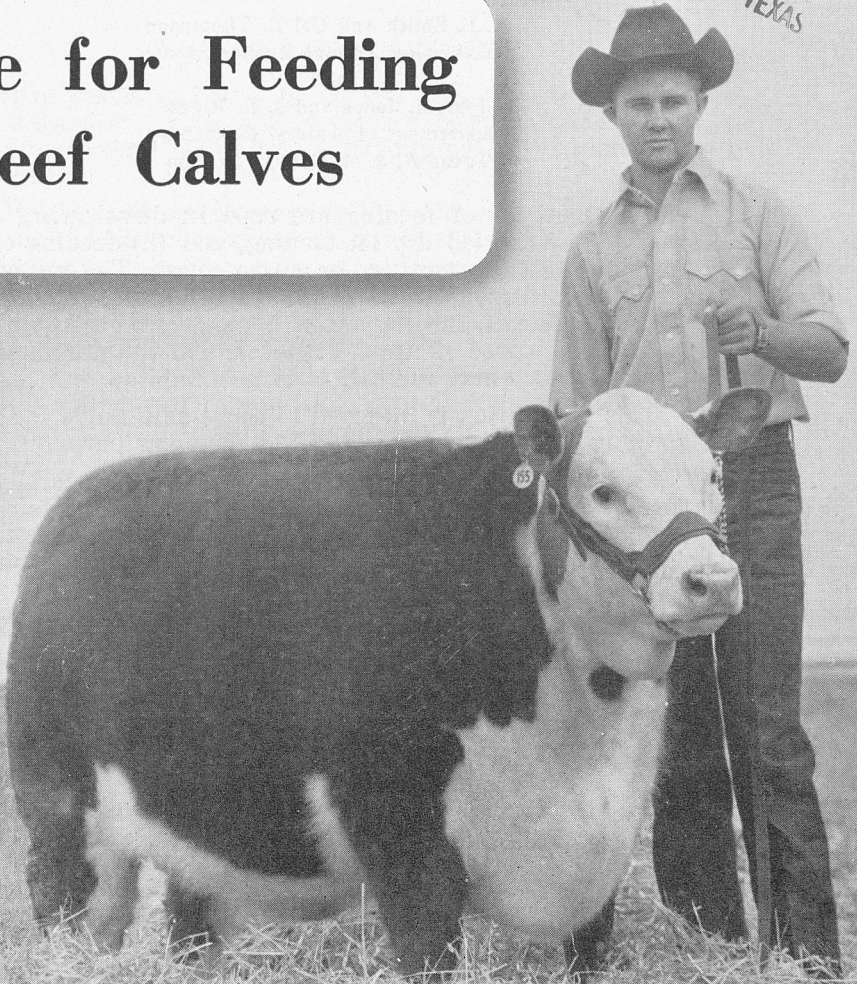


Guide for Feeding Beef Calves



Lloyd Robinson, Howard County 4-H Member, with his 1950 Grand Champion Steer.
International Live Stock Exposition and State Fair of Texas.

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GUIDE FOR FEEDING BEEF CALVES

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Two methods of feeding are used in developing beef calves. They are (1) dry lot feeding, and (2) feeding calves while nursing their mothers or nurse cows. The method to follow depends upon the financial condition of the club boy, the age of the calf, the amount of home-grown feed available, cost of feed, degree of finish expected, and the premiums offered at shows where the calf is to be exhibited.

This publication is intended to serve as a guide for feeding young breeding stock and calves for show purposes.

The Dry Lot Method — Dry lot calves are generally fed home-grown grain and roughage with purchased protein supplements but do not receive any milk. Feeding in this way holds costs to a minimum. After getting the calves on full feed confine them to the feed lot.

The Milk Feeding Method — Unless calves are milk-fed they generally do not have sufficient finish and bloom nor the desirable handling qualities required for exhibition in a major show. Calves intended for such competition get milk from the time they are born until the end of the feeding period either from their dams, nurse cows or both.

SELECTING STEER CALVES

The selection of top calves to fatten as baby beeves requires that the past history of the herd and the performance of calves from that herd in the feed lot be known. Quality is essential in calves which are to be fed to a high degree of finish.

