

## SUMMARY

The dairy industry consumes approximately 4,5 million m<sup>3</sup> of water per annum in over 150 dairies in the RSA. The general heading of dairy industry actually accounts for a group of industries with a wide range of different products. Between 75% and 95% of the water intake is discharged as effluent.

**Table 1 : Summary of specific water intakes and specific water usages**

(All units vol/vol unless otherwise stated)

PRODUCT	SPECIFIC PARAMETERS	TARGET
Pasteurized milk - bulk production	1,6*	0,75*
Pasteurized milk packed in		
sachets	1,7*	1,1*
cartons	2,2*	1,5*
bottles	3,0*	2,0*
Other milk products (all carton or plastic tub packed)		
- cultured products	10,2	6,3
- fruit juices and mixes	2,7	1,7
- sterilized/UHT products	3,7	2,0
- skim milk	3,6*	2,1*
"Dry" milk products		
- milk powder	11,8 m <sup>3</sup> /t*	8,7 m <sup>3</sup> /t*
- cheese	23,0 m <sup>3</sup> /t*	20,0 m <sup>3</sup> /t*
- butter	1,5 m <sup>3</sup> /t	1,3 m <sup>3</sup> /t
- ice cream	2,5	1,9
- condensed milk	4,4 m <sup>3</sup> /t*	3,5 m <sup>3</sup> /t*

The figures marked \* in Table 1 are for products produced from raw milk and include the water consumed in the reception stage. Those not marked \* are for products produced from intermediate materials. The reception function has also been treated separately and a specific water usage of 0,6 has

been found for reception only. A target of 0,4 is proposed. The specific water usage for reception has been based on the volume of raw milk received.

The majority of water usage in the dairy industry is associated with the various cleaning processes. Two major sources of improvement in this area are the optimal design and operation of purpose-built vehicle washing facilities and improvement of water management and control in the bottle and crate washing facilities.

From a water usage point of view, it is recommended that the use of plastic sachets for the sale of milk be encouraged. With the mean specific water intake for sachet milk being considerably lower than that for bottled milk, a significant reduction in water consumption, effluent volume and load would occur.