as the right front and left hind hooves hit the ground. All riders (regardless of seat or style) should learn to sit the slow trot. However, saddle and hunter seat riders must learn the rising or posting trot as well.

This posting or rising trot means rising slightly up and forward out of the saddle on alternate beats of the trot. Although hunter seat riders lean a bit farther forward than saddle seat riders, the position is not exaggerated in either case and the legs remain still, not swinging. The hands are steady, moving slightly with the motion of the horse's head with a steady, even tension on the reins.

To learn the posting trot, begin by rising an inch or two in the saddle as the horse's right front leg comes forward at the walk; then sink gently back in the saddle as the left front leg comes forward. To keep from looking down instead of where you are going, count cadence, "Up, down, up, down" or "Forward, back, forward, back" so balance is achieved. Move on to the slow trot and finally the faster, extended trot. If you tend to lift your hands when riding, take a bit of mane in your hands or strap an old belt or stirrup leather around the horse's neck and hang onto that.

When riding straight, it is not important which leg or diagonal the rider rises on as it is changed frequently so as not to put undue pressure on one pair of legs. When circling, however, it is important to be on the correct diagonal. When circling clockwise, rise as the left front leg is moving forward. When circling counterclockwise (*see Figure 57*), rise as the right front leg moves forward. If the rider is on the incorrect diagonal, he should sit one or three beats of the trot to put himself back on the correct diagonal.

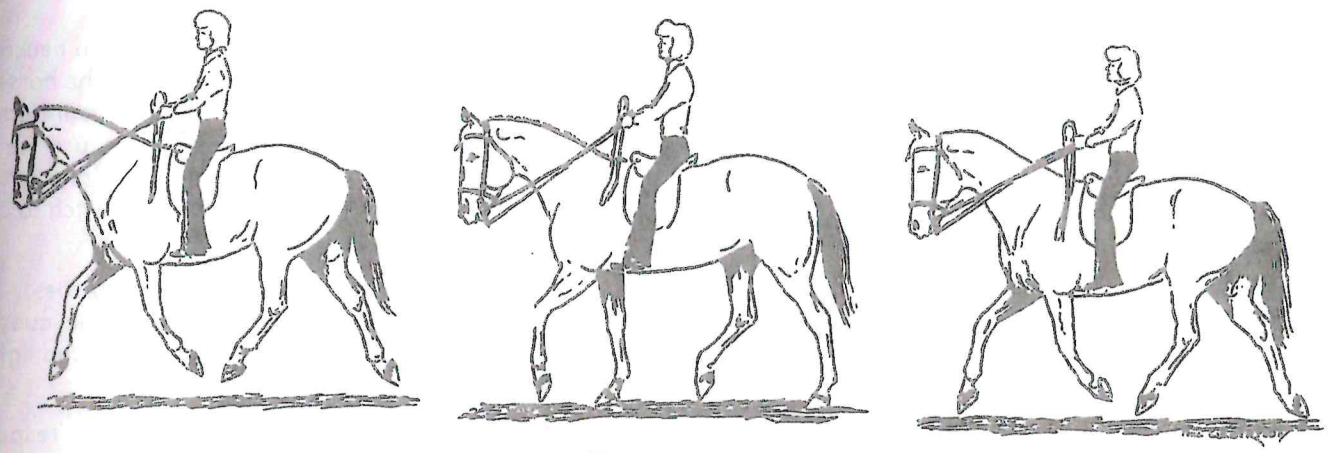


Figure 57.

Being on the correct diagonal is needed so when doing so, the horse's legs are in the best position to bear the full strain of the rider's weight.

B. Canter

To canter in a straight line, saddle seat and hunter seat riders should first take up a contact on the horse's mouth. Sit down in the saddle. Create pressure on the horse's sides with one leg on the girth (shifting weight slightly to that leg) and the opposite leg a little behind the girth.

English riders should lean slightly forward. When the horse begins to canter, sit in the saddle and move with the motion of the horse. When cantering in a circle, it is important to be on the correct lead. To put the horse on the correct lead when circling clockwise, make sure the left leg is the one behind the girth and shift the weight slightly to the inside. When cantering counter clockwise, use the right leg behind the girth and shift the weight to the left.

When cantering in a circle, turn the horse's head to the inside so its spine is bent in the curve it is following. Never canter a horse with its nose to the rail as it will not only be bent incorrectly, but it also will be unable to see where it is going!

If a small rider has trouble beginning a canter, use a whip behind the girth (not on the horse's shoulder). Very young and inexperienced riders need not be overly concerned with leads. It is more important in the first lessons that they get their balance and the motion of the horse.

Common faults at the canter are stiffness in any part of the body, which causes the rider to bounce, leaning too far forward and letting the lower leg slip back too far.

C. Turns

Although turns can be performed at any gait, it is easiest to learn them at the walk. There are two main kinds of turns and two sets of aids (signals) for them. Both turns work on the principle that a horse will move away from pressure on his sides. The diagonal aid turn, described below, is the most common turn used by pleasure horsemen.

Diagonal aid turn — Use this when making circles, half circles, half circles to reverse or serpentines. These turns are easy to perform and most riders pick them up very quickly. To turn right (using diagonal aids), a saddle seat or hunter seat rider creates pressure on the right rein and at the same time squeezes with his left leg.

The rider turns right by letting his left rein fall against his horse's neck, and at the same time, the rider squeezes with his left leg.

This turn is not a true diagonal aid turn as the opposite rein and heel are not used. Early on, the rider may need to use a direct rein. It accomplishes the same thing as the diagonal aid turn and is often taught (to a young horse) as a diagonal aid when bit reined.

To turn left, reverse the aids. Hunter seat and saddle seat riders create pressure on the left rein and squeeze with the right leg.

These methods bend the horse's body in an arc, encouraging it to move in to curve. The leg aids are the most important factor in turning. The use of legs and shifting weight will help develop a lighter and lighter hand!

Another valuable turn, the lateral aid turn, is described below.

Lateral aid turn — Use these turns for opening gates, learning pivots, roll-backs, turns on the quarters or turns on the forehand. These turns do not make circles and are best learned at the halt. When they are practiced in motion, lateral turns are very useful for a horse who "over bends," or lets its hindquarters drift toward the inside of circle.

To turn right, the saddle seat or hunter seat rider creates pressure on the right rein and, at the same time, squeezes with the right leg.

To turn left, reverse the aids (*Figure 58*).

D. The half-halt

The half-halt is an extremely important exercise for a rider to know to improve collection and vertical flexion. The half-halt is the signal to the horse that you are going to change something – direction, gait, speed or to execute a new movement of any kind.

The half-halt is a momentary pause on the part of the horse, at which time his balance is shifted more to the rear and over his hocks. If you are watching a horse and the rider apply a half-halt, it will appear the horse hesitates in his stride but does not lose his forward impulsion; then continues on at the same rate, cadence and gait as before.

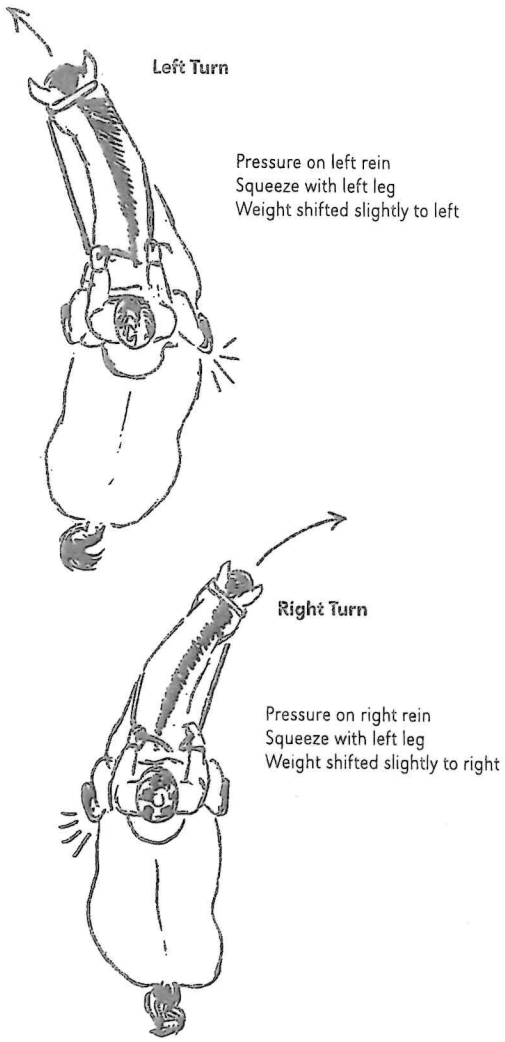


Figure 58.

The proper execution is as follows:

With reins in both hands, the rider fixes his hands and braces his back, squeezing his legs. At the same time, he closes his fingers on the reins in a squeezing motion, much as if squeezing a sponge, to gradually increase the rein tension. As soon as he feels the horse check, but before it stops, the rider releases the tension on the reins enough to keep the horse moving forward but maintaining contact on the mouth. All the while, the legs keep contact to maintain forward motion.

As the rider and horse become more accustomed to this movement, the lighter the aids become. Eventually, the rider can achieve a half-halt at any gate by merely tightening the fingers and bracing the back.

The half-halt may be used with either one rein or two. One rein may be used to steady an excitable horse or to alert him to a change. It may also be used to correct a horse's head position when traveling on a straight line with the head bent to one side. In this case, frequent half-halts on the side away from that to which the horse bends will correct this bad habit.

For horses that are heavy in the forehand and tend to bore down into the bit, the half-halt is invaluable. To correct or improve this situation, the rider should demand a half-halt every few minutes throughout a training session. Care should be used, however, on horses that tend to overflex, as this movement tends to encourage them to overflex and get behind the bit.

E. Saddle seat

A saddle seat begins by sitting comfortably in the saddle with a slight knee bend. Adjust the stirrups so the irons support the balls of the feet. The rider's heels are down and the foot position is natural – neither extremely toeing in nor out. The back is straight and erect but not rigid. At a walk, there is a little motion in the saddle, but otherwise the position is the same as at the halt.

