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Livestock Sales Pavilions

W. A. Foster
Iowa State College

K. C. Ikeler
Iowa State College

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LIVESTOCK SALES PAVILIONS

Fig. 1. Sales pavilion at Cedar Falls, Iowa. One of the best equipped and most complete in the middle west.

AGRICULTURAL EXPERIMENT STATION
IOWA STATE COLLEGE OF AGRICULTURE
AND MECHANIC ARTS.
AGRICULTURAL ENGINEERING SECTION
AND ANIMAL HUSBANDRY SECTION

Ames, Iowa
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LIVESTOCK SALES PAVILIONS
BY W. A. FOSTER AND K. C. IKELER.

INTRODUCTION

There are two essentials for a successful livestock sale,—animals and buyers. Excellence in the quality and condition of animals plus a good number of buyers and keen interest of bidders, puts snap and vim into a sale. To conduct a sale successfully, the animals must be shown to the best advantage before the sale and during the bidding, and the bidders must be made comfortable so that they will be kept in a buying mood. The right type of sales pavilion will go far to insure these favorable factors.

Many sales have been spoiled by bad weather. Thousands of dollars have been lost to breeders because the buyers were not on hand due to weather conditions. A first class sales pavilion will permit the sale regardless of weather. It cares for both man and beast, making them comfortable and contented while the sale is being conducted.

For these reasons, interest in sales pavilions and barns has grown rapidly during the past few years. Many breeders' associations have been formed and sales pavilion plans are in demand. To meet this demand some information was gathered by the Iowa Agricultural Experiment Station and several tentative plans made.

While this bulletin is general, it contains many definite suggestions relating to sales pavilions and barns. The plans are varied and flexible and thereby permit changes to meet the individual needs of any corn belt community.

PART I. SALES PAVILIONS

PURPOSE AND ESSENTIALS OF THE SALES PAVILION

The sales pavilion is almost entirely a community structure. It serves the community and belongs to the public building class. Furthermore, it should have many uses and not be confined to sales purposes alone. For instance, it may be used for stock judging, a poultry exhibit building, corn exhibit booth, motor shows, institute lectures, demonstrations and for other purposes.

"It will not pay a dividend on the investment," is the charge often heard. Granting that the charge is true and that the up-
keep consumes all the income derived from sales and other sources, one should expect the dividend to be the community benefit. The hotels profit by the buyers brought to the community; the business houses increase their business as a result; purebred stock is sold at better prices; the boys are kept on the farm; these and many other benefits are the measure of the dividends. It is not the dollar return alone but the satisfaction of better sales, better stock and ultimately better living.

A first class sales pavilion encourages better breeding, starts more purebred herds and promotes greater production. It arouses a community interest which should be advantageous and bring many returns, both financial and social.

**LOCATION**

"Where should the pavilion be located?" That is one of the first questions considered in organizing a breeders' association and financing a pavilion. The association group, railroad facilities, hotel accommodations, conditions of public roads, cooperation of the fair board and financial conditions of the community are factors entering into and determining the location.

The building should be convenient to a railroad station where train service is good. Since good roads are an index of the character and progress of the community, and auto travel is one of the chief means of transportation, the sales pavilion should be located where it is accessible from main highways. Hotel accommodations should be adequate to care for the crowds attending sales. An up-to-date fair board will cooperate in order to secure location of the pavilion on the fair grounds. The fair grounds offer a good location because the building is not confined to a small lot or plot of ground and many buildings for housing animals are usually available. This avoids duplication and makes the pavilion available for judging and fair purposes.

Frequently the sales barn is located inside the corporation limits. This location has many advantages as well as some objections. When located inside the city limits it is convenient and near the business part of the town. This permits the men attending sales to secure lunch at lunch rooms and do shopping. The problem of transportation to and from the station is eliminated. On the other hand, a town site is limited in size and restricts expansion. There is an objection to housing animals inside the city limits; the odors, noise, congestion and confusion resulting from a sale are undesirable in many residence districts.

When located in town the pavilion should be in the outlying section, convenient to the railroad yards and tracks. Sufficient ground should be secured to take care of all required buildings
with room for expansion. Fire protection should be considered in selecting a building site.

ESSENTIAL FEATURES

The sales pavilion, to be successful, must contain four essential features: It must have a sales ring, it must have satisfactory seating, it must be well lighted, and it must have adequate barn room. Other features less essential are desirable and increase the value of the pavilion, but the four named are those which are necessary properly to conduct a sale.

1. **Ring or Sales Space.** The interest in an animal and its sale depends largely upon the showing of the animal during the bidding. The animal must be before the bidders and confined to a small space which permits sufficient action to allow bidders to see from all angles for marking, bone, limbs and head.

   The ring should be small, slightly elevated and centrally located so it can be quickly reached and emptied. It should be elevated slightly to bring the animal as near seating level as possible.

   The circular shaped ring is more desirable. Animals can not be kept moving so well in a square or rectangular sales space because they will lodge in the corners. Square corners should be avoided (fig. 2). Furthermore, the removal of sharp corners will allow seating to be brought closer to the ring.

![Diagram of Sales Ring](image)

**Fig. 2.** Animals can be kept moving in this ring, as there are no corners for them to run into.
The ring enclosure should be made from pipe and woven wire supported by posts so that the animals may be in plain view of the bidders at all times.

2. **Seating.** Good seating in any building is desirable and worth careful consideration. It should be arranged for quick seating and hasty exit. All seats should face the ring so that the auctioneers can look into the faces of the bidders. Furthermore, good seating encourages the close attention and interest which put life into a sale.

Seating may be either temporary or permanent. The temporary seating may be chairs, benches or banked bleachers arranged to suit the particular needs of a sale. These should be made so as to be quickly set up, shifted to meet the conditions or removed on short notice. The permanent seating is built in. It may be simple horses and supports with boards laid over; or it may be plank seats without backs or seats with backs.

