ODRC
BEEF PRODUCTION PROJECT
2002

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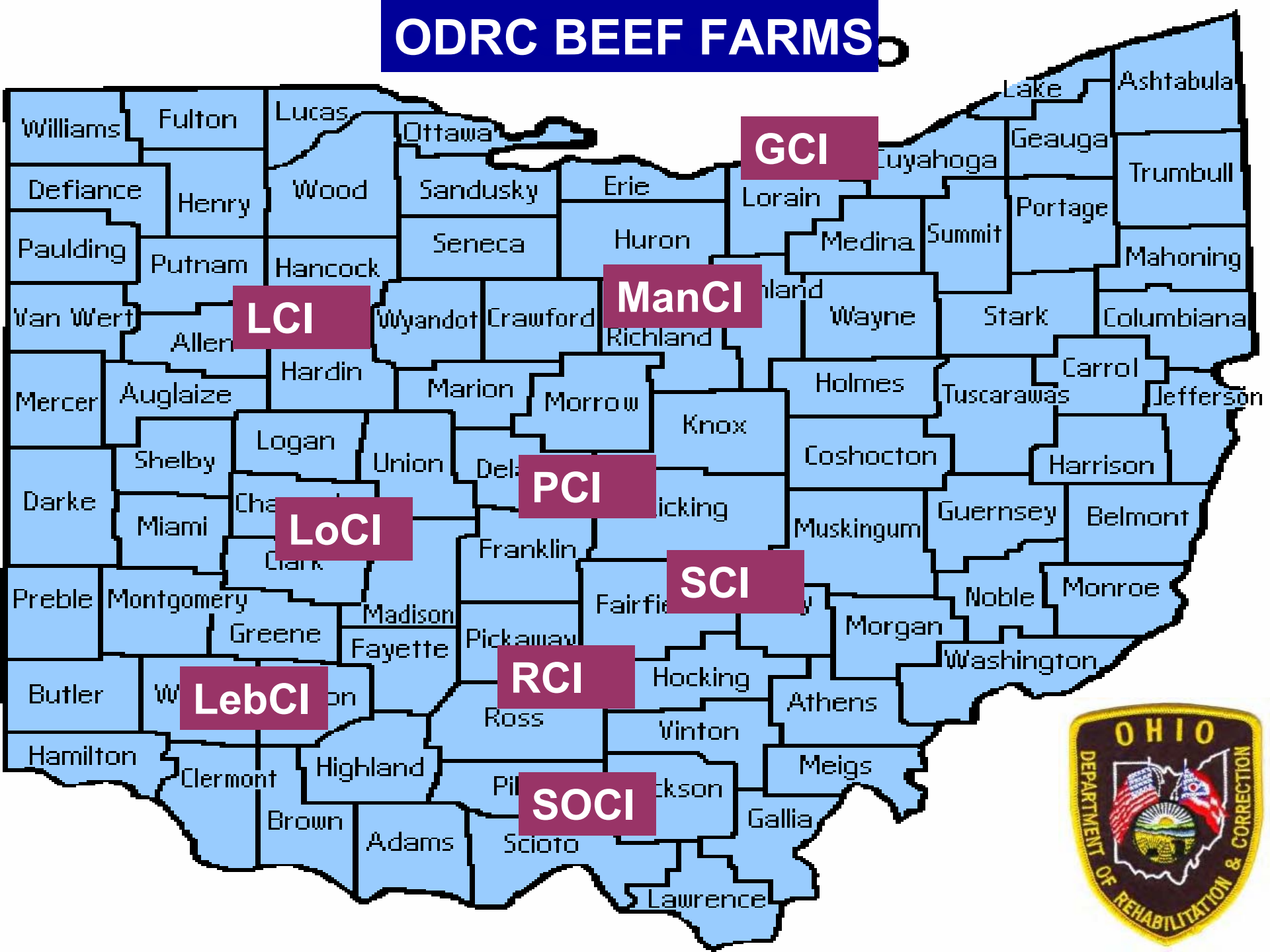
How Did We Get Here?

- First state prison built between 1813-1815 on a 10ac. site fronting on Scioto Street with prisoners housed in 13 cells on the third floor. It opened for business on August 8, 1815, with the incarceration of brothers Hank and Dale Evans from Pickaway County for assault with intent to murder. The Evans brothers were convicted under a new state law prescribing prison rather than whipping for assaults or thefts involving more than $10 in cash or goods.
- The 1815 prison was full within the year, leading the General Assembly to commission a 54-cell institution on the same site, designed for 100 prisoners.