The height of the rider's hands is determined by the position of the horse's head. The reins and forearm form a straight (but not rigid) line from the horse's mouth to the rider's elbow. The bight (or ends) of the reins are always allowed to fall to the off (right) side.

At the rising trot, the rider rises slightly in the saddle, but his or her hips remain under the body. There is no swinging forward and back and no leaning forward.

At a canter, the rider sits close in the saddle moving gently with the motion of the horse.

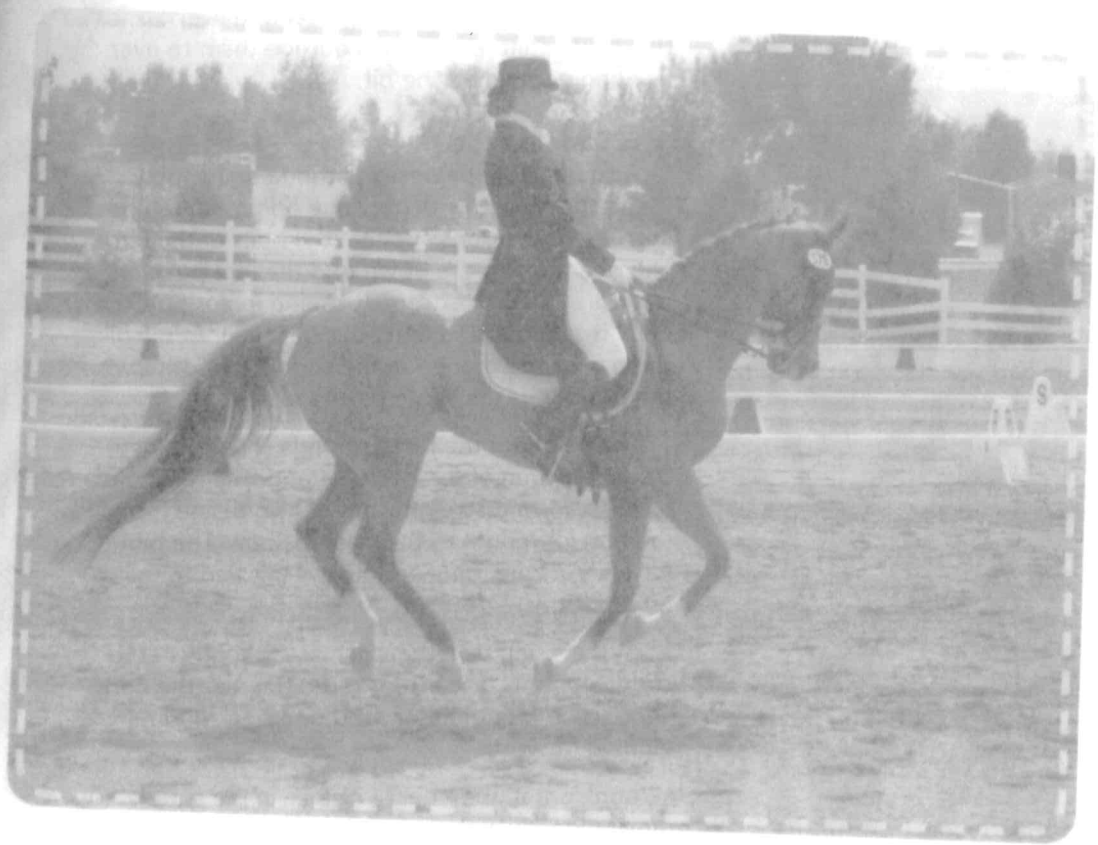
Any style of holding the reins is acceptable as long as both hands are used and all the reins are picked up at one time.

F. Hunter seat

At the walk, halt and sitting trot, a perpendicular line dropped through the rider's ear should hit his hip bone and ankle. The ankles are flexed in slightly and the toes are at an angle suited to the rider's conformation (neither extremely out nor in). Stirrup irons should be on the ball of the foot, centered on the iron and the heels must be down. The rider should sit squarely in the deepest part of the saddle.

The hands are held over and in front of the horse's withers (about one fist's width in front of the pommel and one fist's width above it). The hands are held slightly apart (about one fist's width) with the knuckles approximately 30 degrees inside the vertical. The reins and rider's forearm should form a straight, but not rigid, line from the horse's mouth to the rider's elbow. The method of holding the reins is optional but all reins must be picked up at the same time. The bight of the reins (ends) may fall on either side.

At the rising (or posting) trot, the rider inclines forward slightly from the waist. At the canter, the back is halfway between the rising trot and walk position. Elbows must be close to the rider's sides and the knees close to, but not gripping, the saddle.



XIII. Fitting for Show

Many 4-H'ers choose to exhibit their horses in some type of horse show during the year. Show ring preparation begins early with proper training, feeding and grooming to show your horse at its very best. A good deworming program and feeding program for maximum body growth and bloomy body condition will not only make your horse look its best, but will also help its performance.

The points given in the section on grooming and training are important for fitting and training for show. Use a common household dusting cloth for a wiping rag. It contains just enough oil to leave a gloss on the hair.

