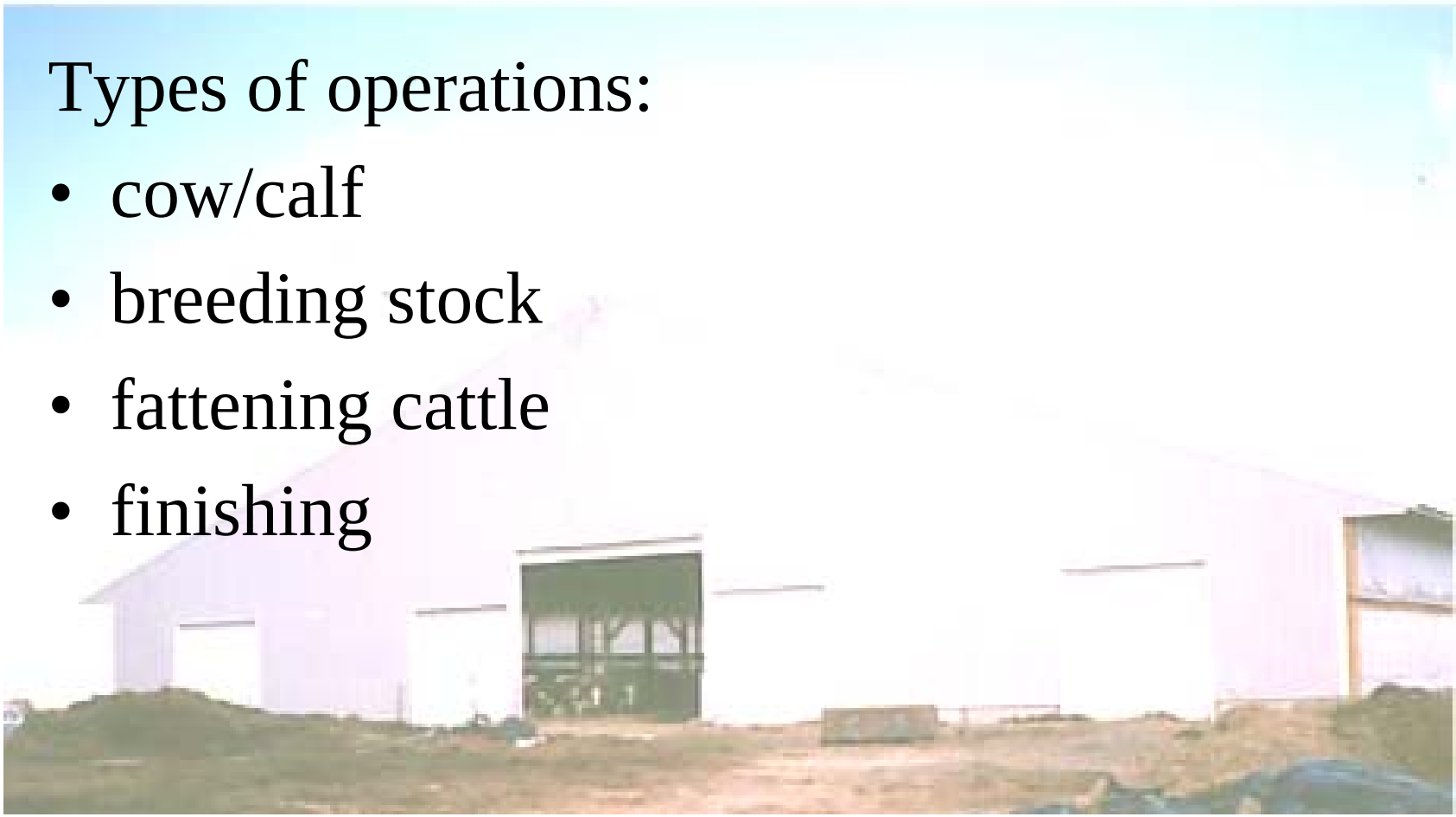
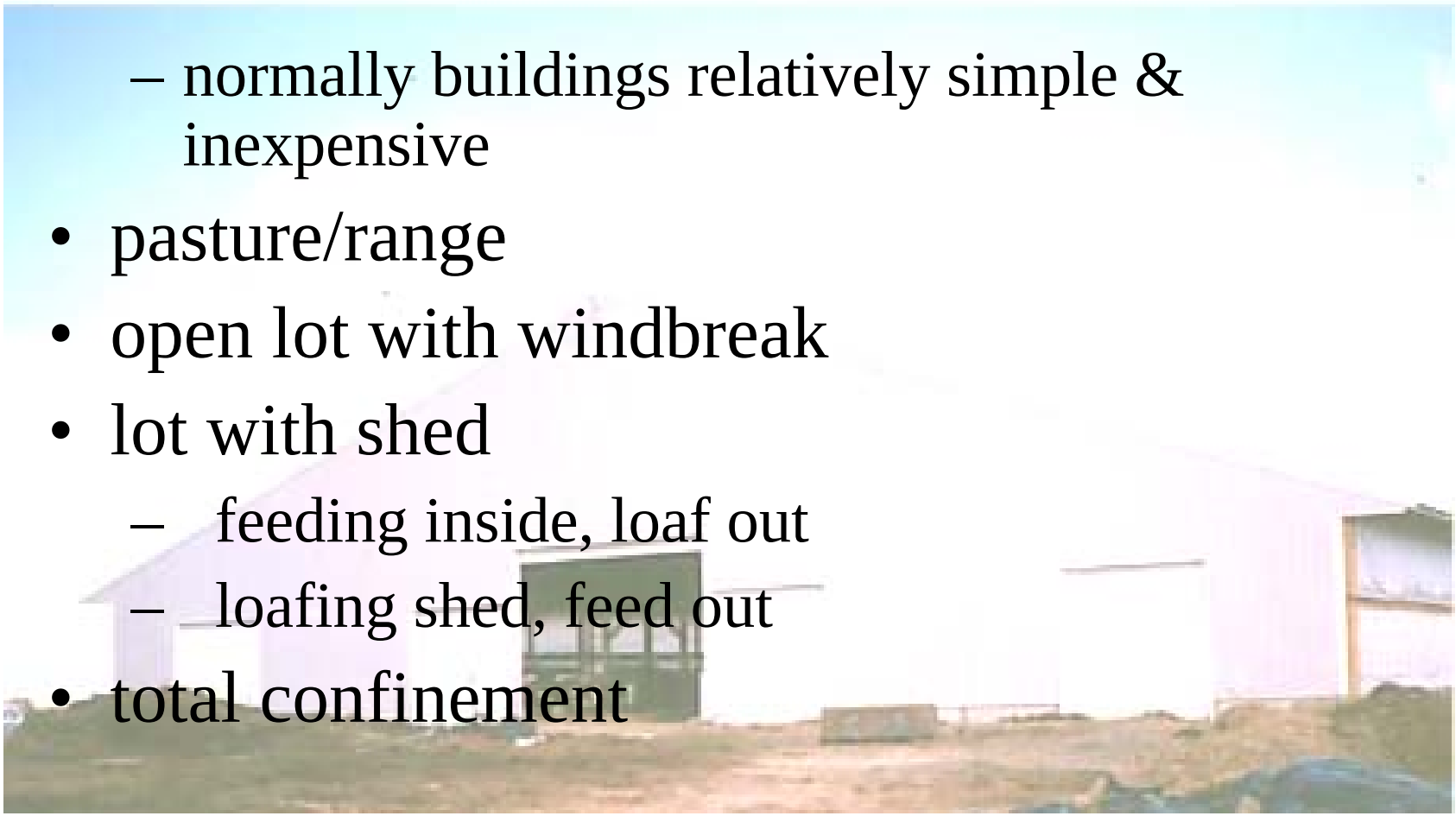
BEEF CATTLE