Handling Calves in Transit

Many milk-fed steer calves fattened by club boys are purchased from breeders as baby calves. This means separating the calves from their mothers, changing their homes and getting them accustomed to a nurse cow. It also implies that they will be handled under the milk feeding system.

Avoid possible injury to suckling calves during the time they are separated from mother cows and trucked to new

homes. If possible use a halter that fits well and tie each calf in the truck so that he will not bruise his nose or suffer other injury. By proper handling, calves may be fairly well halter broken on the way home.

Training Calves to Nurse

Upon reaching home, be careful not to injure the calf while unloading. Place him in his shed or stall and allow him to rest for several hours before attempting to get him to the nurse cow.

Use extreme care in starting the baby calf to use a nurse cow. In all instances the cow should be tied securely and hobbled to prevent her from horning, kicking or otherwise injuring or frightening the new calf. It is an advantage to have a nurse cow which has a suckling calf at side. The new calf may be eased up to the opposite side and allowed to nurse one teat. If the calf refuses to nurse, take him back to his stall and repeat the same procedure six to twelve hours later. Means of getting the calf to suck a nurse cow are to place the teat in the calf's mouth, or to squirt milk on its nose. As a last resort fill a small-necked bottle with milk and drench the calf. In all cases limit the amount of milk consumed by the new calf until he can take all of the nurse cow's milk without digestive troubles.

Feeding the Nurse Cow

No radical changes should be made in the ration of the nurse cow. If a change becomes necessary make it gradually in order to prevent digestive trouble with the calf. A good mixture is 100 pounds yellow corn chops, or ground milo, 100 pounds wheat bran, 100 pounds ground oats, and 100 pounds cottonseed meal. When pastures are dry it is helpful to feed alfalfa hay and silage. Do not expect the nurse cow to feed the calf while on a bitterweed pasture.

Management of Calves

1) Dehorning—Calves should be dehorned at the earliest possible age in order to obtain a well-shaped head and insure the least possible injury. Use EQ-335 as a surgical dressing.

2) Castration—This necessary operation should be done at an early age. Slit down the side of the scrotum with a sharp knife but never cut off the end of the sac in removing the testicles. Do not use the bloodless castration method unless skilled in the use of the instrument. Use EQ-335 as a surgical dressing.

3) Vaccination—Be sure to vaccinate calves with Blackleg vaccine in order to immunize them against Blackleg.

4) Control of External Parasites—Use ½ pound of 50 percent DDT wettable powder to 5 gallons of water as a dip or spray to control lice, flies, mosquitoes, and immature body ticks. This same DDT mixture sprayed in the ear will control Spinose ear ticks. Use rotenone as a dip, spray, or dust to control grubs. Stock 1037 will control Gulf Coast ear ticks. For screwworm cases, use EQ-335.

5) Control of Internal Parasites—If calves show symptoms of internal parasites, they should be treated promptly. Drench with phenothiazine to control stomach worms.

6) Bloat and Scours — These are digestive disturbances caused by weather changes, excitement, lack of exercise, stale feeds, overfeeding or too quick a change in feeds. Two ounces of Milk of Magnesia per hundred pounds body weight used as a drench on calves up to 400 pounds should relieve either condition. Calves weighing over 400 pounds should be drenched with 12 ounces per hundred pounds body weight. This should be accompanied by a reduction of concentrate feeds. Feeding should be restored gradually over a period of three to five days depending upon calves' appetite. If bloat is not relieved within four hours after treatment consult your county agent or a veterinarian.

7) Warts — Infectious or virus type warts are the ones usually found on the head, neck, shoulders, and occasionally on other parts of the body. These may be controlled by the injection of the commercial wart vaccines. Other type warts usually require surgical attention.

Starting Milk-Fed Calves on Feed

Getting a calf started quickly on feed is the second important step. If the calf can be penned with the nurse cow's calf, which has been accustomed to grain and hay, the new calf, in most instances, will begin to feed more readily. Whole oats is probably more suitable to a young calf than any other grain. Hay, such as cane or Johnson grass, should in all instances be of good quality and the calf allowed access to it at all times. At the start of the feeding period tie back the flap of the self-feeder and hand-feed grain for a few days.

