

SUMMARY

There are 33 sorghum breweries in South Africa, the National States and Self-governing States which produce 1,1 million m³ of beer and use 2,75 million m³ of water annually. Thirty one per cent of the production is sold in bulk while the remainder is packaged. Sorghum maltsters produce approximately 185 400 t/a and use about 630 000 m³/a of water.

The average specific water intake (SWI) was found to be 3,4 m³ of water per ton of malt and 2,5 m³ of water per m³ of beer produced. Target SWIs have been proposed as 3,0 m³/t for large and/or mechanized maltsters, 7 m³/t for small maltsters (less than 300 t/month) and 2,0 m³/m³ for breweries.

Effluent volumes discharged for malting and brewing are about 84% and 52% of the total water intake respectively. Specific pollution loads (SPLs) were found to be 8,6 kg COD per ton of malt and 5,2 kg COD per m³ of beer produced. Target SPL's have been proposed as 7,0 kg COD/t and 5,0 kg COD/m³ respectively.

Extensive analyses of sorghum brewery effluent yielded the relationship:
1 OA/PV : 2,0 TOC : 11,6 COD.

Suggestions on methods of reducing the overall water consumptions and pollution loads have been outlined. Further research on all aspects covered in the guide is recommended.