Types of operations:

- cow/calf
- breeding stock
- fattening cattle
- finishing



Housing systems:

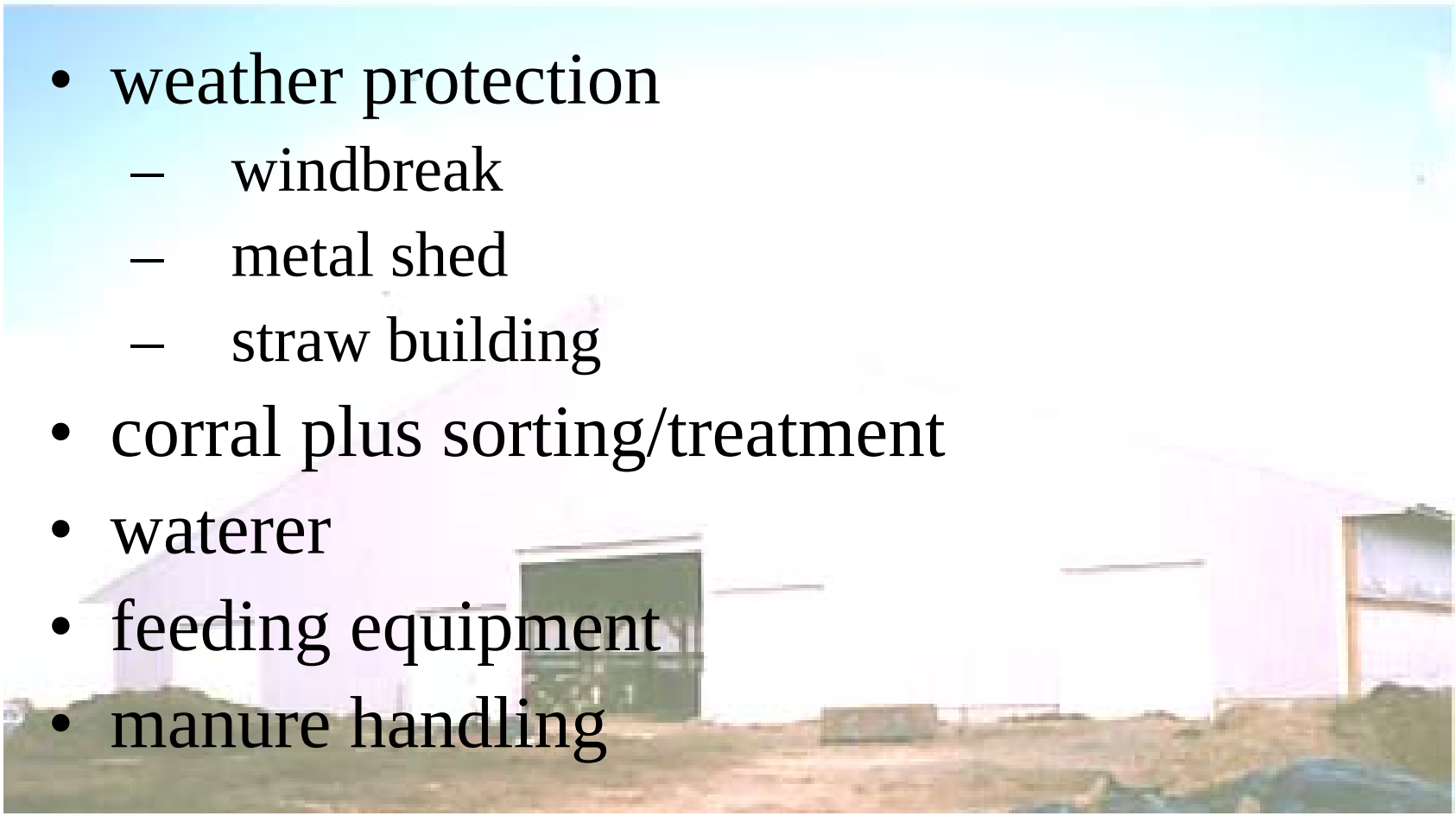


  - normally buildings relatively simple & inexpensive
- pasture/range
- open lot with windbreak
- lot with shed
  - feeding inside, loaf out
  - loafing shed, feed out
- total confinement

Factors to consider when selecting beef housing:

- environment
- climate
- days on feed/season
- labor
- calving time

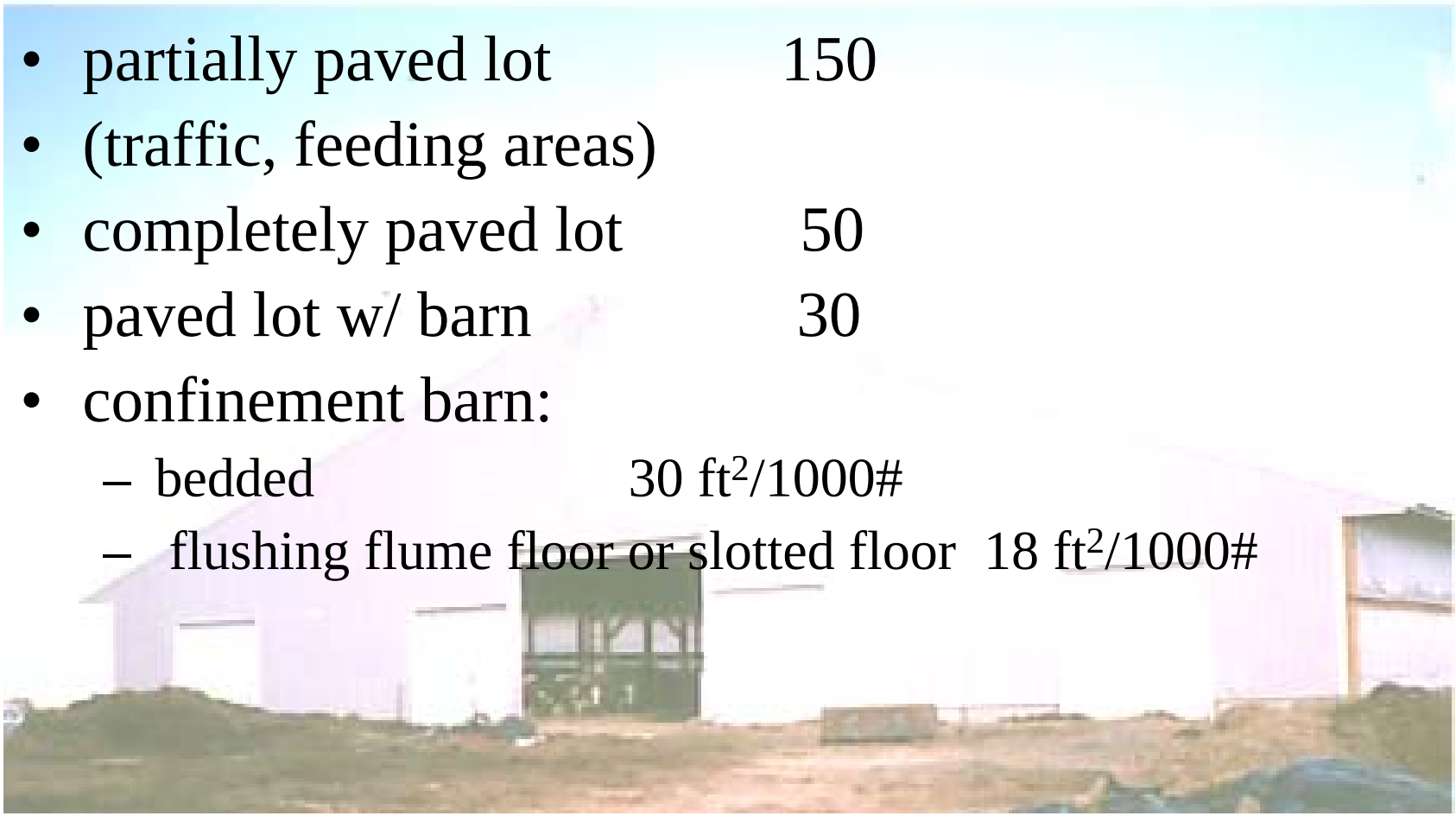
Minimum facilities required:



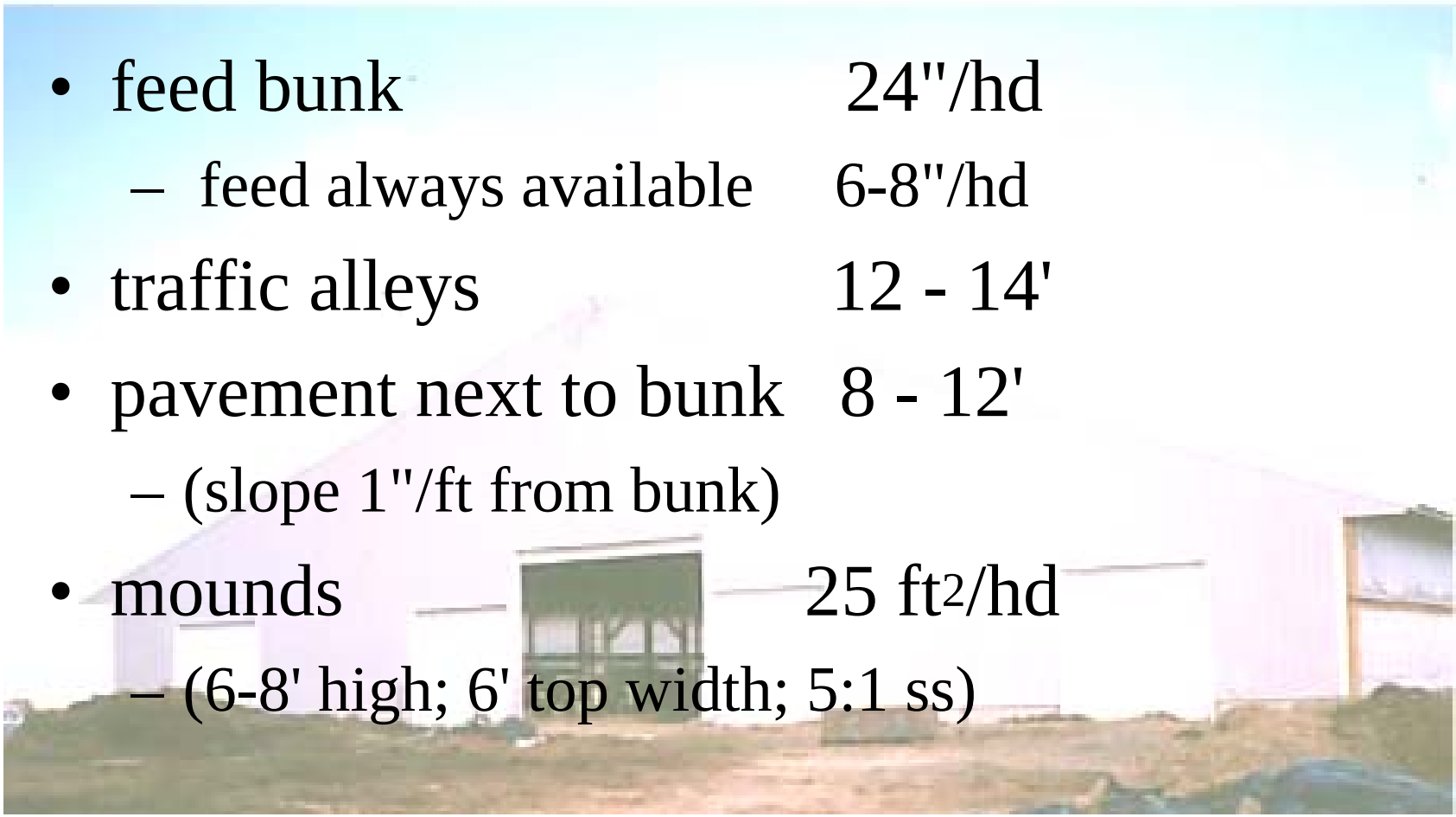
- weather protection
  - windbreak
  - metal shed
  - straw building
- corral plus sorting/treatment
- waterer
- feeding equipment
- manure handling

