

Estimated Meat Loss Along the Supply Chain in Canada (Million Metric Tonnes)

Currently, 2.56 mmt food is wasted in meat/poultry. This waste occurs in production, processing, manufacturing, distribution, retail, consumer and HRI. About 0.89 mmt or 34% occurs in just processing, manufacturing, distribution, and retail.

Processing	0.39
Manufacturing	0.41
Distribution	0.04
Retail	0.05
Total	0.89

SOURCE- Gooch, M., Bucknell, D., LaPlain, D., Dent, B., Whitehead, P., Felfel, A., Nikkel, L., Maguire, M. (2019). The Avoidable Crisis of Food Waste: Technical Report; Value Chain Management International and Second Harvest; Ontario, Canada.

Zero Ox-tech reduces the waste by 0.5% across the supply chain then,

$$0.5 * 2.56 \div 100 = 0.0128 \text{ mmt}$$

By using Zero Ox-tech we are saving $0.89 - 0.0128 = \mathbf{0.8772 \text{ mmt}}$ or **877,200,000 kg** from going waste. Hence, Zero Ox tech is reducing the carbon footprint by reducing the CO₂ emissions between $52,632 * 10^6$ to $5263.2 * 10^6$ kg of CO₂e.

Food type	GHG Emissions per 1 kg Produced	Zero Ox-tech data
Beef	60 kgCO ₂ e	$877,200,000 \text{ kg} * 60 = 52,632,000,000 \text{ kgCO}_2\text{e}$
Lamb and Mutton	24 kgCO ₂ e	$877,200,000 \text{ kg} * 24 = 21,052,800,000 \text{ kgCO}_2\text{e}$
Poultry Meat	6 kgCO ₂ e	$877,200,000 \text{ kg} * 6 = 5,263,200,000 \text{ kgCO}_2\text{e}$

References

1. Gooch, M., Bucknell, D., LaPlain, D., Dent, B., Whitehead, P., Felfel, A., Nikkel, L., Maguire, M. (2019). The Avoidable Crisis of Food Waste: Technical Report; Value Chain Management International and Second Harvest; Ontario, Canada.
2. <https://www.visualcapitalist.com/visualising-the-greenhouse-gas-impact-of-each-food/#:~:text=Worldwide%2C%20there%20are%20approximately%2013.7,food%20supply%20chain%20per%20year.&text=On%20average%2C%20emissions%20from%20plant,lower%20than%20animal%2Dbased%20types.>