3. **Lighting.** Proper lighting is most essential to the conduct of a successful sale. It may be natural or artificial. While natural lighting is desirable, it is not always possible and artificial lighting must be resorted to. In designing the structure, lighting must be considered with respect to the ring and seating. Natural lighting is best obtained by means of skylights or monitor windows over the ring. Windows in the side walls are undesirable as the auctioneer must face the rays of light.

4. **Barns for Animals.** Facilities for the proper housing and care of the animals before and after the sale are essential to a successful sales pavilion plant. The animals must be fed, groomed and kept where they can be looked over before the sale. The barns may be separate or attached. The barns that are attached are preferred by leading breeders and auctioneers, because this arrangement facilitates the handling of stock to and from the ring.

**DESIRABLE FEATURES**

There are other features, which, tho not necessary, add to the efficiency of a sales pavilion. These are a heating plant, toilets, office, wash room, sleeping room, judging room and storage. They will be discussed in the following pages.

**DESIGN OF SALES PAVILIONS**

**SHAPE OF PAVILION**

In the design of any building, its use governs its character and construction. This is particularly true of the shape of sales pavilions. Since there are some essentials in a sales pavilion or barn, their arrangement in relation to each other is fundamental. The success of the structure depends upon this arrangement.
Three plans for utilizing a square space. The advantages of this form of construction are its cheapness and simplicity of structure. There must be a waste of space in the corners, however, or the corner seating is very poor. The acoustic properties of this form are usually poor.
Fig. 1. In the circular or oval shaped space, the seats behind the auctioneer are poor, as shown in a and b. The semi-circular arrangement shown in c, enables the auctioneer to face the entire audience.
The ring or sales space and the seating arrangement limit the shape of the building or pavilion to three general shapes, namely: square or rectangular, circular or oval, and semi-circular.

The square or rectangular shape is much used. It is a simple structure to build. Its chief disadvantage is the waste space in corners away from the ring or the great distance from the corner seating to the ring. Furthermore, the acoustics of the building is likely to be poor, making it harder to hear the bidding and the auctioneer. (See fig. 3, a, b, c.) In plan a, fig. 3, the corner seats are poor. In plan c, some seats are too distant from the auctioneer and the seats face each other.

The circular or oval shaped building is well liked by some breeders' associations. The seats back of the auctioneer are not desirable. (Fig. 4, a, b.) The many sided pavilion, such as the hexagonal or octagonal, is considered with the circular shape. This is shown in b, fig. 4.

The semi-circular shaped pavilion best meets the requirements for a sales pavilion. The seating is arranged about the ring so that the auctioneer can look into the faces of all, whether visitors or bidders. The seating faces the ring, only, and not other parts of the building, which would tend to distract attention from the animals in the ring. All interest is concentrated on the ring and the animal. The many sided pavilion, which approaches the semi-circular, is considered as of the same class, (c, fig. 4)

SIZE OF PAVILION

The size of the pavilion is determined by the method of construction, the demands of the community, the financial condition of the association and the kinds of animals to be sold.

A building about 60 feet across best meets the general requirements for the average sales pavilion. This size permits a ring 15 to 20 feet in diameter and comfortably seats 500 to 600 people. Furthermore, this dimension lends itself to economical construction, since stock length rafters can be used.

The private sales pavilion for hogs need not be so large, since the hog ring is much smaller and fewer buyers attend the average hog sale. A building 36 to 40 feet across would serve for the average private hog pavilion.

The size of barns is governed by the number of animals to be sold or displayed. When a standard type of construction is adopted, the capacity is increased by lengthening the barns. The shape and size of building site will determine the width of the barn.

FOUNDATION

The foundation of the sales pavilion and barns should be built of masonry, preferably concrete. The footing should extend be-
low the frost line or, since the wall weight is not great, it may extend at least 18 inches below grade and the footing should contain reinforcing. Old iron, such as bridge rods, lightning rod and hay track, will do. This steel should be well bedded in concrete and should be equivalent to one square inch in area. The building site should be well drained with tile placed near the side of wall as shown in fig. 5.

The footing should be wide enough to carry the wall load without settling, but should not be much in excess of the required width. The foundation wall above the footing must be the same thickness as the walls of the superstructure, namely, 8 inches for hollow tile and 9 inches for brick. This foundation wall should extend at least 6 inches above grade. This will give a visible change in materials and improve the appearance of the structure.

WALLS

Any building is classed as frame, brick, hollow block or concrete. This is determined by the material of the superstructure walls.

The frame construction should consist of 2”x6” studding spaced 2'-0" on center. Horizontal siding, commonly called drop siding, may be placed directly on the studing. This building may be sheathed under the siding, or ceiled on the inside of the studing.
Sales pavilion walls built of brick make a neat appearance and will last indefinitely. The brick used on the face should be hard burned and laid in a cement mortar tempered with not more than 10% of lime. Either common brick or paving blocks may be used for laying up the walls.

The hollow tile wall belongs to the brick type. The tile should be laid flat in cement mortar and special care should be taken to secure first class vertical joints. Brick should be used for trimming about wall openings. Pilasters should be built at intervals to support the walls.

Concrete blocks should be laid carefully in cement mortar. The blocks should be uniform, carefully made and well seasoned.

**ROOF AND ROOF FRAMING**

The roof is supported by the walls and posts or supports on the inside, or by one or more trusses extending across from wall to wall. When the monitor roof is used for lighting, columns, either wood or steel, arranged about the ring support monitor and roof and also provide posts for the ring. A wood post or column must be at least 6 inches square. A 5 inch round steel column is preferred, because it looks neater and does not obstruct the view so much as a square wood post.

When trusses are used to support the monitor or part of roof, they should be figured at a safe factor. They should be built of first class lumber and should be well bolted and spiked together with good bracing.