Space Requirements:

	ft^2/hd
• dirt lot	400
• partially paved lot	150
• (traffic, feeding areas)	
• completely paved lot	50
• paved lot w/ barn	30
• confinement barn:	
– bedded	30 ft^2/1000#
– flushing flume floor or slotted floor	18 ft^2/1000#



Space needs:



- feed bunk 24"/hd
  - feed always available 6-8"/hd
- traffic alleys 12 - 14'
- pavement next to bunk 8 - 12'
  - (slope 1"/ft from bunk)
- mounds 25 ft^2/hd
  - (6-8' high; 6' top width; 5:1 ss)

Feedlot Costs

FIGURE EIGHT

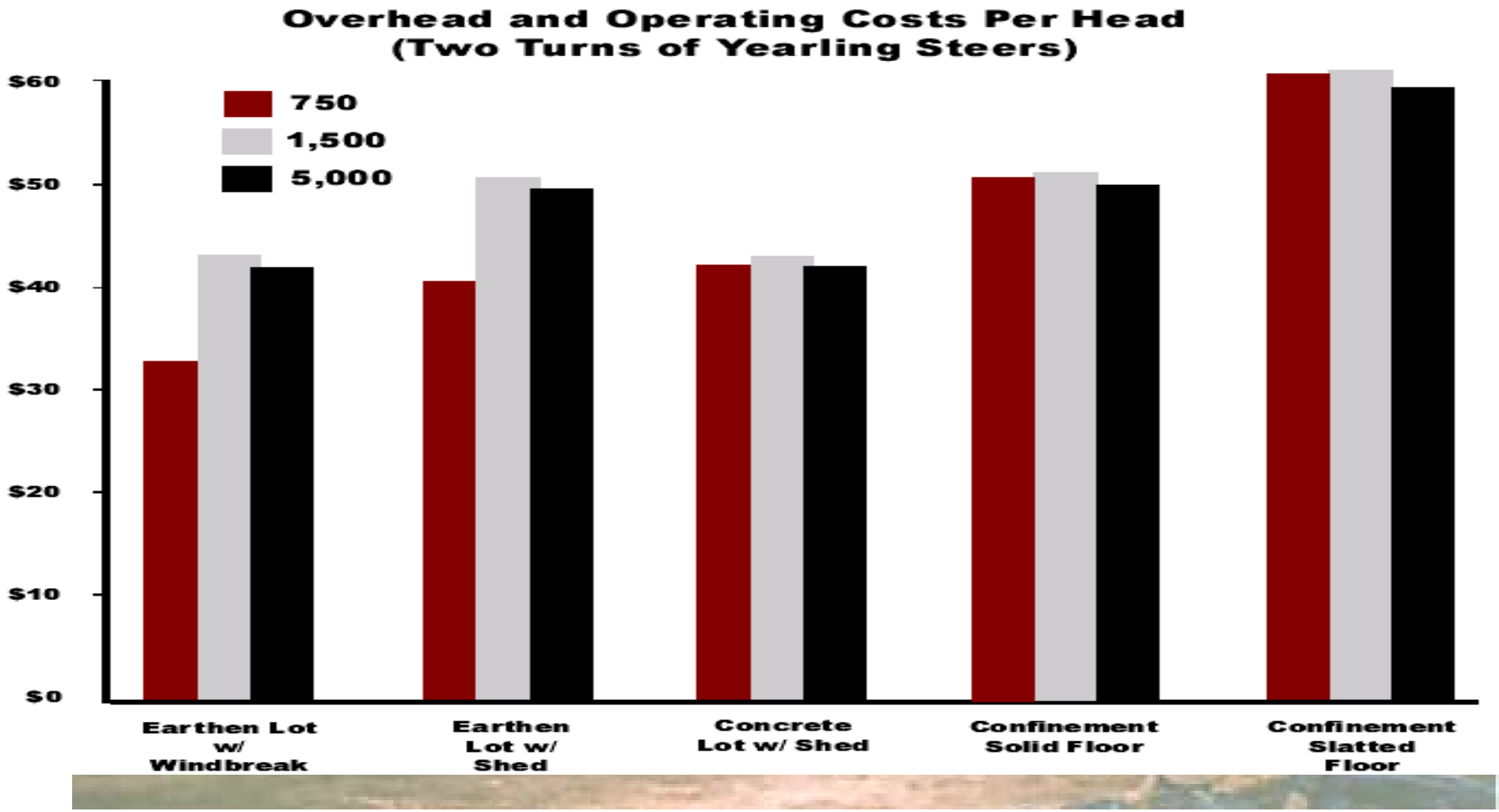
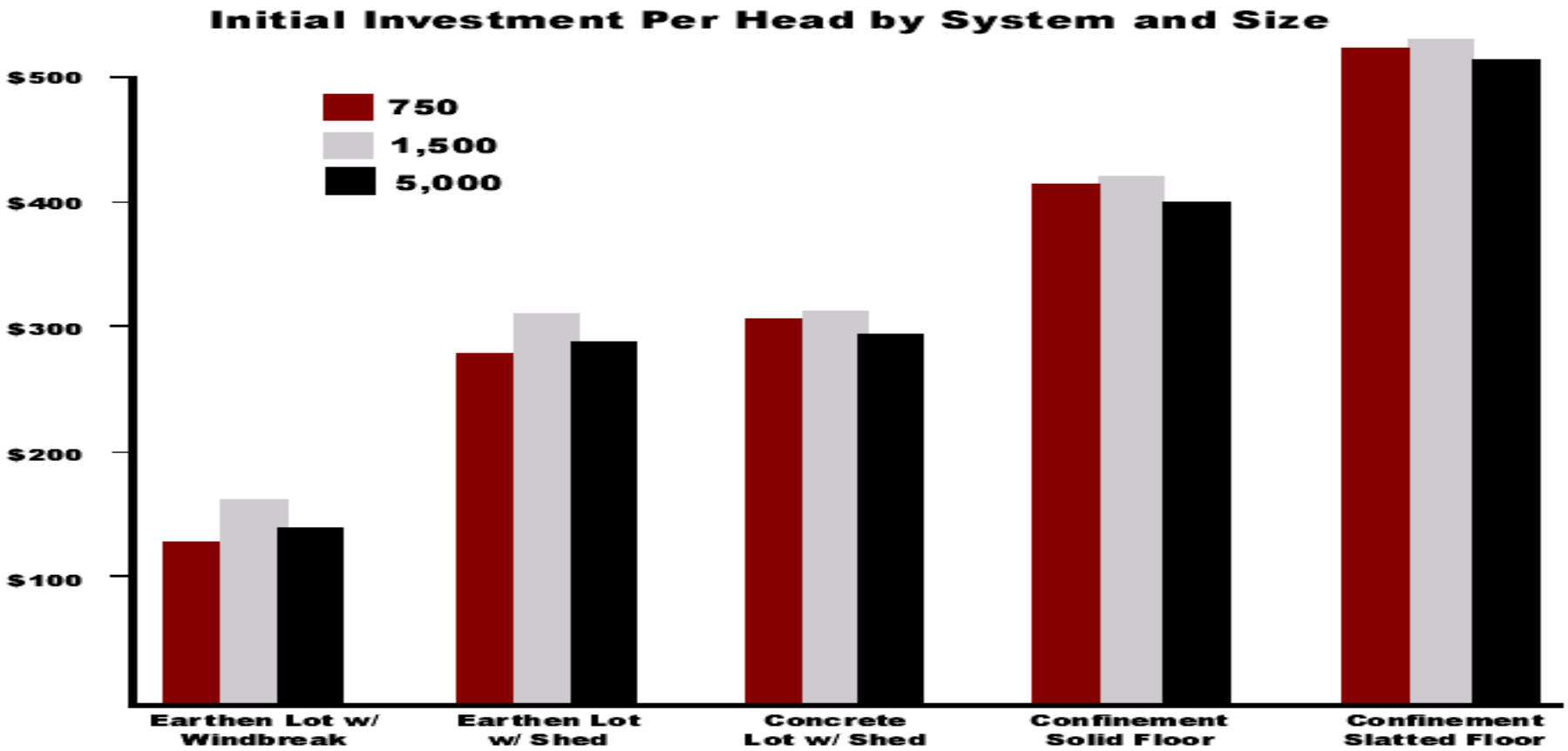
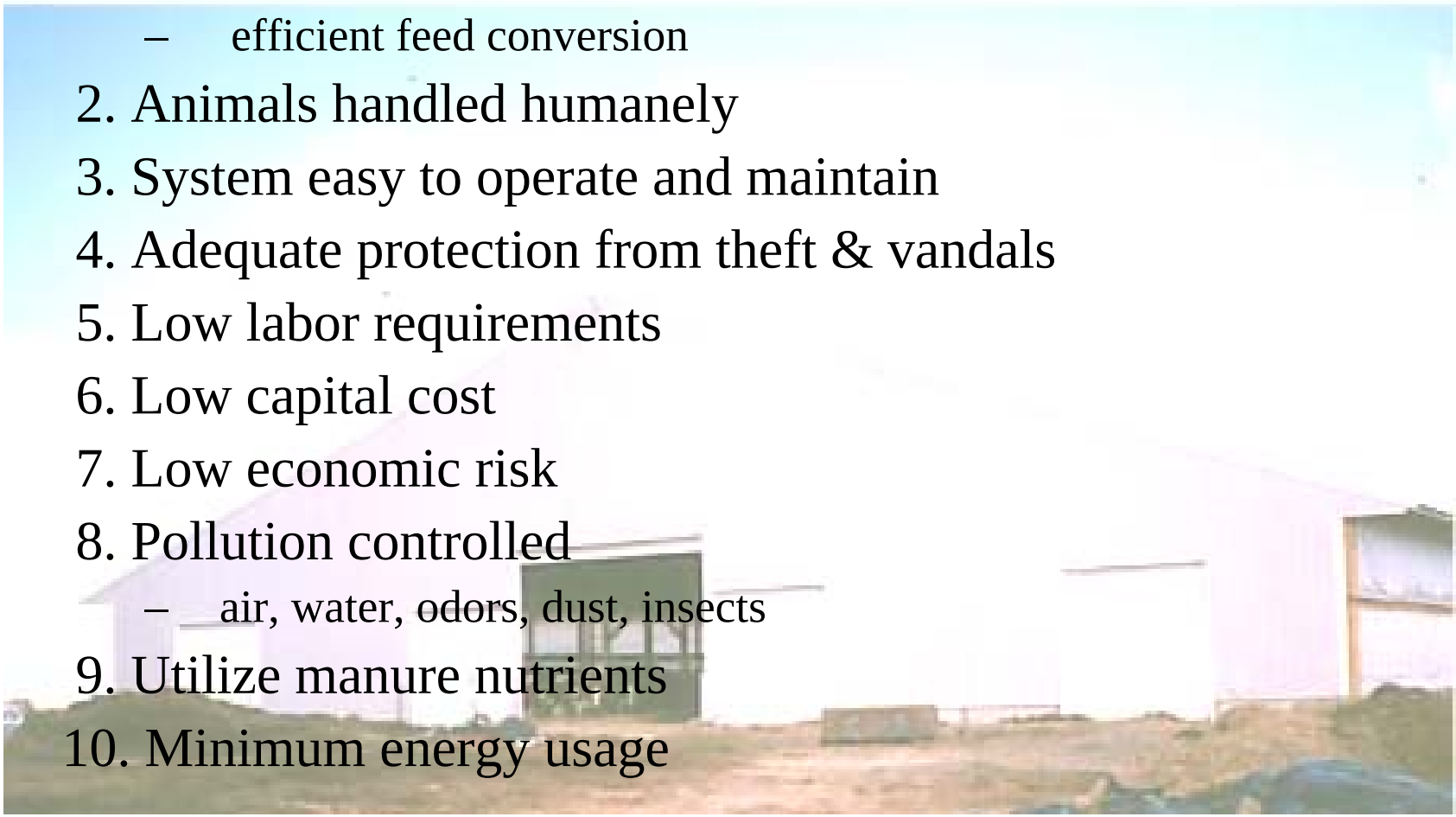