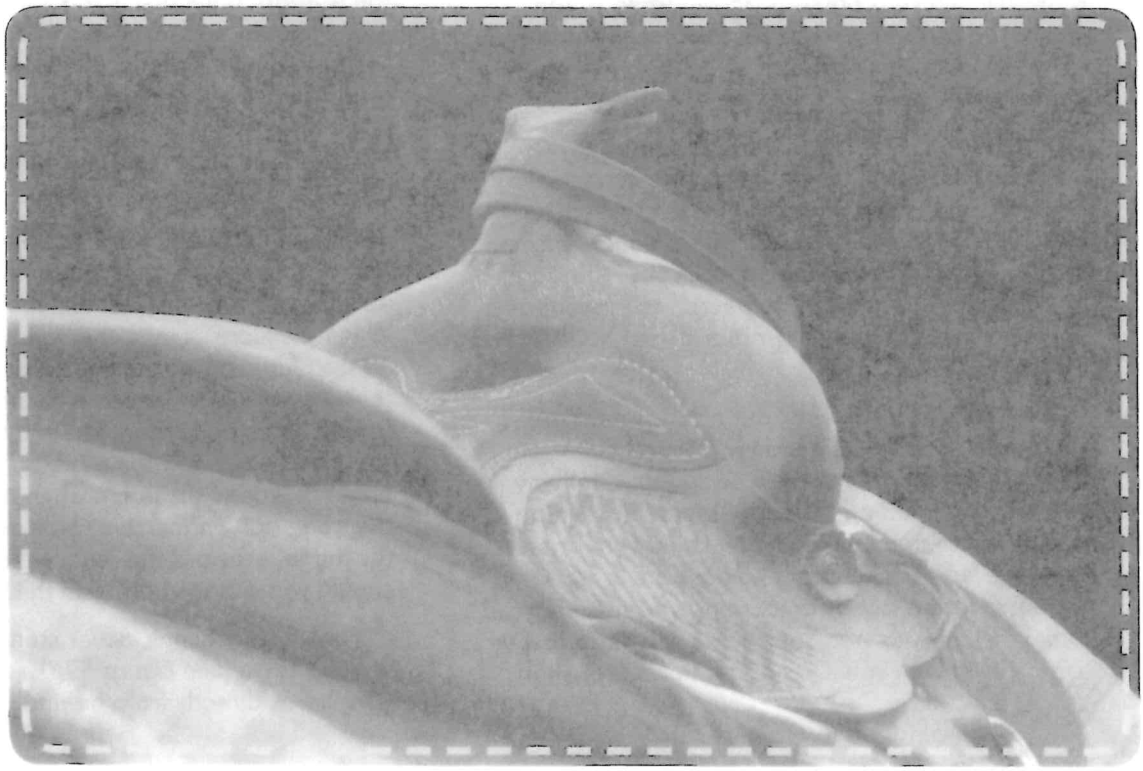
Clipping can enhance your horse's appearance and make it look well-kept. Trim the long body hairs on the belly, the fetlocks, the line of the lower jaw and on the ears. The inside of the ears should only be clipped for higher levels of competition. If clipped out, be sure to apply fly wipe to the insides of the ears to keep them free of irritating flies and other external parasites. Be sure your horse is clean around the tail, between the legs, around the eyes and nostrils and that all hooves are clean and properly trimmed.

Exercise is important. Exercise your horse at least 15 to 20 minutes daily. The longe line works well for this.

Your horse should be trained to stand quietly and squarely, move forward and back, set up fast and lead out smartly at a walk and a trot. Do not kick the horse's legs to move them. Learn to move the legs so they stand squarely by using the lead rope and your hand.

The horse is ready. Are you? Dress up. Wear a clean, pressed shirt. Have clean, pressed pants, a coat or neat jacket if it is not too hot, a tie that looks good. Your hat should be clean and in good shape, your boots clean and shined.

Always act in a courteous manner. Don't train or discipline your horse in the ring. Be a good sport.



XIV. Showing at Halter

Halter showing is an art. You, as an exhibitor, are in the arena to show your horse to its best advantage.

Remember the judge wants to see your horse — its conformation, soundness and natural action. Have pride in your horse and your ability to show it. Learn to show your horse in a manner that will bring out its natural grace and beauty as it stands or moves.

Study the following points on halter showing. Many seem simple, but many people forget to do them. Use them and you will become a better exhibitor.

General points

Have your horse in condition and properly trained before a show. The coat should be clean, the mane and tail trimmed as required by breed standards and the hooves should be trimmed and clean.

Use neat, well-fitted equipment. Most 4-H halter horses will be shown with a halter. However, if you exhibit in some larger shows, study the rules for changes. Generally the Western horse and the English-type weanlings are shown under halter. The most popular halters are strong leather or nylon horse halters with a leather or flat nylon lead strap. If a chain is used, it should be run through the halter ring on the left side, under the jaw and snapped on the right side. If you choose to use a chain in a show, practice with it at home. Make certain your horse is accustomed to the feel of the chain under its chin. Horses that are to be ridden under the English saddle may show under bridle.

Hold the lead strap in the right hand 8 to 12 inches below the halter. Smaller and younger exhibitors may need a longer hold on the lead strap. It is important to let the horse's head move freely. Hold the excess lead strap in your left hand in loose coil. This is a safety method to prevent any of the coils from tightening around your hand if a horse should bolt.