The cost of feeds available and climatic conditions will determine the best mixture to feed. Following is a feeding schedule of a standard grain mixture that has proved successful and may be followed as a guide. Remember your calf has a race to win. Do not handicap or delay his fattening progress by doing something to upset his digestive system. Be sure to consult your county agent before making substitutions or changes in feeding. Make such changes gradually over a period of about one week.

**Feeding Schedule for Milk-Fed Calves (Weighing 150-250 lbs.)
Growing Period (Feb. to Aug., incl., 7 months)**

(100 lbs. mixture)

1st 28 days—February

100 lbs. whole oats
All the hay calf will eat

2nd 30 days—March

90 lbs. whole oats
10 lbs. sweet feed
All the hay calf will eat

3rd 30 days—April

80 lbs. whole oats
10 lbs. shelled yellow corn
10 lbs. sweet feed
All the hay calf will eat

4th 30 days—May

60 lbs. whole oats
20 lbs. shelled yellow corn
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
All the hay calf will eat

5th 30 days—June

50 lbs. whole oats
30 lbs. shelled yellow corn
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
All the hay calf will eat

6th 30 days—July

40 lbs. shelled yellow corn
40 lbs. whole oats
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
All the hay calf will eat

7th 30 days—August

45 lbs. shelled yellow corn
35 lbs. whole oats
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
All the hay calf will eat

Finishing Period (Sept. to Jan., incl., 5 months)

8th 30 days—September

50 lbs. cracked yellow corn
25 lbs. whole oats
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
5 lbs. alfalfa leaf meal
All the hay calf will eat

10th 30 days—November

55 lbs. cracked yellow corn
10 lbs. whole oats
10 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
5 lbs. alfalfa leaf meal
All the hay calf will eat

9th 30 days—October

50 lbs. cracked yellow corn
15 lbs. whole oats
10 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake
5 lbs. alfalfa leaf meal
All the hay calf will eat

11th 30 days—December

55 lbs. cracked yellow corn
10 lbs. whole oats
10 lbs. rolled barley
10 lbs. pea-size cottonseed
cake
5 lbs. sweet feed
5 lbs. wheat bran
5 lbs. alfalfa leaf meal
All the hay calf will eat

12th 30 days—January
 55 lbs. cracked yellow corn
 10 lbs. whole oats
 10 lbs. rolled barley
 10 lbs. pea-size cottonseed
 cake

5 lbs. sweet feed
 5 lbs. alfalfa leaf meal
 5 lbs. wheat bran
 All the hay calf will eat
 Take calf off nurse cow 2
 weeks before show.

DRY LOT FEEDING

(Weaned calves weighing 400 to 500 lbs.)

Calves cannot adjust themselves quickly to a change of feed. It may take from two to six weeks to accustom them to the grain ration, depending upon how the calves are to be fed and whether they have been eating any grain.

Calves get on full feed somewhat more rapidly when fed a ration made up largely of roughage and a little cottonseed cake. Too much grain at the beginning may lead to digestive disorders from which calves recover slowly. For the first three days after they are received they should have nothing to eat but good hay and water. This allows them to become accustomed to their surroundings and the change of water, and affords the calves time to recover their normal body temperature. The digestive system is not yet ready for a hot grain ration.

Feeding Schedule for 1st 15 days—Preliminary Feeding Period

- 1st 3 days—All the hay calf will eat.
- 2nd 3 days— $\frac{1}{2}$ lb. cottonseed cake per head each day.
All the hay calf will eat.
- 3rd 3 days—1 lb. cottonseed cake per head each day.
All the hay calf will eat.
- 4th 3 days— $1\frac{1}{2}$ lbs. cottonseed cake per head each day.
All the hay calf will eat.
- 5th 3 days—2 lbs. cottonseed cake per head each day.
All the hay calf will eat.