A wall plate, 2"x8" should be securely bolted to the wall with 1½"x12" bolts spaced 6'-0" on center. Bolts should extend down into the wall at least 9 inches and should be secured in cement mortar.

The rafters should be spaced not more than 2'-0" on centers at greatest width. Rafters should be figured for this space and in no case should they be less than 2"x6".

Shiplap sheathing free from pitch and loose knots should be used for roof sheathing. The sheathing should be nailed firmly to each rafter with 6d flat head nails. The roof covering used will depend upon the pitch of rafters. Since the roof is flat or the pitch of rafters is low on the sales pavilion, it demands a prepared or metal roofing.

The life of shingles is short on a low pitch roof. Slate requires heavy rafters and the pitch must be more than 15° to prevent moisture lying under the slate which breaks the slate on freezing. Metal roofing is high priced and must be kept well painted with a good quality of mineral paint. Prepared roofing is best adapted for roofing covering for sales pavilion. It is inexpensive, can easily be fitted to warped surfaces and will last
Fig. 6. When the front entrance is used, as in a, much of the best seating space is lost. The side entrance keeps the bidders massed and uninterrupted by late comers.

Fig. 7. The location of entrance and exit for livestock at the sides of the auctioneer's stand permits one animal to leave the ring as the next is brought in.
for a period of years if properly laid. In selecting a prepared roofing, choose at least a three-ply guaranteed roofing material.

ENTRANCES

The efficiency of any assembly building is measured by the time required for seating and emptying the building. The arrangement of entrances and exits either facilitates quick movement or causes sluggish movement.

The entrance to the seating space may be at the front or sides of the auctioneer’s stand. (Fig. 6, a and b.) The front entrance as shown in a is much used, but is not desirable, because the best seating is directly in front of the auctioneer. If this space is broken up by an entrance, the best seating space is lost. Furthermore, the confusion caused by late comers distracts attention from the sale. A side entrance arrangement keeps the bidders in a solid mass and the interest is kept concentrated.

The sales ring entrance and exit for livestock should be at the sides of the auctioneer’s stand. This permits sold animals to leave the ring as the next animal comes in. Interest is kept at a high pitch continuously, which makes bidding “snappy.” (Fig. 7.)

By enclosing ring with a high woven wire fence, buyers and visitors are kept out of the animal runs from barns to sales ring. This provision is frequently overlooked, but it should be included in the original design and arrangement of the building.

SALES RING OR SALES SPACE

Experience has determined the size and shape of ring for hogs, cattle and horses. The space should be large enough so a hog platform and enclosure can be set up in the cattle ring at a small outlay of labor. Two rows of chairs or benches can be placed between the permanent seating and the platform to fill this space and bring bidders nearer the ring. These movable hog sale platforms should be of “knock-down” construction so they can be taken apart and stored under the seating space when not in use. This can easily be arranged by placing blocks on sills and joists and placing cleats on under side of plank flooring. Standard sockets can be placed on the outside edge of platform and posts set to support the enclosing wire fencing. (Fig. 8.)

The sills should be 2”x8” set on edge with triangular blocks nailed on as shown for spacing joists 2'-0” on center. Joists 2”x6” with small triangular blocks nailed on under the edge will hold them in place and keep them rigid. The flooring should consist of 2”x10” planks with cleats near ends to hold
Fig. 8. The nog sale platform should be of "knock-down" construction, so that it can be set up in the cattle ring, and stored under the seating space when not in use.
in place. Cast iron standard sockets placed about 4 feet apart will hold the standards. These standards should be 2"x4" oak, planed on all sides with corners rounded. They should extend at least 3'-0" above the platform.

This plan of construction will elevate the platform 16 inches above the floor. If a greater elevation is desired, the sills can be blocked up to suit the need. The size of the hog platforms should be about 150 square feet,—10'x14' makes a popular size.

The cattle ring is larger, being 14 to 16 feet in diameter and usually fills the space not required for seating. The columns supporting the monitor can be used to support the enclosing fence. Temporary posts planted in the ground floor or set in the concrete floor usually make the enclosing fence.

If a concrete floor is placed in the ring, pipe sleeves may be set in the concrete to take a pipe post. These sleeves may be capped over to prevent dirt and litter filling them when the enclosure is removed. The sleeves should be large enough to fit loosely over the pipe posts. They should be set in concrete and extend at least 3'-0" below the floor.

SEATING

Accessible seating helps a sale as much as any other feature. Comfortable, easy seating means restfulness and quiet; it pro-

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Fig. 9. A type of seat much used in sales pavilions. The pitch of the seats is the chief objection.
Fig. 10. The back rests relieve the strain of long sitting, and prevent walking over the seats.

motates contentment and relaxation and the buyer's interest is focused on the animal in the ring.

The pitch of seating should not be too steep nor too low. A rise of 8 or 9 inches for each 30 inch run makes the most desirable pitch or slope for seating. This would make the platform of the first row of seats of about the same elevation as the ring platform for hogs and slightly above the ring floor for cattle. The cattle make the best appearance when about on the same plane as the eye.

The seating is best arranged in a semicircular form with the center of the ring for the center of seating. The auctioneer can then easily see all bidders and their attention is focused on the ring.

Fig. 9 shows a common type of seats much used in a sales pavilion. The chief objection to them is the slope or pitch of the seats. Fig. 10 shows a similar seating with a back rest. This back relieves the strain of sitting in an upright position at all times and prevents walking over seats when leaving the room.

Since the seats are elevated, the outer row is some feet above grade. By excavating to the approximate footing depth, the space under the seating can be utilized for exhibit purposes, heating apparatus, stalls, concession booths, lunch room or storage space. This additional room can be secured at the cost of excavation.
LIGHTING AND VENTILATION

The best lighting and ventilation for barns is secured from the factory type construction of full monitor as shown in fig. 12. The monitor may have a continuous row of windows or the windows may be spaced to suit or arranged in groups. It is advisable to hinge all or part of the windows at the bottom so that they can be dropped in from the top to facilitate ventilation. Three or more windows can be fastened together and controlled by a chain or rope. (Fig. 11.)