Train your horse to walk out at the same rate you are walking. You should walk together so your body is even with the horse's neck about halfway between the head and the shoulders. Move in a brisk, alert manner. If you have trained your horse to walk evenly beside you, it is possible to work the horse into a trot by quickening your own pace into a fast walk or trot. Your horse will move faster to stay even with you. Do not get in front of your horse or try to pull it into a trot. If it is well-trained, your horse won't trot out for fear of stepping on you. Always work from the side.

In the show ring

Be on time when the class is called.

Enter the ring at a brisk walk and watch the ring steward for instructions on where to go.

Remember, even though the ring officials may be checking entries, the judge may be sizing up the entries as they come in, so stay alert.

When instructed to line up, go around the line and enter from the rear in the position indicated. Line up evenly with the others and set your horse up. Stand your horse quickly, then watch the judge.

Don't crowd the other horses. Allow room between your horse and those on either side. If the class is lined up head to tail, don't crowd the horse in front — you might get kicked.

Remember that horses are more nervous animals than dairy or beef cattle. In the horse show ring, you must stay alert to prevent your horse from hurting other exhibitors, and you must watch all horses near you so you do not get hurt.

Showing

Once set up, the horse should be presented in such a way as not to distract the judge's attention from the horse. It is important to remember the primary objective is to show your horse. The judge should have a clear, unobstructed view of the animal at all times. The exhibitor must be in a position to watch both the judge and the horse at all times. The method of presentation preferred by most judges for youth exhibitors is the QUARTERS SYSTEM.

In the quarters system, the horse is divided into four equal parts, or quarters, as seen in *Figure 59A*. (Note: The quadrants will be labeled A, B, C and D.) When the judge is in A, the handler should be in B. As the judge moves to D, the handler should move to A. As the judge goes into C, the handler moves to B. When the judge moves to B, the handler crosses to A. In this pattern, the exhibitor stands on the opposite side of the horse when the judge is toward the front, and on the same side as the judge when the judge is toward the rear of the horse. At no time should you change hands on the leadshank.

For safety reasons, never stand directly in front of your horse (*See Figure 59B*). As the judge views your horse directly from behind, stand on the side

Safety Precautions

Disregarding simple safety rules in handling horses can result in serious mishaps. A knowledge of safe riding is imperative in the training of riders. Here are some basic safety rules.

1. Never approach a horse directly from the rear. Even in single stalls, it is possible to approach from an oblique angle at the rear.
2. Always speak to a horse before approaching or touching it. Most horses are likely to jump and may kick when startled.
3. If the horse hangs back on the end of the rope, lead it a few steps forward before touching with your hand.
4. Keep your head in the clear when bridling the horse. A horse may throw its head or strike to avoid the bridle. Avoid bridling a nervous animal in close quarters.
5. Walk beside your horse when leading, not ahead of or behind it. Always turn the horse to the right and walk around him.
6. Use a long lead strap and both hands when leading. If the horse rears, release hand nearest to halter so you can stay on the ground.
7. Your horse is stronger than you, so don't try to out-pull it. A horse usually responds to a quick snap on the lead strap or rope.
8. Never wrap lead strap, halter shank or reins around your hand, wrist or body.
9. Bridle reins, stirrup leathers and cinch straps should be kept in the best possible condition. Your safety is dependent on these straps. Replace any strap when it begins to show signs of wear.
10. Stand with your feet well back in the clear and reach forward when saddling the mount.
11. Never mount the horse in a barn, near fences, trees or pavement or under overhanging projections. Sidestepping mounts have injured riders who failed to take these precautions.
12. Adjust the saddle carefully and cinch tight enough so it will not turn when mounting. Soon after starting the ride, dismount and check the saddle girth. Tighten it if necessary. Horses often "swell up" when first saddled. Failure to tighten girths later can result in serious accidents.
13. If your horse is frightened by an obstacle, dismount and lead him by it.
14. Keep your horse under control and maintain a secure seat at all times. Horses are easily frightened by unusual objects and noises. Anticipate these and steady your horse.
15. When a horse is frightened and attempts to run, turn him in a circle and tighten the circle until he stops.
16. When riding in groups, do not ride too close to the horse in front of you and be alert for overhead tree branches.
17. Hold your mount to a walk when going up or down hill.
18. Reduce speed when riding rough ground or in sand, mud, ice or snow where there is danger of the mount falling or slipping.
19. Avoid paved roads. Slow your mount to a walk when crossing such roads. If it is a spirited or young horse, dismount and lead it across.
20. Know your horse, its temperament and reactions. Control your temper at all times but let the horse know you are a firm, kind master.