FIGURE SEVEN



FEEDLOT DESIGN OBJECTIVES:

1. Provide optimum animal environment
   - good health
   - rapid growth
   - efficient feed conversion
2. Animals handled humanely
3. System easy to operate and maintain
4. Adequate protection from theft & vandals
5. Low labor requirements
6. Low capital cost
7. Low economic risk
8. Pollution controlled
   - air, water, odors, dust, insects
9. Utilize manure nutrients
10. Minimum energy usage



Handling system components:

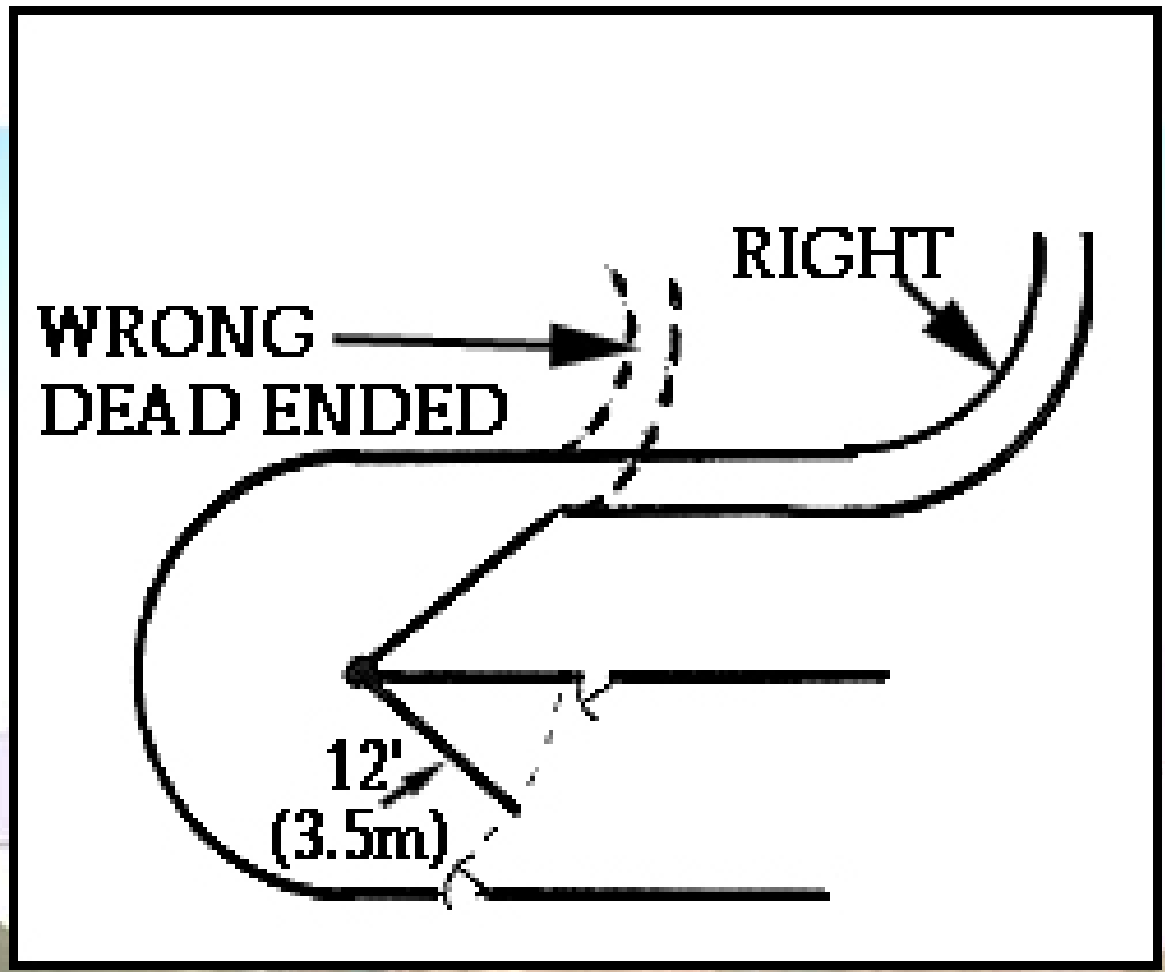
- collection alley
- sorting pens
- holding pens
- crowding pen
- single file working chute
- loading chute
- squeeze or headgate
- option: scales, calf table, etc.