The windows in the outside wall are placed 4 to 5 feet above ground as a precautionary measure for protection and to throw the light and sunlight some distance in from the wall. A small light sash, six to twelve lights, small sized panes, as 8"x10" or 9"x12", is desirable. This reduces upkeep expense in breakage. These
windows should be of the shield ventilating type which can be dropped in or raised for ventilating purposes.

CONSTRUCTION OF BARN

Barn foundation and walls should be constructed in a manner similar to that described for the pavilion. The outside walls need not to be over 8 feet in height. The rafters should extend at least 16 inches over the wall to form a cornice to protect the wall and window openings.

The interior and roof construction are usually of wood. The posts supporting the roof and monitor should be placed at stall partitions or corners and thus be made to serve two purposes. A support, 4"x4", under ordinary conditions is large enough to support the roof and serves as a post for a box stall corner or stall partition. When posts are used to support the purlin or monitor they should be spaced 12 to 16 feet apart. Such construction will require stock materials which are available at any lumber yard.

The rafter length should be kept under 12 feet so that 2"x6" rafters may be used, spaced 2'-0" on center. This will furnish a rigid roof which will not sag under heavy snow loads.

Several types of simple construction are well adapted to the barns in connection with sales pavilion. The most common are two rows of stalls with an alley way or drive between, and triple rows of stalls with two alley ways or drives.

The barn with two row stalls (fig. 13,) should be about 30 feet wide. This will permit single, double or box stalls next to

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Fig. 13. A barn thirty feet wide will permit either single, double or box stalls next to the wall and an ample alley for driveway between.
Fig. 14. The hog barn has an eight foot alley way between the rows of pens, which are usually 6'x8'.

the wall with an alley way amply wide for a drive between. This width of barn is easily and simply constructed from stock materials. It may be ventilated by barn ventilators or monitor. A monitor will assist in lighting the interior. A great part of the lighting is secured from the windows in the side walls.

The hog barn, fig. 14, should be about 25 feet wide and it may have open or closed sides. Pens 6'x8' are usually built with an 8 foot drive way.

Animals show to best advantage when slightly elevated. It is well to consider this fact and fill in stalls or pens so that they are 8 to 10 inches above the alley way (fig. 15). The first impression of an animal is best. It is to the interest of the sales-

Fig. 15. If the floors of stalls or pens are elevated 8 or 10 inches above the floor of the alley way, animals show to better advantage.
manager or herdsman to show animals to best advantage in order to bring highest prices.

Building materials are largely a product of labor which makes them scarce and high priced at this time. Frame and masonry construction are most common for the cheaper class of structure usually found in sales pavilions. Frame construction is satisfactory, and is easily and quickly built, but it belongs to the class of temporary construction. If kept well painted and given fire protection it should last a generation or longer.

Masonry construction includes brick, stone, hollow tile and cement construction. Any of these materials is well adapted for walls of the sales pavilion and barns. The fire hazard is reduced by employing masonry construction. Sales pavilions and barns are subject to considerable fire risk since buyers and visitors are continually smoking. Masonry walls reduce the chance of fire greatly, which helps to secure a lower insurance rate. Masonry walls also improve the appearance and, if well laid up in cement mortar, will last for generations.

LIGHTING OF THE SALES RING

The efficiency of a sales ring depends much on its lighting, both natural and artificial. Natural lighting is best secured by means of monitor, cupola or skylights. Skylight windows in the roof afford good lighting at a small expense; their chief disadvantage is breakage by hail, leakage and snow covering windows and shutting out the light. When using skylights, place the sash so that the light passing thru is concentrated on the ring.

Some pavilions are lighted by windows in a cupola or a small square monitor. Such lighting is not sufficient unless the cupola is quite large. The most efficient natural lighting is secured by placing a circular monitor over the ring. The posts or columns supporting the monitor also serve as a division between the ring and the seats. With the pavilion facing the north, the light is soft and is almost as strong as the outside light.

The artificial lighting should take care of dark cloudy days and night sales. A central plant, municipal or unit plant may be used. Wiring should be in strict accordance with the underwriters’ code.

HEATING OF PAVILION

The hot air heating plant is flexible, requires no attention when not in use, is inexpensive and is generally best adapted to heating a sales pavilion. The temperature of the pavilion should be maintained at least at 60° in order to keep the crowd comfortable. A vestibule or air lock in the entrances will prevent considerable heat loss in winter.
Two or more pipeless furnaces may be installed under the bleachers and the heat distributed or thrown out towards ring. Common furnaces may be used and leader pipes arranged to distribute heat where needed. Where an office and sleeping rooms are incorporated in a pavilion, as shown in Plan VI, an independent furnace in the basement under office would best fill the heating requirements. A small furnace would be ample.

Steam and hot water heating plants may be installed. They are expensive and require constant attention in winter, therefore are not so desirable for a building which is not used continuously.

The heating plant may be placed under the seating space, in a special room or in the basement. It should be located so that the risers and leaders offer the least possible resistance to carrying warm air to the required points. Furthermore, the fuel or coal room must be near the furnace and accessible from the outside of building for service and fuel.

**TOILETS**

Some pavilions are erected without toilets. While such facilities are not essential to a successful pavilion, they are desirable and increase the efficiency of any pavilion.

A general toilet, equipped with closets, urinals and lavatories and placed convenient to barns and pavilion, best fills the requirements. In addition, a private toilet for women next to the office is desirable. This should be equipped with a modern closet and lavatory. Provisions should be made for shutting off the water by placing a ‘shut off’ in the pit under the floor. The water in the traps may be forced out by pouring a small amount of kerosene into the fixtures. Kerosene will not freeze at an ordinary temperature.

