

# TONGAAT HULETT SUGAR REFINERY



**IWMSA AWARD launch**  
**28 July 2011**

# Introduction

- THS refinery received the following awards in 2010 competition.
  - Gold Award / Trophy for the first place in General Manufacturing.
  - Cleaner Production Trophy/Certificate – this award was in recognition of initiative related to conversion of filter cake (waste) from landfill for use in agricultural industry as a fertilizer.

# BACKGROUND

- Tongaat Hulett's Sugar refinery
  - Established in 1910.
  - Converts “raw brown sugar” into “white refined sugar”
  - Manufacturing, packaging, warehousing and distribution.

# Waste Management Practices

- ISO 14001 certified since 2004.
- Identified all Aspect and Impact.
- Systematic approach to waste management.
- Demonstrated continuous improvement in waste management practices.
- Achieved this :
  - Committed leadership & staff.
  - Excellent support from service provider- waste-man, Don't waste, prestige.

# Cleaner Production Award – Agricultural project

- Clarification – generates “waste” – Calcium Carbonate (15000t/annum).
- Located in Durban – “urban environment”
- Landfill – was only option
- Initially classified as “general waste” – general landfill
- 1998 – Introduction “minimum requirement...”
- Resulted in waste be reclassified as “hazardous” due manganese which inherent in lime supply.
- It was delisted to general landfill, however cost impact to business – 200k to 1 million in 1 year.
- Present-day cost – R 3 million per annum.

# Agricultural Project

- 2009 – approached by Oricol (Veolia) Environmental services
- Explore option of using filter cake as lime replacement in agricultural.
- Test were done at SASRI – Calcium levels were significant and there was potential for the material to be used.
- Next step – environmental due diligence.
- Lengthy process – spanning about 1 year.
- An initial authorisation with conditions was given to proceed on trial basis.
- Further technical & legal motivations were then provided to KZN DEA for classification as “byproduct”
- This was finally accepted in March 2010 .
- Project proceeded on full-scale since May 2010 .

# Benefits

- Lime benefit on soil :
  - Optimising soil pH to improve nutrient availability and root development into deeper soil layers
  - Improving structure of soil to increase water and nutrient holding.
  - Source of calcium- vegetable industry.

# Benefits

- Material is essentially supplied “free” to farmers.
- NO commercial benefit to THS.
- Benefits
  - Improved environmental performance – diversion from landfill.
  - Reduced reliance on local landfills in and around Durban. These sites are filling up and waste will have to be trucked further a field within the next two to three years to landfill sites near Verulam at increased costs.
  - Reduced risk of landfill price increases.



# Project status

- Completed -1 year on this project.
- Farmers are very positive and agreed to continue.
- Crop response – soil samples have been taken and scientific assessment will be completed once season is completed.

# Conclusion

- Agricultural use of sugar industry filter cake – is well established in the industry.
- However, circumstances at Hulref prevented this from taking place in the past.
- Changes in legislation together with a passion and commitment to achieving sustainable environmental practices has resulted in successful re-use of the refinery filter cake.