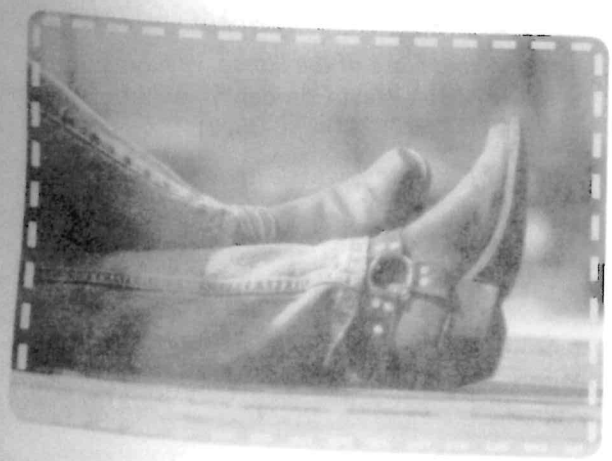
Glossary

Action:	How a horse moves its feet and legs at a walk, trot, etc.
Aids:	The legs, hands, weight and voice, as used in controlling a horse.
Alter:	To castrate a horse, to geld.
Amble:	A slow, easy pace. The front and rear feet on a side move in unison.
Appaloosa:	A breed of horses characterized by leopard-spot markings. Developed by the Nez Perce Indians.
Appointments:	Equipment and clothing used in showing.
Astringent:	Drugs that cause contraction of infected areas, such as tannic acid, alum and zinc oxide or sulphate.
Back:	To step a horse backward.
Bandy Legs:	A horse pigeon-toed on its hind feet with the points of its hocks turned outward.
Barren mare:	A mare that is not in foal.
Bearing rein:	Neck rein pushed against neck in direction of turn.
Bight of the reins:	The part of the reins passing between thumb and fingers and out the top of the hand.
Bitting rig:	A combination of bridle, harness pad and crupper. Used to teach horse to flex at the poll.
Black points:	Mane, tail and legs black, or darker than rest of horse.
Blemish:	Any mark or deformity that diminishes the beauty but does not affect usefulness.
Bloom:	Usually refers to hair that is clean and glossy, denoting a healthy appearance.
Bosal:	A rope or braided rawhide, leather or horsehair hackamore that fits over the nose, with no mouthpiece.
Brand:	A mark of identification. A private registered mark burned on cheek, shoulder or hip. A number burned on upper neck as in Army horses. Temporary brands are made by burning a number on the hoof, or painting a mark on the skin with silver nitrate. Brands are now tattooed on inside of upper lip to avoid disfiguring the horse's body.
Broom tail:	A western range horse; a poor, ill-kept horse of uncertain breed.
Buck-kneed:	Knees bent forward.
Bugeyed:	Eye protruding; horse usually cannot see well.
Calf-kneed:	Opposite of buck-kneed. Knees bent backward.
Canter:	A three-beat gait; moderate, easy, collected gallop.
Cantle:	The back of a saddle.
Cannon:	The lower leg bone below knee or hock and above the ankle.
Castration:	Removal of testicles from a male. A castrated male horse is a gelding.
Cavesson:	A noseband on a bridle. A stiff noseband on a halter used with longe strap in training.
Cavy:	A collection of horses.
Cayuse:	A general term used to describe a horse of nondescript breeding.
Center fire:	A western saddle with cinch hung from center.
Chaps, chaparajos:	Seatless overalls made of leather, sometimes fur covered, used for protection when riding in brush or for protection from cold. Also spelled chaparreras, chapareros.
Chestnuts:	The horny growths on the inside of a horse's legs; also called night eyes.
Cinch, cincha:	A wide cord girth used on western saddles.
Chukker:	A seven-and-one-half-minute period in a polo game. From Hindu meaning "circle."
Coarse:	A horse that lacks refinement; rough, harsh appearance.
Cob:	A stylish, high-actioned horse used for driving and riding.
Cold-blooded:	A horse with ancestry from the draft breeds.
Collected:	Involves engagement of the hindquarters, controlled gait.
Colt:	A male foal.
Combination horse:	One used for saddle and driving.
Conformation:	Structure, form, and symmetrical arrangement of parts as applied to a horse.
Congenital:	An abnormal condition an animal possesses at birth, such as hernia.

