

ICBC 2022


Proceedings of International Congress on Bioactive Compounds
 Proceedings of 2nd International Congress on Bioactive Compounds



SORGHUM FLOUR BRS 305 HYBRID HAS THE POTENTIAL TO MODULATE THE INTESTINAL MICROBIOTA OF RATS FED WITH A

Hércia Martino (Hércia Martino) (/icbc/icbc-2022/authors/hercia-martino?lang=en)¹ Oscar David Medina Martinez (Oscar David Medina Martinez) (/icbc/icbc-2022/authors/oscar-david-medina-martinez) Mariana Juste Contin Gomes (Mariana Juste Contin Gomes) (/icbc/icbc-2022/authors/mariana-juste-contin-gomes?lang=en)¹ Bárbara Pereira da Silva (Bárbara Pereira da Silva) (/icbc/icbc-2022/author Renata Celi Lopes Toledo (Renata Celi Lopes Toledo) (/icbc/icbc-2022/authors/renata-celi-lobes-toledo?lang=en)¹ Valéria Queiroz (Valéria Queiroz) (/icbc/icbc-2022/authors/valeria-queiroz?lang=en)²
Vol 2, 2022 - 153724

Pôster

 [Download \(/user/login/ashnazg?destination=/icbc/icbc-2022/papers/sorghum-flour-brs-305-hybrid-has-the-potential-to-modulate-the-intestinal-microb%3Flang%3Den%2](/user/login/ashnazg?destination=/icbc/icbc-2022/papers/sorghum-flour-brs-305-hybrid-has-the-potential-to-modulate-the-intestinal-microb%3Flang%3Den%2)

[Presentation \(/icbc/icbc-2022?lang=en\)](/icbc/icbc-2022?lang=en)

[Papers2022/papers?lang=en\)](/icbc/icbc-2022/papers?lang=en)

[Authors2022/authors?lang=en\)](/icbc/icbc-2022/authors?lang=en)

[Tracks2022/tracks?lang=en\)](/icbc/icbc-2022/tracks?lang=en)

[Feed2022/feed?lang=en\)](/icbc/icbc-2022/feed?lang=en)

[Ranking2022/ranking?lang=en\)](/icbc/icbc-2022/ranking?lang=en)

[Committees2022/committees?lang=en\)](/icbc/icbc-2022/committees?lang=en)

[Contact2022/contact?lang=en\)](/icbc/icbc-2022/contact?lang=en)

Abstract

Sorghum (*Sorghum bicolor* (L.) Moench) BRS 305 hybrid is a promising cereal, rich in resistant starch and tannins, which are related to antioxidant, anti-inflammatory, and hypoglycemic effects many metabolic functions, including damage to the gut barrier function, and induce gut dysbiosis by increasing Firmicutes and reducing Bacteroidetes phylum. Then, the present health of rats fed with a high-fat high-fructose diet (HFHF). In phase I (8 weeks), 45–50-day old, male Wistar rats, were separated into the AIN93-M group (n = 10; fed with normal diet) or HFHF group was divided into the HFHF group (n = 10) and HFHF plus sorghum flour group (n = 10; replacing 50% of dietary fiber, 100% starch, 19.8% protein and 22.5% lipids in the experir feces were determined by HPLC; colon histomorphometry analysis was carry-out by colon fragments embedded in paraffin, stained with hematoxylin/eosin, analyzed with 20x objective hypervariable V4-region of the 16S rRNA gene and analysis were performed using the Mothur software, v.1.40.0. The Chao, Shannon and Simpson indexes was used for estimates of alph dissimilarity index and between sample diversity, using unweighted UniFrac. The metagenome functional predictive analysis of any variations in the genetic capacity of the microbiota w differences were observed in total goblet cell number, crypt thickness and height, circular muscle layer, and butyric acid between all groups (p>0.05). The consumption of sorghum flour resistant starch and phenolic compounds that had prebiotic effects. The sequencing of the 16S rRNA gene of the cecal microbiota presented no changes in the α -diversity and β -diversity Firmicutes/Bacteroidetes ratio compared to the other experimental groups, and lower abundance of Bacteroidetes, compared to the HFHF group. Despite, sorghum increased the abund production. In conclusion, the consumption of an HFHF diet associated with sorghum flour can modulate the gut microbiota composition and abundance of SCFA-producing bacteria, wh



Share your ideas or questions with the author



Did you know that the greatest stimulus in scientific and cultural development is curiosity? Leave

[Sign in to interact \(/user/login/ashnazg?destination=/icbc/icbc-2022/papers/sorghum-flour-brs-305-hybrid-has-the](/user/login/ashnazg?destination=/icbc/icbc-2022/papers/sorghum-flour-brs-305-hybrid-has-the)

Institutions

¹ Federal University of Viçosa

² Embrapa Milho e Sorgo

Track

- Food and health (AS)

Keywords

Sorghum bicolor (L.) Moench

SCFAs

gut microbiome

Galoá

— anais e proceedings —

Learn
more
(<https://galoa.com.br/eventos-cientificos/proceedings-e-anais-de-eventos>)

Preserve the memory of the conference and increase the reach of the scientific knowledge is the reason why Galoá Proceedings was created.

The conference papers published here are open access, and our indexing keeps the papers presented at the conference easy to find and cite.