The frost proof closets require least attention and should be used in the general toilet. If a private toilet is well protected, that is, if a limited amount of wall space is exposed, the siphon closet may be used.

**OFFICE**

The office should be placed in an accessible part of the pavilion so that it may be easily reached from the sales ring and the barns. It should be well lighted, both by windows and artificial lighting. The office is used at sales time as a place for settling accounts; it serves as a meeting place for the association directors and it may be used for other purposes at other times. An individual heating plant in the basement under the office or a heating stove placed in the office would provide heat quickly whenever needed.
Fig. 16. The Newton pavilion was built before materials advanced in price, at a cost of about $4,000.

WASH ROOM

The livestock wash rack is often located in or attached to the barns where animals are displayed. This limits its use to the warm season. By equipping a room, accessible to the ring, with hitching rings, hose bibs and short hose and by placing a drain in the floor a wash room may be provided at small expense. This can be used during all seasons.

The interior of such a room should be finished with glazed surface brick or plastered with cement mortar and washed with water proofing compound or finished in Keene cement. The surface should be troweled smooth in order that dust or bacteria will not accumulate.

The water supply pipes should extend around the room about four feet above the floor. Compression hose bibs should be spaced four to six feet apart. Hitching rings or a hitching rail made of 1¼ galvanized pipe should be placed about 3'6" above floor.

A concrete floor with floated surface sloping to drains should be placed in the room. A common cellar drain of the bell trap type should be used.

SLEEPING ROOMS FOR HERDSMEN

Comfortable and quiet sleeping rooms can be provided at small expense under the bleachers, in the monitor of barns, or over the office and other rooms. (See plan VI.) They should be private and heat may be provided but it is not necessary. If on
second floor a stairway should be placed conveniently so the caretakers can quickly reach rooms from pavilion or barns.

JUDGING ROOM

A separate room may be provided for judging purposes. It may connect to form an extension of the sales space. This utilizes the seating about the ring and saves duplication. Judging may be done by removing the ring enclosure fencing, temporary seats and the auctioneer's stand.

Some pavilions utilize the space back of the auctioneer's stand for additional room for judging. By placing folding doors or screens back of the stand, these may be thrown open and the ring extended. (See plan VI.)

PART II. TYPES OF EXISTING SALES PAVILIONS

The various sales pavilions described will be classified in regard to shape. A plan of each type is shown with a brief description and photographs when available.

SQUARE PAVILION

The square shaped pavilion is used successfully with attached barns or without barns. The pavilions at Newton, Iowa City, Manson, Anamosa and Maquoketa are square, or nearly square, with attached barns.

The Newton pavilion, fig. 16, was built several years ago,

Fig. 17. A pavilion built on square lines, located at Maquoketa, Iowa.
Fig. 18. This pavilion was built on a small city lot at Iowa City, Iowa, which determined the plan. Barns are located at the rear.

Fig. 19. Plan I—for square pavilion. Its advantages are simple construction and small cost.
before building material prices had advanced, at a cost of about $4,000. The Maquoketa pavilion, fig. 17, cost more than $7,000 in 1918. The Iowa City pavilion, fig. 18, was erected in 1919 at a cost of about $11,000.

Plan I, fig. 19, is general and very much like the plan used at Manson, Anamosa and Maquoketa. The Newton and Iowa City plan have stock barns at the rear. The Iowa City pavilion was erected on a small city lot which determined the plan. The others were built on the fair grounds and have room for expansion.

This type of pavilion offers several advantages, namely, simple construction and low initial cost. It may be lighted from monitor or skylight. Some waste space is found in corners which cannot be utilized to an advantage.

OCTAGONAL PAVILION

Two octagonal shaped pavilions, (plan II, fig. 21) were examined, one at Williamsburg, erected about 20 years ago, and the other at Vinton, fig. 20, built last season at a cost of about $7,000.

The octagonal shaped pavilion is shown in plan II. This plan shows posts supporting octagonal shaped cupola for lighting. The Vinton pavilion, fig. 20, has a two slope roof with skylight lighting. The roof is supported with truss at hips and the opposite corners are tied together with 3/4" round rods.

This shaped pavilion has no waste space as found in fig. 19. Part of the seating is back of the auctioneer.

Fig. 20. This pavilion at Vinton, Iowa, is a modern structure of the octagonal type. It was built in 1919 at a cost of $7,000.
Fig. 21. Octagonal pavilion with cupola for lighting.
CIRCULAR SHAPED PAVILION

No circular shaped pavilions, plan III, fig. 22, were seen, but some information was secured on the Tri-County Sales Pavilion at Durant, Iowa, and the pavilion at Worthington, Minn.

Fig. 22. Plan III. Circular pavilion.
The Tri-County Pavilion at Durant, Iowa, is 60 feet in diameter with 12 foot walls. A stock barn, 36'x80', was built on the east. The building cost about $5,000 in 1919.

The Worthington, Minn. pavilion, was built in 1918 and is considered one of the best equipped pavilions of its kind.

The circular part of the building is 60 feet in diameter with a 20 foot sales ring in the center. This part of the building will accommodate 500 people and is so arranged that each person can easily see the animals in the sale ring as well as be seen by the auctioneers. It is furnished with folding chairs and is furnace heated, so the buyers and spectators will be comfortable when sales are held in the coldest weather of winter.

The 80 foot wing built to the west is 36 feet wide with a row of double stalls along each side. Each stall is built up one and one-half feet with concrete and surmounting this is a railing of three iron pipes. The stalls are built in such a way that animals can readily be inspected before sales.

The entire pavilion is built of eight-inch hollow clay blocks with a stucco finish on the outside and plastered inside. The roof is covered with special prepared shingles, making the building fireproof. Running water and electric lights are a part of the equipment of the building.