Today's ODRC Beef Farms

- ManCI-Mansfield
- GCI-Grafton
- SCI-Southeastern Correctional
- SOCF-Lucasville
- LebCI-Lebanon
- LoCI-London
- LCI-Lima
- RCI-Ross
- PCI-Orient

ODRC BEEF FARMS



- Final Product
- Breeds
- Management
- Time frame for conclusion
- Investment

ODRC-BEEF PRODUCTION PROJECT

- Dr. Kent Hoblet –Chair Vet. Prev. Med.
- Dr. Fernando Silveira – Beef Production Medicine
- Dr. Paul Hass – Production Medicine
- Dr. Grant Frazer – Reproduction Extension Specialist
- Dr. William Shulaw - Beef Extension Specialist
- Dr. Tom Turner – Beef Genetics Specialist
- Dr. Steven Boyle –Beef Nutrition Specialist
- Dr. Gerald Stocka –Cow/calf, Feedlot Specialist
- Dr. Michael Day – Reproduction Specialist
- Mr. Rick Howard - OSU
- Mr. Gary Stansberry - ODRC
- Mr. Justin Lamers –Ohio Cattleman's Association
- Farm managers and assistants

Slaughter Plant

- Capacity 80 head/cattle or 140 hogs/day
- Two days a week

80 X 2 days = 160 head/week

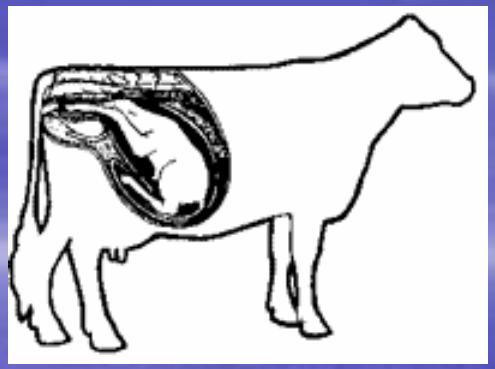
160 X 4weeks = 640 head/month

640 X 12month = **7680 head/year**

COWS NEEDED 10 666

3 month

BREEDING



9 month

GESTATION

7 month

BIRTH-WEANING

10 month

SLAUGHTER

USA BEEF INDUSTRY












BEEF CATTLE REQUIREMENTS

- **MAINTENACE**
- **DEVELOPMENT**
- **GROWTH**
- **LACTATION**
- **REPRODUCTION**
- **FATTENING**

Feedlot Nutrition

- Concentrate diets for a period of time ranging from 80-280 days prior to slaughter
- Marbling is the last fat that is put on, and occurs only after an animal has already put on most of its' muscle

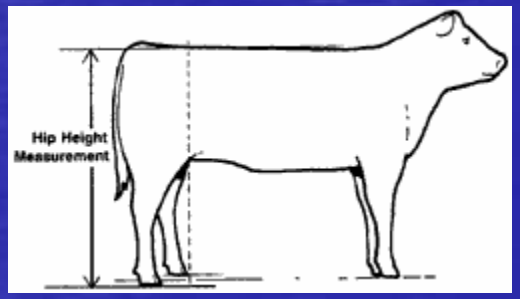
Grading System

- **FRAME**
- **Large**
- **Medium**
- **Small**

- **THICKNESS**
- **Number 1**
- **Number 2**
- **Number 3**

Frame

- **Score**
- The "frame score" is determined by measuring cattle standing naturally on a flat, firm surface, legs squarely under the body, and head in a normal position. Measurement should be made directly over the hooks, or hips. This can be done with a device consisting of a cross-arm (with a bubble level) attached in a 90-degree angle to an upright. The upright contains a rule or gauge for measuring.



Frame

- Large Frame
- Tall and long for age Half inch of fat-12th rib
  Steers, 1200 lbs..... or more
  Heifers, 1000 lbs..... or more
- Medium Frame
- Slightly tall and
  slightly long for age Half inch of fat-12th rib
  Steers, 1000-1200 lbs.....
  Heifers, 850-1000 lbs.....
- Small Frame
- Small frame and
  shorter-bodied for age Half inch of fat-12th rib
  Steers, less than 1000 lbs.....

  Heifers, less than 850 lbs.....
- (Minato and Fox, 1982)

WHAT BREED TO USE?

