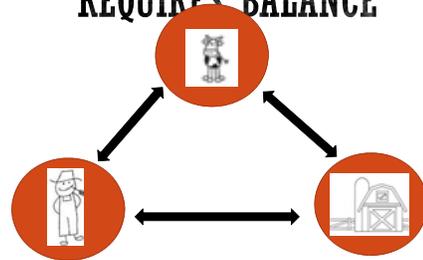


UNDERSTANDING COW SIGNALS

And their importance to management



HARNESSING BEHAVIOR REQUIRES BALANCE



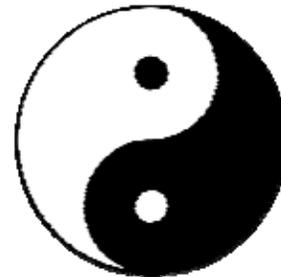
SO MANY RABBIT HOLES, SO LITTLE TIME!

It's ALL behavior:

- Heat detection
- Disease and Lameness
- Calving behaviors (before, during and after)
- Evaluating facility design and performance
- Employee evaluation



BALANCE AND HARMONY



BEHAVIOR-BASED MGT. VS. TASK- ORIENTED MGT.

- Let the cows do the work
- Opportunistic and flexible
- Reduced disruptions
- Strives for "invisibility"

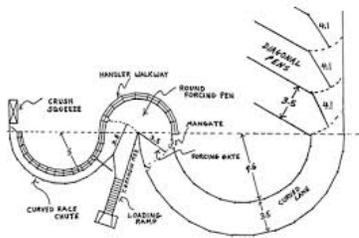


HARNESSING BEHAVIOR REQUIRES BALANCE

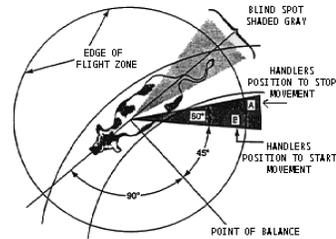
- When one is out of balance, the others must compensate.
- Increased stress levels
 - Decreased production, well-being and efficiency
 - Difficult to maintain good people, healthy cows, or have nice things



EXAMPLE: BEEF COWS



MOVING COWS- FLIGHT ZONE

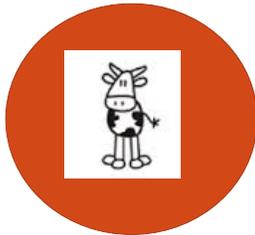


Sending Signals:

- Eye contact
- Body angle (head and shoulders)
- Rate of movement
- Pressure on flight zone
- Angle with balance point
- Intent



COWS



MOVING COWS AND COW BEHAVIOR

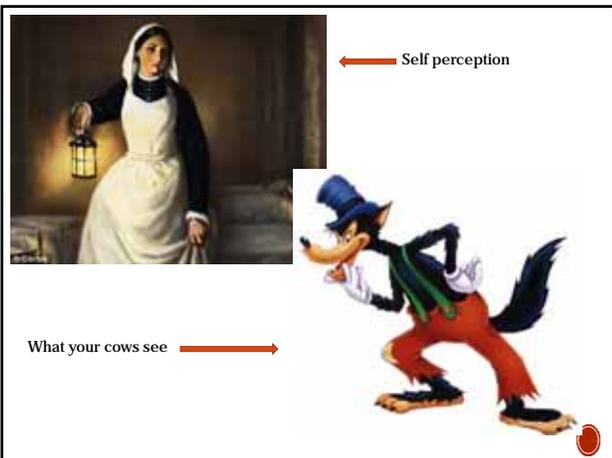
- Vast majority of cow communication is non-verbal- so BE QUIET
- Head and Shoulders= nucleus of flight zone
- Angle and distance determine route and rate
- Stay out of the blind spots
- Eye contact, body angle and intent (energy)
- Move fluidly
- Be consistent- everybody, everyday
- Gentle encouragement

COW BEHAVIOR

- Animals of prey- fear is first response
- Detail oriented
- First impressions are everything
- Understand body language, not the English or Spanish language
- You can get cows to do just about anything!

THE TRUTH ABOUT DAIRY CATTLE

- Cows are ALWAYS telling you something
 - Head, eyes, ears
 - Body posture and orientation
 - Tail position
 - Timing of defecation
 - Cud chewing
- Not all cows are cut out to work with people
 - Jettison dead weight and bad apples
- Cows really don't like you
 - Many activities involve restraint, injection
 - You look like a predator might look
 - Two of you look worse



THE "ALL BY MYSELF" PRINCIPLE

- Patience and flexibility
- Short-term apparent sacrifice of efficiency
- Long-term results, encouraging future productive and independent behaviors
 - Ex: Training cows to come into the parlor unassisted

THE TRUTH ABOUT DAIRY CATTLE

- Cows aren't clever or defiant
 - They can't lie to you
 - It serves no purpose
- Cows are 100% innocent
 - Mantra: "This was my fault"
 - Fear, avoidance, self-defense, and curiosity- not crimes
- Cows don't like choices, and can't read minds
 - They want CLEAR INSTRUCTIONS
 - People and facilities
- Cows remember the bad times
- **CONDITIONING STARTS AT BIRTH AND NEVER STOPS**

THE "ALL BY MYSELF" PRINCIPLE



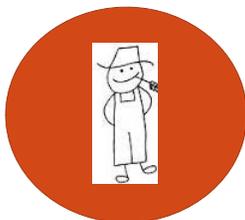
THE "ALL BY MYSELF" PRINCIPLE



THE "ALL BY MYSELF" PRINCIPLE

- How can we harness natural behaviors to accomplish our required tasks?
 - One person jobs
 - Encourage (train) productive behaviors
 - Reduce physical labor
 - Reduce stress on people, animals and facilities
- What do we need to do to accommodate natural behaviors?
 - Daily time budget
- **COWS ARE LIKE LITTLE KIDS!**

PEOPLE



GOOD HELP IS HARD TO FIND (BUT CAN BE DEVELOPED)

- Job descriptions and protocols
- Meetings
- Observation and communication
- Assign jobs that best suit personality and ability
- Jettison dead weight and bad apples
- Connect the dots between behavior, health, efficiency and production
- Establish goals
- Want to learn and do a good job!

THE CHALLENGE

- The best qualified cow person is often an owner or manager who isn't as involved directly with cows as in years past
- The majority of cattle personnel are inexperienced
- Often trained by untrained people
- Focused more on the task than on the effect on the cattle

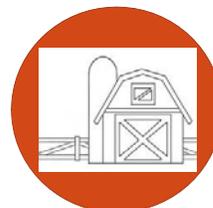
GOOD CATTLE PEOPLE

- Patience, compassion and curiosity
- Think like a cow
- Walk away from a bad situation
- Work alone effectively
- Actively strategize cattle activities
- Let cows do the work- adhere to the "All By Myself" philosophy
- Find the humor in working with cattle

THE PROBLEM WITH PEOPLE

- Not animals of prey
- Have other things to do
- Highly distracted
- Don't see boredom as an AWESOME TIME!!

FACILITIES



BALANCING THE EQUATION

- Clear instructions- don't offer options
- Gross sort> staging> final sort> restraint
- Good gate placement= one good person
- Less muscle, less athletics= less stress, less swearing
- Strategic (temporary) dead ends
- Manipulate sight lines
 - Parlor, barn-wide open
 - Hoof trimming shoot, laneways, holding area- limit distraction
- Consistent lighting, consistent floor texture
- ONE PERSON JOBS



COWS DO LIKE....

- Walking into the wind
- Eating into the wind
- Going home- circular traffic patterns
- Mechanical instruction over human instruction
- Turning around or going behind a gate at a dead end

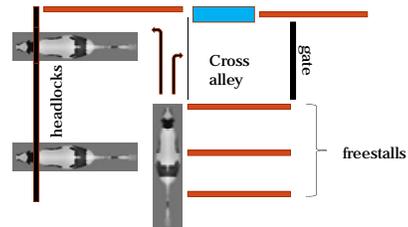


COWS DON'T LIKE....

- Shadows
- Wet, shiny surfaces
- Entering a dark space
- Choices
- Loud noises
- Things that look like people
- Sharp turns
- Sort lanes with drastically diverting traffic patterns



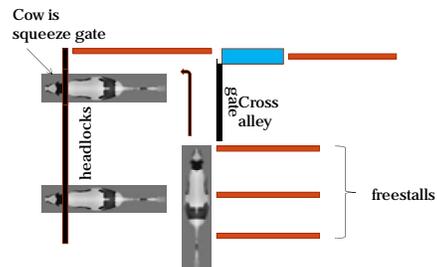
GATES AND REDUCING OPTIONS



VIEW FROM A ROBOT- LOOKS LIKE A PERSON!



GATES AND REDUCING OPTIONS



MY THREE BEST FRIENDS

- The gate
- The rope
- The stick



THE ROPE= NO DISRUPTIONS



Shhh. Sleeping!