The circular shaped pavilion makes an attractive appearing building. A plan of the circular shaped pavilion is shown in plan III. Four posts help support the trusses which support the monitor. An octagonal shaped monitor provides ample lighting and necessary ventilation.

An attached barn is placed on the rear with office, toilet and stair way at the sides of the animal entrance to ring. The stairs lead to sleeping rooms for herdsmen over the animal entrance, office and toilet.

**OBLONG SHAPED PAVILION**

The oblong shaped pavilion, plan IV, fig. 23, is being successfully used in some plans. A pavilion of this type has been in use for several seasons at Oskaloosa, Iowa. This pavilion was not inspected. It is reported to have considerable merit, being well adapted to horse sales and judging because of the oblong shaped sales space.

This plan, fig. 23, shows posts for supporting the monitor. Trusses are placed from walls to posts. Office, toilets, and wash room may be placed between sales space and barn as shown in fig. 22.
Fig. 23. Plan IV. The oblong shaped pavilion is well adapted to horse sales and judging

SEMI-CIRCULAR PAVILION WITH ATTACHED BARN

This plan meets the requirements of the average community where both pavilion and barns are required. (Plan V, fig. 24.) By setting the building north and south and placing the pavilion at the north end, the barn receives full benefit of the sunlight. Furthermore, it is partially sheltered from the north winds. The north light of the pavilion is soft and best for lighting the sales space.

This plan shows the front entrance to the pavilion. A vestibule should be placed in the entrance and the seats may be reached by placing steps back of the seating or from the front of ring. Entrances lead to the seating from the barn. Toilets are placed off of these entrances. Two hot air furnaces should be installed, one under each of the two seating sections.
The Webster City pavilion erected in 1919 at a cost of about $15,000 was built from this plan. This pavilion is shown in figs. 25 and 26. A truss was placed from wall to wall over the center of ring and is partially supported by the end posts of the

Fig. 21. Plan V. Semi-circular pavilion with barn to south, where it is sheltered from north winds.
Fig. 25. Brick pavilion at Webster City, Iowa, erected in 1919 at a cost of about $3,000. Built according to Plan Y.
ring. This truss carries the north end of the monitor over the sales space. Better lighting would be secured by placing a semi-circular monitor over the posts.

The ring of this pavilion was made too large. This was reduced by placing two or three rows of chairs or benches inside of the ring. When a larger space is required for judging or at fair time, this temporary seating is easily removed and a large ring is available.

The Webster City plant was built of brick and hollow blocks. Hollow tile and brick were used in constructing the walls of the barn. Timber posts were used for supporting monitor; wood construction and prepared roofing were used for roof.

**SEMI-CIRCULAR PAVILION WITHOUT BARNs**

One of the better equipped and most complete pavilions found in the middle west is located on the Black Hawk County fair grounds at Cedar Falls, Iowa.

A plan of this pavilion is shown in plan VI. fig. 27. It is 80 feet wide and seats 700 people. Side entrances are used. Office, stairway, judging room and wash room are placed on the south side of the pavilion. Excavation was made under the seating space to footing depth. This additional room is available for a general toilet, furnace room and storage space.

Sleeping rooms for herdsmen were placed over the judging room, office and wash rooms. A balcony extends over the auctioneer's stand and side entrances. This serves as a corridor.
Fig. 27. Plan VI. Plan of semi-circular pavilion without barns at Cedar Falls, Iowa.

Fig. 28. The monitor of the Cedar Falls pavilion is 40 feet wide and semi-circular in shape at north end.
for reaching the sleeping rooms. Additional sleeping quarters for boy club workers were built in the monitor on the third floor.

The monitor is 40 feet wide, and semi-circular in shape on the north end as shown in fig. 28. The purlin is built up of $1\times10$ boards sprung in semi-circular shape and securely nailed. The columns are $5''$ heavy steel tubing with cast iron cap and base. The natural lighting afforded by monitor windows is most desirable. It is strong and soft without the usual glare.

This pavilion was built during the summer 1919 at a cost of about $11,000, complete with heating plant.

The barns for stock were erected several years ago. They consist of horse, cattle and swine barns arranged as shown in c, fig. 4.

PART III. ORGANIZATION OF BREEDERS' ASSOCIATIONS AND PAVILION COMPANIES

While it is the primary purpose of this circular to present information and plans for the construction of livestock pavilions, there will also be presented in the following pages a few representative articles of incorporation used by breeders' associations and pavilion companies. They were secured by the authors from a number of organizations which were assisted by the experiment station in getting their associations and companies under way.

The organization of a purebred livestock breeders' association is the first step in the direction of a sales pavilion. The strength, growth and success of such an association will determine the need of a pavilion.

1. ARTICLES OF INCORPORATION OF THE COUNTY SALES PAVILION COMPANY

   ARTICLE I. NAME

   The name of this association shall be the County Sales Pavilion Company.

   ARTICLE II.—OBJECT

   The object of this association shall be to construct and maintain a sales barn and swine pavilion and such other improvements as may be deemed necessary on the Fair Grounds now owned by County, Iowa, for the use of the County Exposition free of charge, and to rent to any party or parties on terms to be determined by the directors.

   ARTICLE III.—PLACE OF BUSINESS

   The place of business shall be at County, Iowa, and the Capital stock authorized is $25,000 which shall be divided into shares of $100 each.
ARTICLE IV—MEMBERSHIP

Any reputable person may become a member of this Association by purchasing one share of stock at $100. Each member shall have one vote.

ARTICLE V—OFFICERS

The affairs of this company shall be under the control of a board of nine directors not more than two of whom shall be residents of the same township when elected, chosen by the members of this organization, and said board shall elect a President, Vice-President, Secretary and Treasurer all of whom except the President and Vice-President shall be outside of the board of directors, and the duties of said officers shall be such as pertain to similar officers in like organizations. All officers and directors shall hold their positions for one year and until their successors are elected.