Coon Footed:	Long, sloping pasterns throwing fetlocks low.
Corona:	Saddle pad cut to fit shape of saddle; has a large colorful roll around edge.
Coupling:	Region of the lumbar vertebrae, loin or space between last rib and hip.
Cow-hocked:	Hocks close together, feet wide apart.
Crest:	Upper, curved part of neck, more prominent in stallions.
Cribbing:	Biting or setting teeth against manger or some other object while sucking air.
Criollo:	A breed of South American horses; a small, sturdy horse used as a cow pony.
Cross:	A dark stripe across the shoulders.
Cross reins:	Method of holding single reins where reins overlap in hands across horse's neck.
Croup:	Part of the back just in front of base of tail.
Crow hops:	Mild bucking motions.
Dam:	The female parent of a horse.
Defect:	Any mark or blemish impairing usefulness; unsoundness.
Docked:	Bones of the tail cut in shortening the tail.
Dressage:	Advanced exercises and training in horsemanship.
Dropped sole:	Downward rotation of toe of coffin bone inside hoof due to chronic founder or laminitis.
Equine:	Of or pertaining to a horse.
Equitation:	The art of riding horseback, horsemanship.
Ergot:	A horny growth behind fetlock joint.
Ewe-necked:	Top profile of neck concave like a female sheep's neck.
Farrier:	A horse shoer.
Far side:	The right side of a horse.
Favor:	To limp slightly.
Fenders:	The wide pieces of leather along the stirrup leathers.
Feral:	A wild horse. Has escaped from domestication and become wild, as contrasted to one originating in the wild.
Fiadore:	A part of a hackamore or bosal; a small double rope attached to the heel; knot serves as a throatlatch, exerts pressure at rear of jaws.
Filly:	A female foal up to 3 years.
Five-gaited:	A saddle horse trained to perform in five gaits, namely the walk, trot, canter, slow gait and rack.
Flame:	A few white hairs in center of forehead.
Flat-foot:	When the angle of the foot is noticeably less than 45 degrees.
Flat race:	A race without jumps.
Flexion:	Bending or giving at the poll, positioning the nose in relation to the poll.
Floating:	Filing of rough, irregular teeth to give a smoother grinding surface.
Foal:	Colt or filly under one year old.
Forefooting:	Roping an animal by the forefeet.
Forehand:	The fore part of a horse; forelegs, head and shoulders.
Founder:	Inflammation of the feet causing lameness.
Fox trot:	A short-step gait, as when passing from walk to trot.
Gaits:	The manner of going. The straight gaits are walk, trot or jog, canter or lope and gallop. Five-gaited horses walk, trot, canter, rack and do one of the slow gaits: running walk, fox trot or stepping pace.
Gallop:	A three-beat gait resembling the canter but faster, 12 miles per hour. The extended gallop may be a four-beat gait and is about 16 miles per hour.
Gaskin:	The muscular part of the hind leg below the stiffly and above the hock.
Geld:	To gelt; to cut or castrate a horse.
Gelding:	An altered or castrated horse.
Gestation period:	The length of time for the development of the foal from time of breeding until birth, usually about 11 ½ months.
Get:	The progeny of a stallion.
Girth:	A leather, canvas or corded piece around the body of a horse to hold a saddle in place.
Glass eye:	Blue or whitish eye.
Goose-rumped:	Having narrow, drooping rump.
Go short:	To take short steps, indicative of lameness.
Green horse:	One with little training.
Groom:	To clean and brush a horse. Groom also refers to person who does this.
Gymkhana:	A program of games on horseback.

Hack:	A horse ridden to a hunt meet. A pleasure riding horse.
Hackamore:	A bitless bridle of various designs used in breaking and training. From Spanish word jaquima.
Hand:	A measure of the height of horses; one hand equals 4 inches.
Haw:	A third eyelid or membrane in front of eye that removes foreign bodies from the eye.
Head shy:	Applied to a horse that is sensitive about the head; jerks away when touched.
Head stall:	The leather bridle straps exclusive of bit and reins.
Head bound:	A horse that refuses to leave a group of other horses.
Heartgirth:	The measure of the circumference of a horse's body from just behind the withers.
High school:	Advanced training and exercise of the horse.
Hobble:	Straps fastened to the front legs of a horse to prevent it from straying or pawing.
Hoof:	The foot as a whole in horses. The curved covering of horn over the foot.
Honda:	A ring of rope, rawhide or metal on a lasso through which the loop slides.
Horse:	General term for an animal of the horse kind.
Horse length:	Distance between horses in a column, usually 8 feet.
Horsemanship:	Art of riding the horse and of understanding its needs.
Jack:	A male donkey or ass.
Jaquima:	Spanish bridle; a hackamore.
Jockey:	The leather flaps on the side of a saddle.
Laminae:	The horny-grooved inside of the hoof.
Lariat:	From the Spanish, la reata, meaning "the rope." A rope, often of rawhide, with running noose, used for catching cattle.
Lead:	Pattern of leg movement of the canter or lope.
Lead strap:	A strap or rope attached to the halter for leading.
Light horse:	Any horse used primarily for riding or driving; all breeds except draft breeds.
Longe:	To work a horse in a circle at the end of a long line (about 30 feet long), attached to halter or cavesson. The exercise is used in breaking, training and exercising.
Mare:	A mature female horse.
Martingale:	A strap running from the girth between front legs to the bridle. The standing martingale is attached to the bit. The running martingale has rings through which the reins pass.
Maverick:	An unbranded stray.
Mecate:	A hackamore lead rope.
Mellow hide:	Soft, pliable and easy to handle.
Mule:	A cross between a jack and a mare.
Near side:	The left side of a horse.
Neat's-foot:	An oil made from suet, feet and bones of cattle, used for softening leather.
Off side:	The right side.
Open behind:	Hocks far apart, feet close together.
Orloff:	A breed of Russian trotting horses.
Outfit:	The equipment of rancher or horseman.
Outlaw:	A horse that cannot be broken.
Palatable:	Agreeable and pleasing to the taste.
Passenger:	One who rides a horse without control, letting the horse go as it wishes.
Pathological:	A diseased condition.
Paunchy:	Too much belly.
Pony:	A horse under 14.2 hands.
Pointing:	Standing with front leg extended more than normal, often an indication of lameness.
Poll:	The top of a horse's head just behind the ears.
Polochain:	A chin chain of flat, large links.
Port:	The part of the mouthpiece of a bit curving up over the tongue.
Posting:	The rising and descending of a rider with the rhythm of the trot.
Pounding:	Striking the ground hard in the stride.
Pudgy:	Short and thickset.
Pull leather:	Holding to the saddle with hands while riding a bucking horse.
Pulled tail:	Hairs of tail thinned by pulling.
Quality:	Fineness of texture; freedom from coarseness.
Ray:	A black line along the spine. Also called dorsal stripe.

