Building a Small Meat Processing Plant

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www.nichemeatprocessing.org

When is it time to expand or build a new plant?

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# When is it time to expand or build a new plant?

- Three reasons why this might be necessary;
  - When the building is falling apart and sanitation concerns are an issue.
  - When the capacity constrained resource in the process is constrained by physical space, the methods used in the space are optimized and fully utilized, and you currently are turning away sales.
  - When the capacity constrained resource in the process is material handling, the methods are optimized, and you can cut people or use them to increase sales.

When is it time to expand or build a new plant?

- In a large majority of cases when we are called in to assist a client with a new plant layout for new construction or an addition, we find it does not meet one of these three criteria.

- What they really want to do is make more money. Additions, new construction, and moving things around cost money and often do not result in enough increased sales to justify the expense.

- Creativity before Capital.

Determine your capacity constrained resource.

- Chain concept – series of dependant events.
  - Similar to your HACCP plan process flow diagram.
  - Circles represent operations, arrows material handling.
  - Separate chain for each product.
  - Capacity = # of units per day in relationship to # of available resources

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( Slaughter ) → ( Cooler ) → ( Fabrication ) → ( Freezer )
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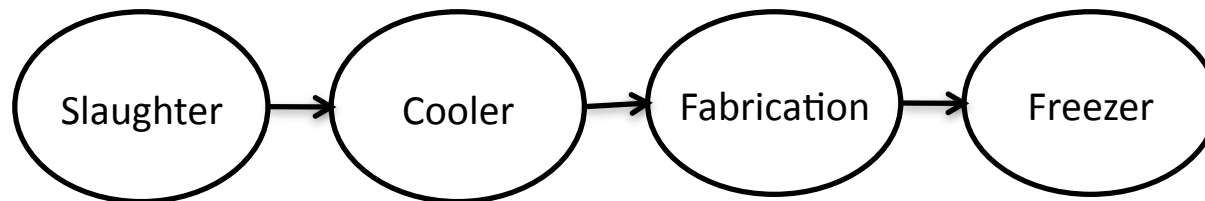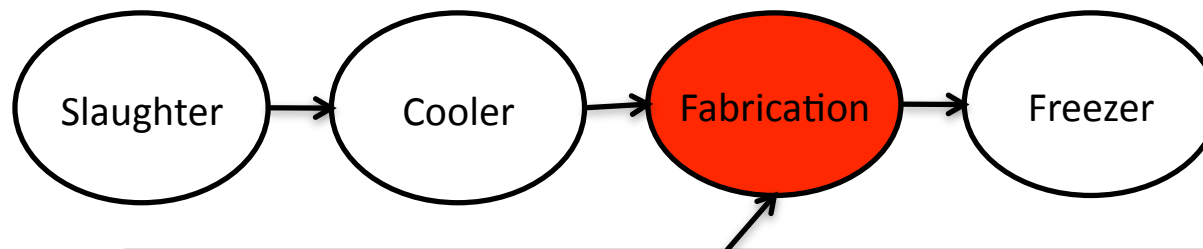
Determine your capacity constrained resource (example 1).

- Slaughter: 7 beef per day × 1 person = 7 capacity/day

- Cooler: 24 beef ÷ 8 days aging = 3 capacity/day

- Fab.: 5 people × 8 hours ÷ 4 man-hours/beef= 10 capacity/day

- Material Handling: 4 moves/hr × 1 person × 8 hours ÷ 3 moves = 10.66 capacity
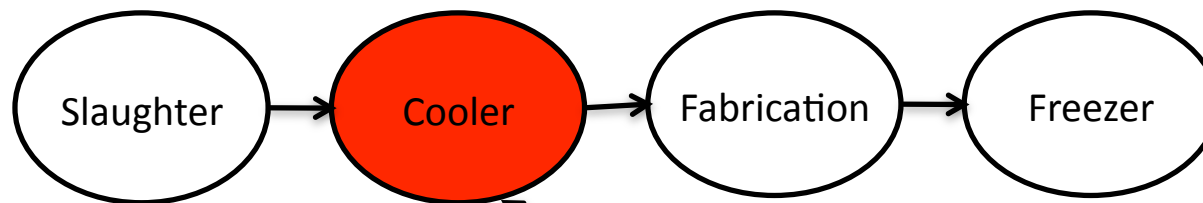
Only the cooler if improved will increase the capacity of the system as a whole. Can it be improved without adding more space? What provides the highest throughput per expense ratio?

# Determine your capacity constrained resource (example 2).

- Slaughter: 14 hogs per day × 1 person = 14 capacity
- Cooler: 48 hogs ÷ 2 days aging = 24 capacity
- Fab.: 2 people × 8 hours ÷ 2 man-hour/hog = 8 capacity
- Material Handling: 4 moves/hr × 1 person × 8 hours ÷ 3 moves = 10.66 capacity

Slaughter → Cooler → Fabrication → Freezer

Is more space the answer? Are you using optimal processing techniques? Is every hour of every day utilized? What provides the highest throughput per expense ratio?

Determine your capacity constrained resource (example 3).

- Slaughter: 14 hogs per day × 1 person = 14 capacity
- Cooler: 48 hogs ÷ 2 days aging = 24 capacity
- Fab.: 3 people × 8 hours ÷ 2 man-hour/hog = 12 capacity
- Material Handling: 5 moves/3 hr × 1 person × 8 hours ÷ 5 moves = 2.66 capacity
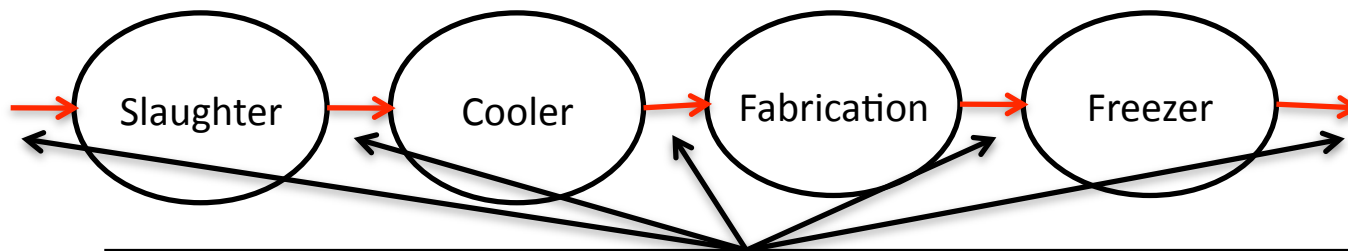
Will cutting travel distance increase capacity? Are we using the best methods? Is this person always available when needed? Will improvements really allow us to cut costs? What provides the highest throughput per expense ratio?

Decision time
Unless the building is falling apart and sanitation is a problem

- Ask yourself "if I could *double* the capacity of this step in the process, could I *double* my annual sales?" If the answer is yes, you have found your capacity constrained resource.

- Then ask yourself "is the money I'll spend on an addition or new construction the most cost effective way to get more work through this step in the process?"