Livestock Psychology

- cattle have nearly 360^{o} panoramic vision
- natural circle tendency
- herd instinct (follow leader)
- tendency to move toward light
- sensitive to harsh contrast (light/dark)
- sensitive to high pitched, loud noises
- balk at moving or flapping objects

Handling Facilities Design Guidelines:

- use solid sides on chutes
  - prevent animals from seeing people, cars, etc.
- cattle in a handling facility should see only one pathway of escape
- cattle will balk if chute appears dead-end
- sliding & one-way gates must allow animals see through


RIGHT
WRONG
DEAD ENDED
12'
(3.5m)

Corrals:

- complexity varies with number of animals & frequency

Simple corral:

Pen in corner of pasture with

- crowd gate
- working chute
- loading chute

Corrals for feedlot & larger cow-calf operations

- curved working chute
- headgate
- squeeze
- sorting pens and alleys

Working chute:

- bottom 30 in. solid
  - reduce leg injuries
- openings in upper portion
  - permit operator to see animals
- sides may be vertical or sloped
- width: normal 24 in, up to 28 in.
- sloped sides may be 14 -16 in at bottom

Pollution/runoff Control

- diversion
- collection
- (settling)
- storage
- disposal

REFERENCES

- Beef Housing and Equipment Handbook, MWPS-6
- Minimum Facilities for Beef Cattle Production, AE-986 NDSU
- Cow-Calf Production, AS-561 NDSU
- Beef Cattle Housing and Handling Facilities, Saskatchewan Agriculture
- Cattle Corrals: cow/calf handling facilities and equipment, WRAES H-1
- Corrals for handling beef cattle, Alberta Agriculture
- Beef Cattle Handbook, Coop Ext Service

QUIZ

- Please take a clean sheet of paper and prepare for a short quiz.
- Put your name on the paper

1. What are the minimum facilities required for a beef cattle operation?

2. True or False ?

Working chutes for beef cattle should be straight - no curve or taper.

3. True or False ?

Beef cattle have a tendency to move toward light - out of dark areas.

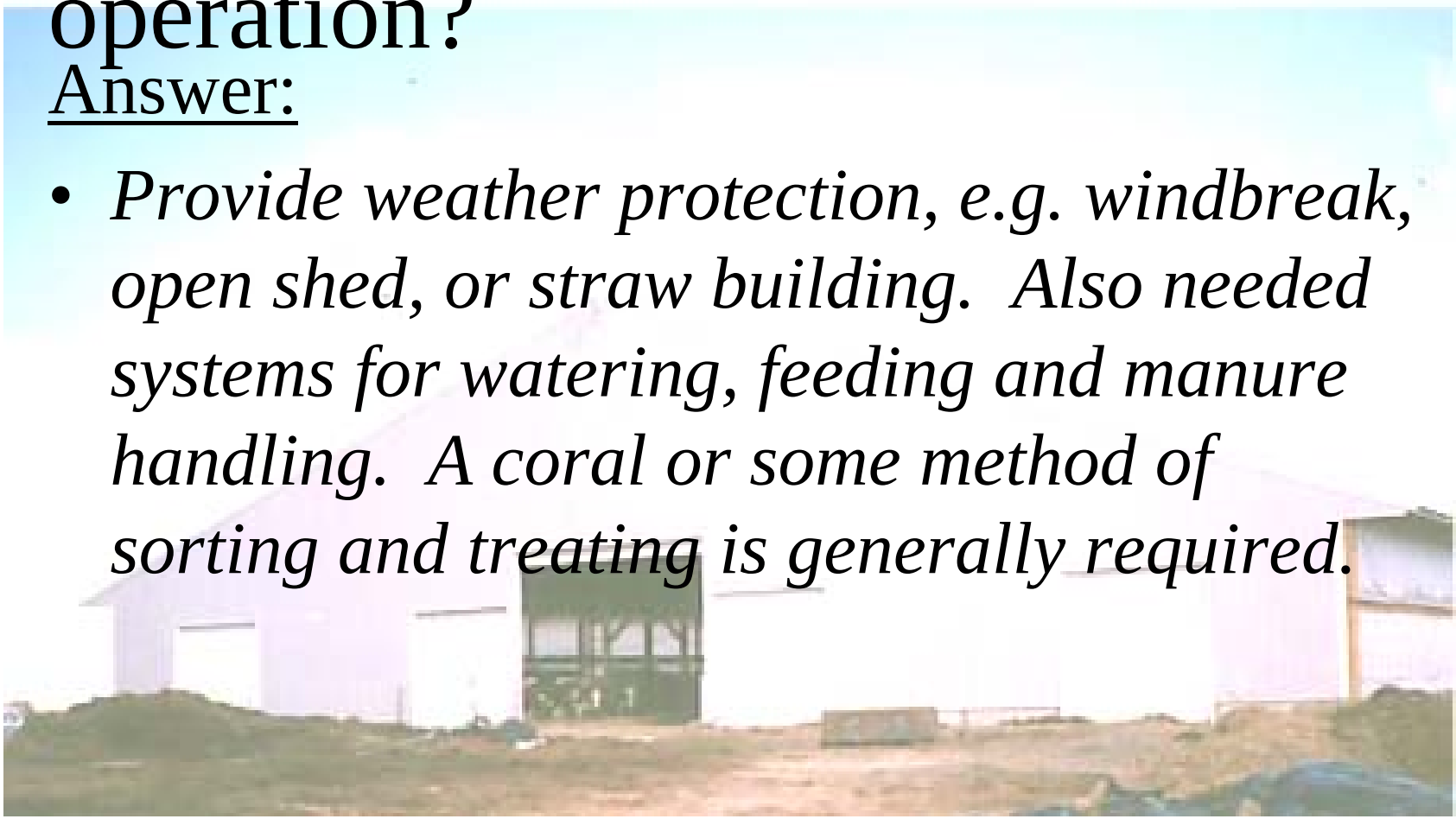
4. What are some things that tend to spook or cause balking of beef cattle?