At the end of the first 15 day preliminary feeding period, a grain mixture should be added to the daily ration. Below is listed a complete feeding schedule for the next 15 days.

Feeding Schedule for 2nd 15 days—Preliminary Feeding Period

Grain Mixture	Portein Supplement	Roughage
30 lbs. cracked yellow corn or ground milo grain	30 lbs. Cottonseed	100 to 150 lbs. Prairie, Cane, or Johnson
25 lbs. whole or crimped oats	Cake	Grass Hay
5 lbs. alfalfa leaf meal		

Hand feed the above feeds as follows:

Start this grain mixture at the rate of $\frac{1}{2}$ pound per head per day and make a $\frac{1}{2}$ pound daily increase per head for the next 15 days. This $\frac{1}{2}$ pound daily increase is about as fast as a calf can adjust his digestive system to the feed. By starting slowly, digestive troubles will be reduced to a minimum, and good gains will be made throughout the feeding period. Keep the cottonseed cake at 2 pounds per head per day.

Be sure to feed calf all the hay it will eat each day.

After the 30-day preliminary feeding period, hand feed or provide a self-feeder for the calf, using the following mixture as a guide:

Feeding Schedule for Dry Lot Calves (100 lbs. mixture)

1st 30 days	4th 30 days
50 lbs. cracked corn	65 lbs. cracked corn
30 lbs. whole oats	20 lbs. whole oats
20 lbs. pea-size cottonseed cake	15 lbs. pea-size cottonseed cake
2nd 30 days	5th 30 days
55 lbs. cracked corn	70 lbs. cracked corn
25 lbs. whole oats	20 lbs. whole oats
20 lbs. pea-size cottonseed cake	10 lbs. pea-size cottonseed cake
3rd 30 days	6th 30 days
60 lbs. cracked corn	75 lbs. cracked corn
25 lbs. whole oats	15 lbs. whole oats
15 lbs. pea-size cottonseed cake	10 lbs. pea-size cottonseed cake

Thumb Rule

Calves on full feed usually require about 2 percent of their body weight in concentrate feeds, and 1 percent of their body weight in dry roughage daily.

FEEDING BULL AND HEIFER CALVES

Select breeding stock to produce a high percentage calf crop of thrifty, healthy, early maturing, quality calves and to continue to do so over a period of years under practical production conditions. Once the cattle have been selected, proper feeding and management should insure good production.

Bulls and heifers are intended for breeding purposes at the end of the fitting period rather than for slaughter as are steers. Excessive fattening may impair breeding efficiency later on. For this reason more stress should be placed on

good growth and development than on fattening. Rations for breeding cattle should contain a smaller percentage of heavy grains such as corn and sorghums and contain a larger percentage of oats and barley. It may be noted in the following schedule of feeding that corn never makes up over 30 percent of the concentrate mixture.

FEEDING SCHEDULE FOR MILK-FED BULL AND HEIFER CALVES

(Weighing 150-250 lbs.)

1st 28 days—FEBRUARY

100 lbs. whole oats
All the hay calf will eat

2nd 30 days—MARCH

90 lbs. whole oats
10 lbs. sweet feed
All the hay calf will eat

3rd 30 days—APRIL

80 lbs. whole oats
10 lbs. shelled yellow corn
10 lbs. sweet feed
All the hay calf will eat

4th 30 days—MAY

65 lbs. whole oats
20 lbs. shelled yellow corn
10 lbs. sweet feed
5 lbs. pea-size cottonseed
cake

All the hay calf will eat

5th 30 days—JUNE

50 lbs. whole oats
30 lbs. shelled yellow corn
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

6th 30 days—JULY

40 lbs. whole oats
30 lbs. shelled yellow corn
10 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

7th 30 days—AUGUST

30 lbs. whole oats
30 lbs. shelled yellow corn
20 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

8th 30 days—SEPTEMBER

30 lbs. whole oats
30 lbs. cracked yellow corn
20 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

9th 30 days—OCTOBER

30 lbs. whole oats
30 lbs. cracked yellow corn
20 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