Chewing cud

Ready for breeding



CHEAP LIGHT DUTY GATE= ONE COW + ONE MAN



“All By Myself!”



MOVING COWS SAFELY- SORT STICK

Magic wand



Good employee training

Primitive weapon



Absence of training



THE ROPE= ONE COW + ONE MAN



First milking, limited choices, found the grain “All By Myself”



“I DON’T TRUST THE GUYS”

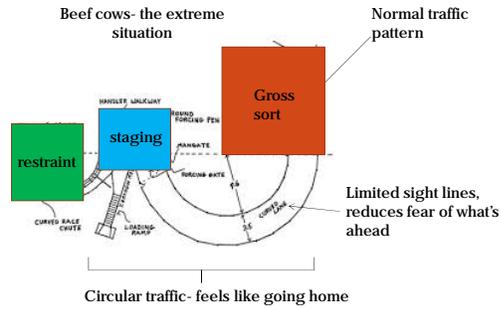
- Do you really have people you don’t trust working for you?

OR

- Do you have people who need training?



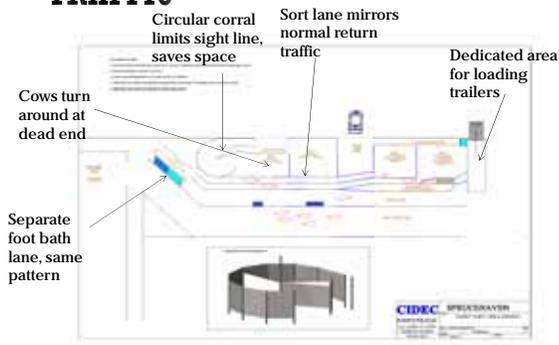
TRAFFIC AND SIGHT LINES



BALANCE & HARMONY- ACCOMMODATING COWS' NEEDS



TRAFFIC



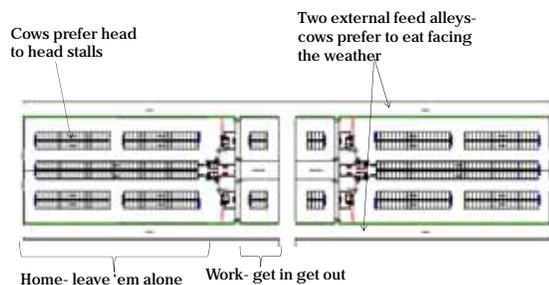
DAILY TIME BUDGET

Table 1. Typical daily time budget for a lactating dairy cow.

Activity	Time devoted to activity per day
Eating	3 to 5 h (9 to 14 meals/d)
Lying/resting	12 to 14 h
Social interactions	2 to 3 h
Ruminating	7 to 10 h
Drinking	30 min
Outside pen (milking, travel time)	2.5 to 3.5 h

Grant and Albright 2000

BEHAVIOR-BASED DESIGN



MANY DISRUPTIONS

- Pushing
- Bedding
- Vaccinations
- Repro shots
- Breeding
- Herd health
- Pen moves/ sorting
- Hooftrimming
- Sick cows/ fresh cow examinations
- Heat detection
- Feeding

MINIMIZING THE EFFECT

- Coordinate and combine activities
- Efficient use of headlocks
- Utilizing sort pens, palpations rails, etc.
- Timing activities with feeding and milking
- Be flexible, plan ahead
- Use the rope, work in the stalls rather than chase cows



TECHNOLOGY AND BEHAVIOR

- Helps fill in skill gap with inexperienced employees
- Has helped facilitate growth of dairies
- Enhances but not replaces sound cattle skills



OTHER FACTORS

- Stocking density
- Stall availability and comfort
- Bunk space
- Feed bunk management
- Grouping strategies
- Pen move frequency
- Pen size



CONCLUSIONS

- It's OK to seek perfection!
- Do your employees know this stuff??
- Be a partner, not a master
 - Who works for who? Does it matter?
- Think like a cow
- The lowest cost investment you can make is just doing things better



TECHNOLOGY AND BEHAVIOR

- Utilize behavior
 - Sort gates and lanes
- Monitor behavior
 - Activity
 - Rumination
 - Lameness
 - Tail chalk
- Manipulate behavior
 - Ovsynch



BALANCE AND HARMONY

Happy cows=healthy cows=reduced incidence of disease and injury=better reproductive performance=increased milk production=less work=happy employees=reduced stress=more efficiency=one person jobs=reduced labor costs=more opportunities=.....

