

JR Simplot Food Group Aberdeen, ID Odor Control Case History

2010 Wastewater Reuse Conference
May 19-20, 2010
Boise, ID



JRS Food Group Aberdeen History

- JRS purchased facility in 1973
- Facility operations located in Aberdeen, ID
- French fry and potato products manufacturing facility
- 1 MGD process wastewater (5 day work week)
- 108 acres under land application
- Sanitary wastewater - POTW
- Year round application
- Treatment System Components
 - Pretreatment – screening
 - Clarifier
 - Often septic
 - Vacuum filter
 - Problematic
- 5,000 mg/L TCOD_{eff}
 - Additional degradation of organic matter in pipeline



JRS Aberdeen Food Group History, Cont'd

- '89 - added 200 acres (Beck Farm)
- '97 - added 225 acres (Knudsen Farm)
- '96 - '97 expanded pump and piping system
 - Increased distribution of water
 - Fresh/canal water dilution
 - Piggig capability
- '02 purchased Pratt Farm, 2,000 acres
 - Developed 850 acres for land application
- '04 installed dissolved air floatation device
- '05 installed anaerobic digester
- '09 installed Gener-Ox oxygen injection unit



Land Application Sites



JRS Aberdeen Food Group History, Cont'd

Year	Odor Complaints
< = 2004	50-60
2005	~75
2006	10
2007	4
2008	8
2009	6
2010 (YTD)	4

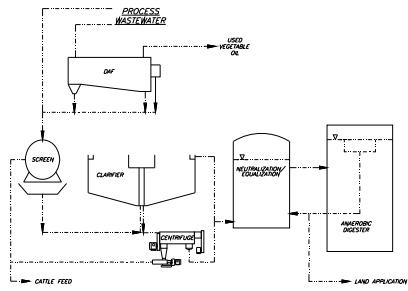


Current Facility Overview

- 0.75 MGD wastewater treatment (year round)
- TCOD_{inf} = 5,000 mg/l; TCOD_{eff} = 500 mg/l
- 3 wastewater reuse sites
- 1,270 acres under land application
- Reuse sites under contract with local farmers
- Higher lbs produced/gallon water used



Facility Overview – Cont'd



Current Odor Control Strategy

- Maintain zero sludge bed in clarifier
- Gener-Ox oxygen injection system
 - Supersaturate effluent with oxygen
 - Target: > 1 mg/l DO at pivot
- Bioxide (calcium nitrate)
 - Backup treatment
 - Nitrate residual
- Rotate water frequently
- Be responsive to complaints
- Dilute, dilute, dilute



Gener-Ox Oxygen Injection



Gener-Ox Oxygen Injection



Mixing/Distribution Manifold



Questions?