10th 30 days—NOVEMBER

30 lbs. whole oats
30 lbs. cracked yellow corn
20 lbs. rolled barley
10 lbs. sweet feed
10 lbs. pea-size cottonseed
cake

All the hay calf will eat

11th 30 days—DECEMBER

25 lbs. whole oats
 30 lbs. cracked yellow corn
 20 lbs. rolled barley
 10 lbs. sweet feed
 5 lbs. pea-size cottonseed
 cake
 5 lbs. linseed pellets
 5 lbs. wheat bran
 All the hay calf will eat

12th 30 days—JANUARY

20 lbs. whole oats
 30 lbs. cracked yellow corn
 25 lbs. rolled barley
 10 lbs. sweet feed
 5 lbs. pea-size cottonseed
 cake
 5 lbs. wheat bran
 5 lbs. linseed pellets
 All the hay calf will eat

FEEDING DRY LOT BULL AND HEIFER CALVES

The DRY LOT FEEDING schedule given on page 6 for starting weaned calves on feed may be used for starting weaned bulls and heifers on feed. Calves creep fed before weaning may be allowed free access to their creep mixture after weaning. It will require about a week for creep fed calves to get on full feed.

The feeding schedule given below may be used as a guide after the calves are accustomed to grain.

FEEDING SCHEDULE FOR DRY LOT BULL AND HEIFER CALVES

(Weighing 400-500 lbs.)

1st 30 days

55 lbs. whole oats
 25 lbs. cracked yellow corn
 20 lbs. pea-size cottonseed
 cake

2nd 30 days

45 lbs. whole oats
 25 lbs. cracked yellow corn
 10 lbs. rolled barley
 20 lbs. pea-size cottonseed
 cake

3rd 30 days

30 lbs. cracked yellow corn
 35 lbs. whole oats
 20 lbs. rolled barley
 15 lbs. pea-size cottonseed
 cake

4th 30 days

30 lbs. cracked yellow corn
 30 lbs. whole oats
 25 lbs. rolled barley
 15 lbs. pea-size cottonseed
 cake

5th 30 days

30 lbs. cracked yellow corn
 30 lbs. whole oats
 25 lbs. rolled barley
 10 lbs. cottonseed cake
 5 lbs. linseed cake

6th 30 days

30 lbs. cracked yellow corn
 30 lbs. whole oats
 30 lbs. rolled barley
 5 lbs. cottonseed cake
 5 lbs. linseed cake

Allow the calves to eat all the hay they want every day. Keep it fresh.

FEEDS

Yellow corn is the king of grains and always should be fed if available. Ground milo, kafir, hegari, and feterita may be substituted for corn. Whole or crimped oats are preferable to ground oats. Rolled or coarsely ground wheat, barley or rye may be used to replace a part of the corn or milo.

Either cottonseed meal or cake, peanut meal, soybean meal or linseed meal can be used in supplying the protein needs. Pea-size cake, screenings or small pellets are more desirable to use in a ration than meal.

Cane, Johnson grass, sudangrass or prairie hay are desirable hays. Alfalfa, peanut or clover hay are the most common legume hays. Only small amounts of legume hay should be fed show calves.

Sweet feed should contain a high quality of cracked corn, rolled barley, crimped oats and molasses. It should be free of such materials as peanut hulls, rice hulls, or corn cobs.

Wheat bran adds variety to the ration and is somewhat laxative, thus making a splendid conditioner.

VITAMIN REQUIREMENTS

If a good quality of hay and grain are fed the calf and if the nurse cow is allowed to graze on green pasturage, Vitamin A requirements will be fully met. Otherwise this very important factor can be supplied by adding about 5 percent ground legume hay to the grain ration.

Dry lot calves should be fed two pounds of alfalfa or other legume hay per day to supply this very important factor. As a general rule this will make up about one-third of the hay ration.

Calves handled under usual conditions in Texas will receive enough sunlight to supply all the Vitamin D they need. Never keep calves in a dark barn or shed for weeks at a time. They should have access to open lots for exercise, fresh air and sunshine every day.

The addition of Vitamin B¹² and the antibiotics such as aureomycin and streptomycin to the feed of calves is not necessary.

MINERAL SUPPLEMENTS

Calves which are being fed according to the rations suggested in this bulletin and are on nurse cows will have their

mineral requirements amply supplied except salt. They should have access to granular salt at all times.

Follow directions in Texas Extension Service Bulletin B-174 "Minerals for Beef Cattle," to supply mineral requirement for dry lot and breeding cattle.

FEED LOT EQUIPMENT

Proper equipment in the feed lot and the management of the calf throughout the feeding period is of prime importance. The absolute requirements for feed lot equipment are:

1) **Shed and shade** — A feed shed, preferably with an open south exposure (screened if possible), and a **brush arbor** in the lot will protect the feed and insure the comfort of the calf during bad weather.

2) **Grain feed bunk** — A self-feeder attached to a shed wall to protect the grain from chickens will insure clean feed and allow calves to consume proper amounts of feed at all times.

3) **Hay bunk** — A small box placed on the ground, and attached to the wall of a shed, holding not more than one or two blocks of hay is preferable. This type of bunk will conserve hay but should be cleaned daily and the discarded hay removed.

4) **Salt box**—This should be attached to a shed wall and should contain fresh granulated salt as lick for the calf.

5) **Small water container** — Fresh, clean water, preferably some distance away from feed bunk should be available to the calf at all times. The calf will not drink sufficient water if chickens drink from the same trough.

6) **Bedding** — Exercise particular care as to clean bedding. Creek sand, if available, is best; otherwise rice straw or some similar material can be used.

7) **Feed lot** — This should be well drained and sanitary, and should consist of at least 200 square feet of space, thus assuring the calf plenty of room for exercise. Keep lot clean.

THINGS TO REMEMBER

1) Select fancy or choice calves from a herd which is known to produce good feeders.

2) Be sure to dehorn, castrate and vaccinate calves, using every precaution to avoid injury.

3) Treat calves promptly at first appearance of external or internal parasites.

4) Consult your county agricultural agent if digestive troubles, such as bloat or scours, occur.

5) Insure comfort of calf at all times by providing shelter, bedding, shade, water and large enough feed lot space for exercise.

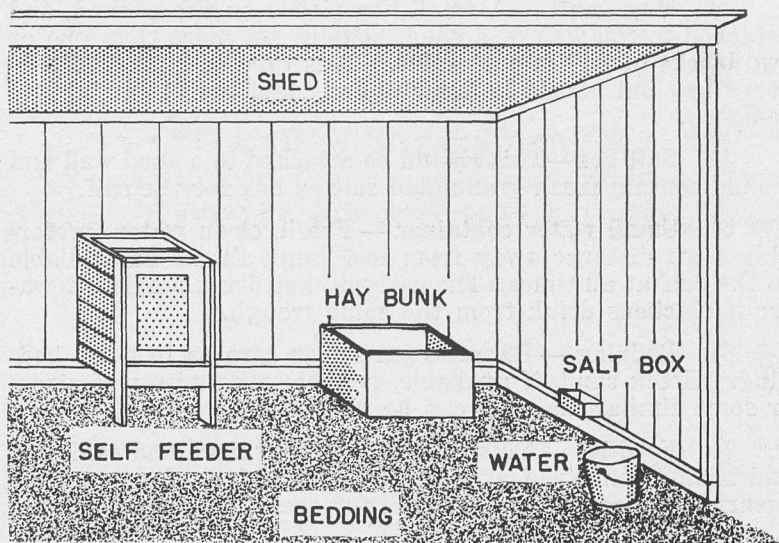
6) There is no substitute for quality feed — both grain and hay. See that the calf gets all he wants to eat at regular hours every day.

7) Brush your calf every day and wash him frequently.

8) Be sure to trim the hoofs occasionally to avoid sore feet, which often delay gains.

9) Get thoroughly acquainted with your calf at the start of the feed period. Teach him to lead early and pose him constantly in order to show him to advantage.

10) Chicken-proof your calf lot. Be sure to chicken-proof your self-feeder. Do not force your calf to eat hay which the chickens have scratched.



Sketch Showing Feed Lot Equipment