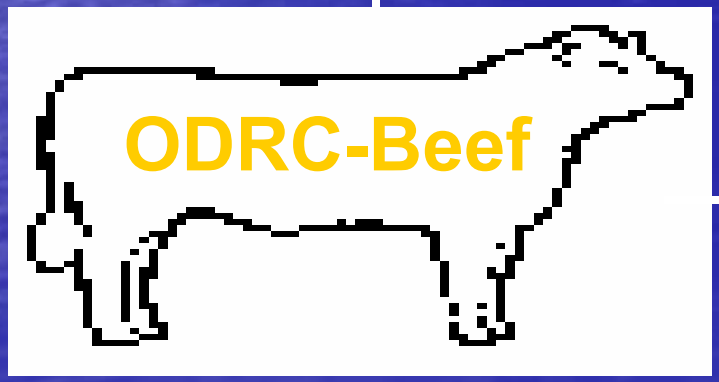
- Modernization

MATERNAL X PATERNAL

CROSSBRED F1

MATERNAL

PATERNAL



RECEIVING "CALF" MANAGEMENT

- Newly arrived calves do not readily eat upon arrival in the feedlot.
- On day one in the feedlot, only 22% of the calves may eat.
- By day three, approximately 40% may still not be eating.
- And on day 10, an average of 15% of the cattle may not be eating.
- Starter rations should be fed for 3-4 weeks after arrival.

Advantages of ODRC's Product

- Receiving period-21-30 days seals profit rate
- KSU's Beef Stocker Survey
- 81.8% smaller producer (<500 head), 10% or less calf morbidity during the first 30 days.
- 54.2% of the largest operations (>2500 head)
- Smaller producer, operators own herd 41.2%, 28.3% purchased
- Lager producer,74.6% purchased

Profitability

- RECEIVING ESSENTIALS
- Know the source
- Minimize transportation time
- Prepare the facilities
- Process for health quickly

Profitability

- Medication
- Weight loss
- Labor time off feed
- Decrease gain efficiency

Recommendation s

- Original assumptions that are no longer valid
- 46 000 inmates
- Liability
- Animal welfare
- Tax payers money
- London Prison Farm from 1908 to 1949

Goals

- 2002 = 1000 bred cows/heifers
- 2003 = 1500 bred cows
- 2004 = 2000 bred cows
- 2005 = 2500 bred cows

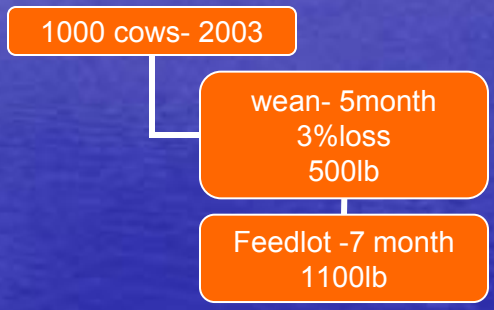
DAY ONE
(birth)

TODAY

17 MONTH – 1400LB

DAY ONE
(birth)

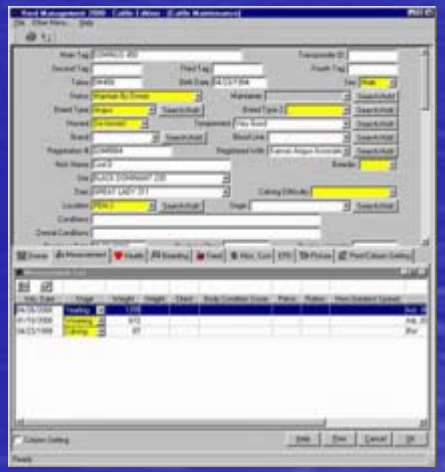
PROPOSED



12 MONTH – 1100LB

223.52LB

IDENTIFICATION SYSTEM



TRANSPORTATION

- Distance is included as a factor because some people think in terms of distance rather than time. One estimate is a 3% shrink for the first 100 miles and .5% to 1% for each additional 100 miles.

Shipping and Receiving Cattle

– **INCOMING SHRINK**

- Time
- Distance
- Age
- Sex
- Type-Condition.

