Restoring Ag Soils with Manure Based Compost, Blends and Applications
About

Ovenell Farms has been in operation for six generations beginning in Stanwood, Washington with crop and dairy production and moving to Eastern Washington in the early 1990's to raise dairy replacement heifers.

Began processing the manure from its facility in 2006 for the purpose of providing a soil amendment to local crop farmers.

Since 2010, has been a permitted compost facility and has been producing compost that is certified for organic use by the WSDA under the brand name Cowpost.

By 2011, Ovenell Farms made the decision to focus solely on soil amendments in order to fill a growing need in the agricultural community.
About

Soil amendments:

- 10,000 tons certified for organic use compost, annually
- 100,000 tons screened manure, annually
  - Four locations
  - Nutrient management plan

Hauler:

- Seven trucks hauled 345,000 tons last year
- Primarily our own product

Applicator:

- 15,000 acres spread in 2017
- 670,000 irrigated acres in the Columbia Basin
Feedstocks

Manure

Dairy cows
  • Slurry, pen pack, bedding, slope-screen/centrifuge

No tipping fee – there is a value
  • growers best practices

Percent moisture
  • Raw – 70%
  • Screened – 25%

Value
  • Organic matter
    - 50 + year old crop land deficient in carbon
  • N (15-25 lbs/ton), P205 (25-35 lbs/ton), K20 (40-70 lbs/ton)
  • pH (8.5 – 9.5)
**Feedstocks**

**Cull products:** cherries, apples, grapes, potatoes, onions
- Didn’t meet specifications or diseased
- Otherwise stockpiled or landfilled
- Tipping fee
  - Shrink (85% moisture)
  - Contamination
- Fully composted to guarantee pathogen kill

**Carbon:** orchard grindings, nursery stock, other woody biomass
- C:N ratio
- Changing varieties
Different customers use different materials

**Pivot farmers:** potato, hay, wheat, corn, beans, onions
  - Nutrients
    - P205, K20
    - Not accounting for Nitrogen content
  - Offset commercial fertilizer costs with organic soil amendments to benefit soil health

**Fruit farmers:** orchards, vineyards, berries
  - Root protection
  - Lower bulk density

Organic Farms < 15%
  - Mixture of practices

Agriculture: 95.85%
Other: 4.15%
Agronomic Application

Application Rates

- 5 – 10 tons/acre of screened/composted product
- 15 – 20 tons/acre of raw product
  - High moisture percentage equals less nutrients per ton
  - Requires more effort to achieve similar results
    - More passes across the field equals more fuel burned

Nutrient leaching: Loss of nutrients in the soil due to rain or irrigation

- Weather
- Growing season
Why Aren’t More Growers Using Compost?

Commercial fertilizer
- Inexpensive in 2017
- Guaranteed nutrient availability
- Greater chance for profitability
  - Maybe not in the future...

Rotating crops with other growers
- Multi-year benefits but other growers unwilling to share costs

Program is an investment
G.A.P. (Good Agricultural Practices)

Food and Agricultural Organization of the United Nations (F.A.O.)

• "practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food and non-food agricultural products"

Food security, safety, and quality

• Soil health
• Water conservation
• Animal health
• Public health

United States Department of Agriculture (U.S.D.A)

• Voluntary certification/audit program
• Required by manufacturers, retailers, foreign governments
  - 30% of the WA State Apple crop was sent to 60 foreign countries around the world