

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## FERMENTATION QUALITY OF MIXED CORN SILAGES WITH DIFFERENT CROTALARIA SPECIES

Carolina Marques COSTA\*<sup>1</sup>, Marco Antônio Previdelli ORRICO JUNIOR<sup>1</sup>, Mábio Silvan José da SILVA<sup>1</sup>, Alice Watte SCHWINGEL<sup>1</sup>, Carolina Nantes MOITINHO<sup>1</sup>, Luiz Armando Zago MACHADO<sup>2</sup>, Rodrigo Arroyo GARCIA<sup>2</sup>

\*carolinaufgd@hotmail.com

<sup>1</sup>Federal University of Greater Dourados, Dourados, Mato Grosso do Sul, Brazil

<sup>2</sup>Brazilian Agricultural Research Corporation – Embrapa Agriculture and Livestock West, Brazil

Intercropping corn with leguminous plants to produce mixed silages may impact fermentation quality. This study aimed to assess whether intercropping corn with *Crotalaria* species affects pH and microorganism populations in silages. A completely randomized 4x2 factorial design was employed with four intercrops (corn + *Crotalaria juncea*; corn + *Crotalaria spectabilis*, corn + *Crotalaria ochroleuca*, and corn alone) grown in two spatial arrangements (corn and *Crotalaria* planted on the same row with 45 cm between rows and corn and *Crotalaria* grown in alternate rows with 90 cm between corn rows) and four replicates per treatment for a total of 32 mini silos. After 100 days of fermentation, the mini silos were opened and a sample was collected from each to determine pH and total populations of facultative anaerobic mesophilic bacteria, lactic bacteria, yeasts, and filamentous fungi. The values were expressed as log of colony-forming unit per gram of silage (log CFU/g). The pH of corn + *Crotalaria juncea* with 45 cm spacing (3.82) was higher than the other intercrops. No difference ( $P>0.05$ ) was observed in microorganism populations. Mean yeast populations values were 2.48, 1.30, 2.21, and 1.52 log CFU/g for silages of corn alone, corn + *Crotalaria juncea*, corn + *Crotalaria spectabilis*, and corn + *Crotalaria ochroleuca*, respectively. Mean filamentous fungi populations values were 2.15, 2.01, 1.66, and 1.34 log CFU/g for silages of corn alone, corn + *Crotalaria juncea*, corn + *Crotalaria spectabilis*, and corn + *Crotalaria ochroleuca*, respectively. Mean populations of lactic and facultative anaerobic mesophilic bacteria were 1.39 and 6.49 log CFU/g for corn alone silage, 1.88 and 5.53 log CFU/g for corn + *Crotalaria juncea*, 1.29 and 6.56 log CFU/g for corn + *Crotalaria spectabilis*, and 1.09 and 7.54 log CFU/g for corn + *Crotalaria ochroleuca*, respectively. It can be concluded that producing mixed silages with *Crotalaria* species does not impact the final population of the microorganisms evaluated despite the corn + *Crotalaria juncea* silages having higher pH.

**Keywords:** *Crotalaria juncea*, *Crotalaria ochroleuca*, *Crotalaria spectabilis*, Lactic bacteria

Promoção e Realização:



Apoio Institucional:



Organização:

