Karl Johnson
Owner / Operator

• Belgrade, Montana
• Established 2018
• 8-10 tons foodscraps / week
• 30 yards compost / month
• 1 Acre facility
• Turned Windrows
• Vermicomposting
WARNING: This presentation is just a description of facility expansions / transitions, and a bunch of opinions about lessons learned. Skin your own cat

Using Goals and Limitations to inform facility design and avoid debt

- You are what you measure
- Process and equipment
- *Nightmares Come True!!*
- Utilize Partnerships
- Investing time vs. Spending time
Goals:
1. Create High Quality Products
2. Provide High Quality Service
3. Maximize Landfill Diversion

Limitations:
- Don’t own Land
- No Power at Site
- Limited Access to Water
- Cold Winter Temps
- Semi-dispersed Service Area
- Inexperienced Customers
- High Labor Costs

Result:
- Bucket Turned Windrows
- Vermicomposting
- Provide Collection Service
- Include Bin Washing

But First . . .
You Are what you Measure:

Inputs / Recipe

Outputs – Biology and Chemistry

Process Consistency = Product Consistency = Repeat Customers

• Accounting Software
• Cash Flow Spreadsheets

• **Time is money** – use a stopwatch, literally
• As owner, value your own time (or at least track it) - eventually you’ll have to pay someone to do it
• Labor cost vs. wage - 1.5 X – insurance, taxes
• Price Services in order to afford expansion
Composting:

Goals:
• Maximize diversion

Limitations:
• Don’t own Land
• No Power at Site
• Limited Access to Water
Vermicomposting:

Goals:
• Create High Quality Products

Limitations:
• Cold Winter Temps
• High Labor Costs

“CFT”

“worm bunker”

Winter

Labor + Space

Heat and rent $$

???

• Outdoor
• Lower cost (rent + labor)
• Mimic natural environment
• Use Thermophilic heat for winter
Nightmare scenario!

Learn, then grow
Collection:

Goals:
• Maximize diversion
• Provide High Quality Service

Limitations:
• Semi-dispersed Service Area
• Cold Winter Temps

Less trips = Less fuel + labor

“Bucket Exchange” Kiosks

Lift Gate!
Process and Equipment:

Goals:
• Maximize diversion

Limitations:
• High Labor Costs

< 200 lbs/week

• Buy used, no leaks!
• Windrow “flipping”

???

• Loader?
• ASP?
• Grants!!
Bin / Bucket Washing:

Goals:
• Provide High Quality Service

Limitations:
• Limited Access to Water (at compost yard)
• Cold Winter Temps

30 buckets / hour
100 buckets / hour
Get Creative!

Goals:
• Create High Quality Products

Limitations:
• Limited Access to Water

• $5000 (new)
• $1200 down, balance financed through manufacturer over 12 months

• Landlord’s tank and trailer
• Fire Safety for property
• $500 Honda 2” pump

• Graywater!!
• $500 trailer (new)
• Used tank
• $200 harbor freight 2” pump
Partnerships – Mutual Benefits

• All customers are Partners
• Co-branding / advertising
• Sustainability initiatives
• Municipalities – it’ll happen eventually
  • Lower cost service
  • Diversion, lower quality products
Investing time vs. Spending time – Decrease Contamination through education

Customer Feedback - Pictures

Make removal part of the process, don’t just rely on screening
In other words:

- Stay curious and be willing to change
- *Kaizen* – continuous evaluation and improvement
- Use Data to inform decisions
- Know before you grow
- Don’t take yourself too seriously, you’re only saving the world, right!!??

Thank you!

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