***Moringa oleifera* Leaf Powder as a natural alternative to preserve dried pork sausages (droëwors).**

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**Introduction:** Droëwors are salted and dried ready-to-eat sausages traditionally produced and consumed in South Africa with increasing availability in International markets. They are prepared with a high fat content, ranging from 20.1% to 35.6%. For this reason, they are highly oxididizable and the inclusion of natural antioxidants from Moringa oleifera Leaf Powder (MLP) is a natural alternative to other synthetic antioxidants.

**Methodology:** We added different quantities of MLP to the preparation, 0 (control), 0.5%, 1% and 2%, together with spices and salt during the preparation (figure 1). Thereafter, sausages were dried at 30 °C and 40% relative humidity for 72 h (figure 2) and left up to 7 days at room temperature conditions. Results were analysed with XLSTAT 2022.

**Results:** During drying, TBARS was measured in order to establish the kinetic of oxidation of the samples containing different amounts of the antioxidant MLP. It was clear that MLP inhibited the onset of oxidations in all treatments.

The antioxidant activity was also measured at the beginning and at the end of the experimental period, by means of α- and γ- tocopherol, β-carotene and ferric reducing antioxidant power (FRAP).

The loss of antioxidants was estimated by the slope of the linear regression between days as k (ΔC/ΔT). The value of k differed between treatments and antioxidants. The loss was higher for the control samples and was lower for the 2% samples, showing the protective activity of MLP against the oxidative damage.

But the addition of MLP to the sausages, changed drastically the colour of the products.

For that reason, the minimal quantity of MLP necessary to inhibit 75% of the lipid oxidation (ID75) was calculated.

This concentration followed a cubic equation: % inhibition = 218,9\*MLP%197,5\*MLP%^2+52,9\*MLP%^3

Using 0.75% MPL it was possible an inhibition of around 75% (ID75).

The research demonstrates the potential of Moringa oleifera Leaf Powder (MLP) as a natural additive to inhibit the rate and exent of lipid oxidation in unfermented pork sausages (droëwors) with no nitrites/nitrates added.

Key words: *Moringa oleífera*, droëwors, antioxidants, tocopherols, TBARS