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Effectiveness of calcium oxide and autoclaving for the detoxification of castor seed meal in finishing diets for lambs

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Highlights

- Efficiency detoxification of castor seed meal using 10 g CaO and 30 min autoclaving
- 300 g/kg castor seed detoxified in lambs diet increase feeding time and blood urea
- Detoxified castor seed meal used in lamb diet reduces intake and digestibility
- Castor seed meal detoxified 300 g/kg inclusion in lambs diet reduces the performance
- There was no toxic effect of feeding lambs with detoxified castor seed up 300 g/kg

ABSTRACT

This study aimed to evaluate the efficiency of a detoxification process (calcium oxide (CaO) levels \times different autoclaving times) on castor seed meal and to test the effects of diets incorporating detoxified castor seed meal on the performance, digestibility, ingestive behavior, blood concentrations, carcass weight, and *in vitro* gas production in lambs. Changes in detoxification capacity through the interaction of autoclaving time and the amount of CaO were evaluated by an experiment with a non-detoxified castor seed meal and a 4×2 factorial design with four levels of CaO (10, 20, 30 and 40 g/kg) and two autoclaving times (15 and 30 minutes at 15 psi and 121°C), with five replicates per treatment. The treatment of castor seed meal with 10 g of CaO/kg and 30 minutes of autoclaving promoted the disappearance of the bands that represent the ricin subunits of castor seed meal, and this was the most efficient method because it used less CaO.

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