Reata:	Spanish for lariat.
Registration:	Recording an animal from registered parents in the breed registry association.
Remuda:	A collection of saddle horses at a roundup from which are chosen those used for the day. A relay of mounts.
Ridgling:	A male horse that has retained one or both testicles in his body cavity.
Roached back:	Thin, sharp, arched back.
Roached mane:	Mane cut short so part is left standing upright.
Rolling:	Side motion of the forehand.
Rowels:	The toothed wheels on spurs.
Rubberneck:	A horse with a very flexible neck, hard to rein.
Running walk:	A four-beat gait faster than a walk, often over 6 miles per hour.
Sacking:	To slap a horse with a sack, saddle blanket or tarpaulin as a part of gentling and training.
Shank:	That portion of the cheek of the bit from above and below the mouthpiece.
Sickle-hocked:	With a curved, crooked hock, excessive angle to the hock.
Side-wheeler:	A pacer that rolls the body sidewise as it paces.
Single-foot:	A term formerly used to designate the rack.
Sire:	The male parent of a horse.
Slab sided:	Flat ribbed.
Snaffle-key bit:	A snaffle with small metal pieces dangling from center used in training colts to the bit.
Sound:	Free from any abnormal deviation in structure or function that interferes with the usefulness of the individual.
Spread:	To stretch or pose.
Stallion:	An unaltered male horse.
Stargazer:	A horse that holds its head too high and its nose out.
Stylish:	Having a pleasing, graceful, alert, general appearance.
Sunfisher:	A bucking horse that twists its body in the air.
Surcingle:	A broad strap about the heartgirth, to hold the blanket in place.
Symmetrical:	Proper balance or relationship of all parts.
Tack up:	To put on bridle and saddle.
Tapadera:	Stirrup cover.
Three-gaited:	A saddle horse trained to perform at the walk, trot and canter.
Thrifty condition:	Healthy, active, vigorous.
Traverse or side step:	Lateral movement without forward or backward movement.
Tree:	The wooden or metal frame of a saddle.
Tucked up:	Thin and cut up in the flank like a greyhound.
Undershot:	Lower teeth protruding under the jaw.
Utility:	The horse's designated use.
Veterinarian:	One who is trained and skilled in the treating of diseases and injuries of domestic animals.
Vice:	An acquired habit, such as cribbing, that is annoying or may interfere with the horse's usefulness.
Walleyed:	Iris of the eye of a light color.
War bridle:	An emergency bridle made of rope.
Weanling:	A weaned foal.
Wrangling:	Rounding up; saddling range horses.
Yeld mare:	A mare that did not produce a foal during the current season.



Additional Horse Terms

The marks of a knowledgeable horseman are the terms and "horse-talk," used frequently and correctly. Learn these terms and use them correctly.

Age	Male	Female	Mixed group
Suckling	Colt	Filly	Foals
Weanling	Colt	Filly	Foals
Yearling	Yearling colt	Yearling filly	Yearling foals or foals of last year
2-year-old	2-year-old colt	2-year-old filly	Foals of such and such a year
Mature breeding animals	Horse or stallion	Mare	Horses
Mature non-breeding animals	Gelding	Spayed mare	Horses

A pregnant mare is carrying a foal, or in foal or with foal.

A mare with a baby is referred to as having a foal at side, wet mare or nursing a foal (to be more specific, use colt or filly).

A mare will foal, or is with foal, to (name of stallion).

The sons and daughters of a mare are her produce.

A foal is by its sire.

A foal is out of its dam.

When a stallion stands for service, he is offered to the public for breeding purposes.

Stallion owners usually present one of the following terms to the mare owner when he offers his stallion for stud:

Stud fee: The charge for breeding services rendered by a stallion.

Stud fee each service: The mare is not guaranteed to be with foal and a stud fee is charged for each service.

Guarantee foal to stand and suck: Guarantees a live foal.

Return privilege in season: You may bring your mare back until she is with foal for that breeding season only. Another fee will be charged if the mare is returned after that current season.

References

Additional information about horse management can be found in the following references:

Horse Industry Handbook - American Youth Horse Council, 6600 #D 451 Delmonico, Colorado Springs, CO. 80919. (800) TRY-AYHC. *http://www.AYHC.com*

Horse Science and Horses and Horsemanship - National 4-H Horse Program

The Horse - Evans, Borton, Hintz and Van Vleck (2nd edition) - Freeman (1-800-877-5351)

The Illustrated Veterinary Encyclopedia for Horsemen, Equine Research Publications, PO Box 347, Grapevine, TX 76051 (1-800-848-0224)

Feeding and Care of the Horse, Williams and Wilkins, 351 West Camden St, Baltimore, MD 21201-2436 (1-800-638-0672)

HorseQuest. http://www.extension.org/horses