We, the said incorporators, have elected the following provisional officers and directors to hold their respective positions until their successors are elected at the annual meeting in the year 1920.

President ..............................................................
Vice-President ..........................................................
Secretary ..........................................................................
Treasurer ........................................................................

Board of Directors.
1. ................................................................................
2. ................................................................................
3. ................................................................................
4. ................................................................................
5. ................................................................................
6. ................................................................................
7. ................................................................................
8. ................................................................................
9. ................................................................................

ARTICLE VI—LIABILITY OF STOCKHOLDERS

The private property of the stock holders is to be exempt from corporate debts.

VII—TERM OF INCORPORATION

This corporation shall endure until terminated by operation of law.

VIII—QUORUM

Ten members at any regular or special meeting shall constitute a quorum for the transaction of business.

IX—MEETINGS

The annual meeting of this corporation shall be called by the President in the month of April each year and five days notice of the time and place of such meeting shall be mailed to each member at his last known address as shown by the records of the corporation.

Special meetings may be called by the President at any time giving the same notice above provided to all members.

X.—INDEBTEDNESS

The indebtedness of the corporation shall not exceed the sum of $15,000 at any one time.

XI—AMENDMENTS

No amendment shall be made to these Articles of Incorporation unless same be adopted by a majority of the members present at a meeting called for that purpose.
RULES AND REGULATIONS OF THE
........................................ COUNTY SALES PAVILION COMPANY
........................................

1. Price of sales.
   (a) Hogs: 1. Price per head sold $1.00
       2. Minimum for sale $40.00
   (b) Sheep: 1. Price per head sold $1.00
       2. Minimum for sale $40.00
   (c) Cattle: 1. Price per head sold $1.25
       2. Minimum for sale $50.00
   (d) Horses: 1. Price per head sold $1.50
       2. Minimum for sale $60.00

NOTE: Use of furnace will be $10.00 additional for each sale, each man buying his own coal.

2. Time limit on Sales. It is to be understood that any breeder conducting an afternoon sale has the privilege of using the sales pavilion up to 5:30 P.M. This rule is made necessary in order to allow for the evening sale. Courtesy is requested from any breeder conducting a sale in order that no other rules may be necessary.

3. Electric lights and water are to be furnished free of charge.

ARTICLES OF INCORPORATION OF
PUREBRED STOCK BREEDERS' ASSOCIATION

We, the undersigned persons, of full age, citizens of the United States, and of the State of Iowa, do hereby associate ourselves, and those who may hereafter unite with us, for the purpose of becoming incorporated under the name and for the purposes hereinafter stated, pursuant to the provisions of Chapter Two (2) Title IX of the Code of 1897 of the State of Iowa, and the Acts amendatory thereof, providing for corporation not for pecuniary profit, and do now adopt and sign the following Articles of Incorporation, to-wit:—

ARTICLE I—NAME

The name of this corporation shall be "......................... Purebred Stock Growers Association."

ARTICLE II—PLACE OF BUSINESS

Its principal place of business shall be at the City of ........................., ........................ County, Iowa.

ARTICLE III—PURPOSE

The purpose and object of this corporation shall be, to promote and encourage improvements and betterments in agricultural methods, and to encourage the raising of purebred stock, and to provide suitable buildings for the exhibitions of farm products and live stock, at the annual fairs held by the ......................... County Fair Association, at ............................... Iowa or elsewhere.

ARTICLE IV—CAPITAL STOCK

The capital stock of this association shall be the stock subscribed thereto from time to time, not exceeding nine thousand dollars ($9000.00) which shall be divided into shares of thirty dollars ($30.00) each, and every owner of one or more shares of such stock shall be a member of this association and shall have the right in person or by proxy, at all stockholders meetings to cast one vote for each share owned by him.
ARTICLE V—INDEBTEDNESS

The highest amount of indebtedness to which this association is at any time to subject itself shall not exceed six thousand dollars ($6000.00) not two-thirds of its paid up and outstanding capital stock.

ARTICLE VI—OFFICERS

The affairs of this corporation shall be managed by a Board of nine directors, who shall be elected at each annual meeting of the corporation, which board of directors shall elect from its members a President and Vice-president and shall also elect a Secretary and Treasurer, who shall be members of the corporation, and may or may not be members of the Board of Directors and the offices of Secretary and Treasurer may be held by one and the same person; such Board of Directors shall also elect such other officers as may be provided for by-laws of this Corporation.

The annual meeting of this corporation shall be held on the second Tuesday of January of each year, and until the first annual meeting, which shall be held January ——, 19——, the following named nine persons shall be directors:

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The following named persons shall be officers:

President ...........................................
Vice-President ...................................
Secretary and Treasurer ............................

All officers of this corporation shall hold office for the term of one year, or until their successors are elected and have qualified.

The Board of Directors shall fill vacancies occurring in its membership or other offices by appointment of qualified persons to hold office for the remainder of the term.

ARTICLE VIII—POWERS

This corporation shall have power to sue and be sued in its corporate name, may acquire real and personal property for purposes appropriate to its creation, and may lease, mortgage or dispose of real and personal property, and do and perform such other things not inconsistent with or forbidden by its Constitution and the laws of the United States or of the State of Iowa.

ARTICLE IX—LIABILITY OF MEMBERS

The private property of the members of this corporation shall be exempt from its corporate debts.

ARTICLE X—COMPENSATION

No director or officer of this corporation, except the secretary, shall receive any pecuniary compensation or reward for services rendered this corporation as such officers; the salary of the secretary shall be such amount, if any, as may be fixed by the Board of Directors.
ARTICLE XI—BY-LAWS

The directors may, by unanimous vote, adopt such by-laws as may be deemed necessary for the proper government and welfare of this corporation, and the management of the property, business and affairs thereof, and may by a like vote, alter and amend the same.

