

Wastewater (Breweries)

DESCRIPTION

Breweries have multiple wastewater streams: bottle wash water, which contains almost no organic components; waste beer; and the water used during filtering, screening and pressing activities prior to fermentation. This wastewater has nitrogen, potassium and phosphorus content from the spent grains and spent hops.

CLASSIFICATION

Nutrients

SOURCE INDUSTRY

Breweries

ANNUAL VOLUME GENERATED IN WISCONSIN

Unknown

CURRENT APPLICATIONS

Fertilizer, disposal

PRICE

Nitrogen, \$0.22/lb.; phosphorus oxide, \$0.22/lb; potassium oxide, \$0.14/lb¹

APPLICABLE BIOREFINING PROCESSES

None identified. The wastewater can be applied as a fertilizer.

REFERENCES

¹ Reetz, H. F. Jr. and Schnitkey, G. D. 2002. Economics of Nutrient Systems and Sources. Better Crops, 86(2):10-13.

Barthold, Dan. Director of Environmental, Energy, Safety & Security. Miller Brewing Company. Interview with Sean Weitner. Telephone, 23 April 2004.