Truck Space Requirements For Calves

Average weight floor	*Number of Calves per Running foot of truck (92 inch truck width)*
200lbs	2.2
300lbs	1.6
400lbs	1.2
450lbs	1.1

(Grandin, 1988)


CANADA
Lake Erie
MICHIGAN
INDIANA
KENTUCKY
WEST VIRGINIA
PENN.
Erie
Ashtabula
Painesville
Mentor
Euclid
Cleveland Hts.
Parma
Lorain
Sandusky
Sylvania
Toledo
Perrysburg
Maumee
Bowling Green
Defiance
Fremont
Fostoria
Norwalk
Fort Wayne
Van Wert
Findlay
Lima
Bucyrus
Mansfield
Marion
Akron
Barberton
Wooster
Stow
Kent
Warren
Youngstown
Alliance
Canton
Massillon
East Liverpool
New Philadelphia
Steubenville
Pittsburgh
Dover
Bellefontaine
Sidney
Piqua
Greenville
Muncie
Anderson
Columbus
Gahanna
Newark
Cambridge
Coshocton
Zanesville
Lancaster
Circleville
Chillicothe
Portsmouth
Huber Heights
Dayton
Kettering
Middletown
Oxford
Hamilton
Fairfield
Cincinnati
Ohio
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Miles
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Recommendation-Suggestions

- Specialize farms
- Standardize procedures
- Beef – eliminate back grounding
- ELETRONIC ID
- Inmate certification programs


THE END

Additional Information

WHEN AND HOW TO PROCESS CATTLE

- Process cattle within 24-36 hours of arrival. One option is to process them on the day of arrival. A second option is to allow them to eat hay and drink water, rest overnight and then process them the next morning. Use the latter option with stressed cattle or postpone the most stressful procedures if cattle are especially stressed or evidence indicates they may be incubating impending disease. Temperatures of cattle just off the truck are not reliable indicators of illness (Lofgreen, 1988). To minimize stress, move cattle to their pens at their pace.

DEVELOPING A PRICE FOR CATTLE

- [(IW X IP) + (G X C)]/FW = FP
- **IW** is the initial weight purchased

  IP is the initial price of the animal going into the program

  G is the expected pounds of gain during the feeding program
- **C** is the cost per pound of gain

  FW is the final weight sold

  FP is the final price needed to break-even on the investment

"break-even"

- Suppose a 500-pound feeder that cost $.78 per pound is fed to make a net gain of 200 pounds at an expected cost of 50 cents per pound of gain. The resulting final weight will be 700 pounds. What is the final price needed to cover cost of investment?
- IW = 500 IP = 0.78 G = 200 C = 0.50 FW = 700 FP = ?
- [(500 x .78) + (200 x 0.50)] / 700= $0.70

Castration

- Although bulls gain faster than steers (approximately 6 to 7 percent) and can have accept able carcasses, the mainstream beef industry does not want to feed bulls. The main reason for castrating bulls is to control behavior and disposition. If a cow-calf producer sells weaned bull calves, somebody will castrate them eventually. Table 7 summarizes the selling price for steers, bulls and heifer feeder calves.

WATER

- The best location for water troughs is along the fenceline where cattle tend to walk upon arriving in a new pen. Clean waterers daily for the first 5 days with newly arrived cattle. Cleaning waters is desirable plus it makes noise so cattle can locate the water. Adding an electrolyte solution to the water troughs that calves drink from immediately after being unloaded at the feedlot may be an excellent way to guard against dehydration.

Thickness

- **Number 1:** Number 1 muscle thickness feeder cattle typically have a high proportion of beef breeding. They must be thrifty and thick throughout. They are full in the forearm and exhibit muscularity over the back and through the loin with moderate width between the legs. Cattle can exhibit thickness with even a slightly thin covering of fat; however, cattle eligible for this grade may carry varying degrees of fat.
- **Number 2:** Number 2 muscle thickness feeder cattle are thrifty and somewhat narrower throughout both the fore- and hindquarters. The forearm is thin and the back and loin have a sunken appearance. The legs are set closer together. Cattle exhibit this narrowness with a slightly thin covering of fat; however, cattle eligible for this grade may carry varying degrees of fat.
- **Number 3:** Feeder cattle in this grade are thrifty and have less thickness of muscle than the minimum requirements specified for the Number 2 grade.

THE BUSINESS OF RECEIVING CATTLE

- The truck driver's shipping invoices should be checked before unloading the truck. When the cattle arrive that are fresh, give the buyer a call and let him know you're pleased. If you receive a problem load, discuss this with the order buyer so they know of the problem and can prevent such problems in the future.. Providing written specifications will eliminate many misunderstandings. Records of purchase weight, delivery weight, and numbers of dead or down on the truck should be available when talking with the buyer about a set of cattle.