ARTICLE XII—WITHDRAWAL

Any member may withdraw from this association at any time by surrendering to the secretary his capital stock, and the amount to be received by such member upon withdrawal shall be determined by deducting any and all indebtedness of the corporation from any funds on hand and unappropriated and the proper proportion of this amount shall be paid to such withdrawing member for each share owned and surrendered by him, to be paid by warrant on the general fund of this corporation.

ARTICLE XIII—TERM OF INCORPORATION

This corporation shall commence business as such on the date of the filing of these articles in the office of the recorder of .................................. County, Iowa, and shall continue and endure for fifty years, unless dissolved by a three-fourths vote of its members or by operation of law.

ARTICLE XIV—AMENDMENTS

Amendments to these articles may be made at any annual meeting of the members, or at a special meeting called for that purpose, a majority of all members voting for such amendment.

STATE OF IOWA ss

COUNTRY

On this .......... day of .......... A. D. 19......, before me personally appeared .................................., .................................., ..................................

.................................., .................................., to me known to be the persons named in and who executed the foregoing instrument and acknowledged that they executed the same as their voluntary act and deed.

........................................................................................................

Notary Public in and for said County.

CONSTITUTION AND BY-LAWS OF THE—COUNTY LIVE STOCK BREEDERS' ASSOCIATION

ARTICLE I—NAME

The name of this organization shall be the ...................... County Live Stock Breeders' Association.

ARTICLE II—OBJECT

The object of this organization shall be to encourage the breeding of higher grade live stock in ...................... County, to promote the interest of the breeders to the use of pure bred livestock, to hold live stock and other sales and exhibits and to do such other things as may be deemed advisable and necessary to promote the welfare of such an organization.
ARTICLE III—PLACE OF BUSINESS

The principal place of business of this Association shall be at ................................., the County seat of .................................. County, Iowa.

ARTICLE IV—MEMBERSHIP

Any reputable resident of .................................. County who is a breeder of live stock or is interested in agriculture may become a member of this Association by subscribing to one share at $50.00 a share or a fraction of a share in the corporation.

ARTICLE V—OFFICERS

1. The officers of this Association shall be the President, Vice-president, Secretary and Treasurer and a Board of Directors consisting of the President, Vice-President and Secretary of the Association, who shall likewise be officers of the board, and one member chosen for each breed of registered live stock represented by three or more owners who are members of this Association.

2. Each group of breeders entitled to full representation will have power to select its own Director.

ARTICLE VI—DUTIES OF THE OFFICERS

Duties of the President, Vice-President and Treasurer shall be such as usually devolve upon like officers in similar organizations. The Secretary in addition to keeping all records shall use his utmost endeavors to promote the welfare of the Association. He shall compile the directory, arrange the advertising therein, and shall provide for the distribution of the same. He shall keep a record of dates for sales in the pavilion and make all arrangements for them.

ARTICLE VII—ELECTION OF OFFICERS

Officers shall be elected at the annual meeting of the stockholders on the first Saturday in ...................... of each year at ......................, Iowa at 2:00 P. M. Notices of the annual meeting will be published in the press of the county at least one week prior to the meetings. Officers shall be elected for a period of one year and Directors for a period of three years. Each member of the Association will be entitled to as many votes as he has shares.

ARTICLE VIII—QUORUM

Members of the Association shall constitute a quorum to transact business. A majority of the Board of Directors shall constitute a quorum to conduct business in directors' meetings.

ARTICLE IX—BOARD OF DIRECTORS

The Board of Directors shall have the authority to audit bills and supervise the work of the Association. They shall meet as often as it is deemed necessary and must meet at least twice a year, one of which meetings shall be immediately following the annual meeting of the stockholders, at which time the President and Vice-President will be elected outside the membership of the Board. Notices of meetings shall be mailed to each director five days prior to the date of said meeting. No business shall be done in special meetings other than stated in the call. Each director shall be responsible for the welfare of the members of his own breed registry and shall have charge of all consignment sales and other matters intended for the welfare of the breed he represents.
ARTICLE X—INDEBTEDNESS

No debts shall be contracted or liabilities incurred by this Association in excess of two-thirds of its capital stock paid up.

ARTICLE XI—AMENDMENTS

This constitution may be amended by a one-fourth vote of those present at any regular meeting of the stockholders or at any called meeting, provided the amendment proposed is stated in the call.

ARTICLE XII—BY-LAWS

By-laws not in contravention to this constitution may be adopted at any regular or called meeting by a majority of those present.

PLEDGE OR SUBSCRIPTION CARD

The following is a copy of the pledge or subscription card used by a sales pavilion company in a leading purebred live stock district in Iowa.

I, the undersigned, hereby agree to take and pay for, on the conditions hereinafter named shares of stock in the Sales Pavilion Company, to be issued in denominations of $100.00 each and to be non-assessable, said company to be incorporated under the laws of the State of Iowa, with its principal place of business at , Iowa, with an authorized capital stock of $20,000, and the right to commence business as soon as $10,000 worth of capital stock is subscribed and paid for; all to be provided in the Articles of Incorporation thereof.

This agreement is not to be binding on me until $10,000 worth of stock in said corporation has been pledged by responsible persons and until the Articles of Incorporation of said Sales Pavilion Company are duly prepared and ready for filing in the office of the Secretary of the State of Iowa.

And, upon such conditions being complied with and at the expiration of ten days from the mailing to me, at the address given below of notice of the fulfillment of these conditions, proof of which mailing shall be sufficiently established by the certificate of the Secretary of the County Breeders' Association.

I agree to pay to the order of County State Bank, Trustee, for the use and benefit of said Sales Pavilion Company, the sum of $ at Bank, together with interest thereon from the date of expiration of said ten day period until paid at the rate of eight per cent per annum.

Dated this day of , 19...

Subscription taken by Iowa