- Exchange papers with a neighbor for grading.
- Assume each question is worth 2.5 pts.

1. What are the minimum facilities required for a beef cattle operation?

Answer:

- *Provide weather protection, e.g. windbreak, open shed, or straw building. Also needed systems for watering, feeding and manure handling. A coral or some method of sorting and treating is generally required.*



2. True or False ?

- Working chutes for beef cattle should be straight - no curve or taper.

Answer: *False*

3. True or False ?

Beef cattle have a tendency to move toward light - out of dark areas.

Answer: *True*

4. What are some things that tend to spook or cause balking of beef cattle?

Answer:

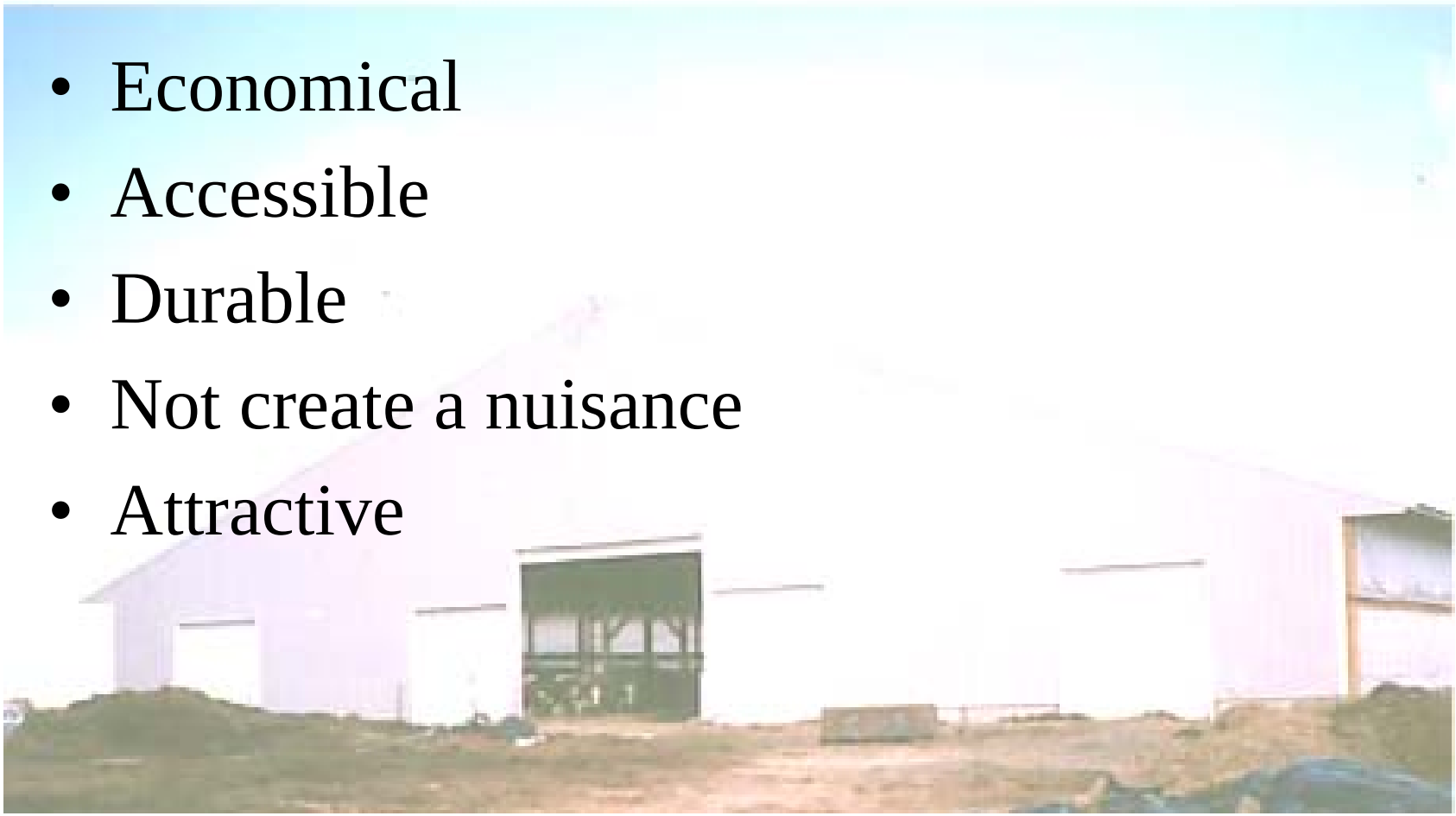
- *(1) flapping or moving objects, (2) loud high pitched noises, (3) dead-ends, (4)*

Design Requirements for Livestock Housing

- PROVIDE SHELTER
  - based on animals environmental needs
- PROVIDE SPACE FOR RESTING AND EATING
- ALLOW FOR EFFICIENT HANDLING OF ANIMALS
  - movement, restraint
- ALLOW FOR EFFICIENT MATERIALS FLOW
  - feed & water, manure
  - milk, eggs, or other products
- MUST MEET CODES AND REGULATIONS
  - local zoning
  - state/federal pollution control

Building should be:

- Economical
- Accessible
- Durable
- Not create a nuisance
- Attractive



Livestock housing -

- should provide healthy environment
  - not be damp and muddy
- temperature is less important than moisture and waste control

Factors affecting design decisions:

- Economics
- Environmental control
  - ventilation
  - heating
  - cooling
  - misting
- Animal movement
- Operator access for care & observation
- Feed handling
- Manure handling

Design factors *cont.*

- **Building materials**
- **Animal response**
- **Animal protection**
- **Operator health & comfort**
- **Aesthetics & external factors**
- **Space requirements**
- **Water**
- **Sanitation**
  - **disease control**
  - **control of pests (flies, rats,)**
- **Treatment facilities**