

NEW SILAGE FOR CATTLE FEED USING SUGAR CANE PRODUCED BY COOPECAÑERA IN COSTA RICA

Since 2017, the [Cooperativa Coopecañera](#) of Costa Rica has been developing a sugar cane silage, an innovative food supplement for cattle. This cane silage represents a value-added alternative for the marketing of sugarcane by small producers and a new quality product for local farmers.

Founded in 1972, *Coopecañera* brings together 275 small cane producers that operate in San Ramón, Grecia and Alajuela, in western Costa Rica.



[The Cooperative began to look for new ways of marketing and for new products](#) giving cane greater value to deal with lower international sugar prices, greater competition in the fair-trade markets of Europe and the United States, and barriers to accessing the national market. As a result of these trends on an international and national scale, in the last three years small sugarcane growers had barely managed to place a quarter of their production in the usual markets.

In this context, the Cooperativa Coopecañera managed to design the new production process and launch the new complementary feed for cattle based on cane thanks to the alliance with the Technical Assistance Department of the National Institute for Cooperative Development INFOCOOP and with the Animal Nutrition Research Center CINA of the Costa Rica University UCR. The product has required a series of studies and investigations for its development. To make the new silage, the CINA researchers created several alternatives combining different ingredients that could result in a balanced and nutritious feed for livestock. In addition, they carried out laboratory analysis and tests on five farms in the area to determine the silage best adoption in animal feed.

[Silage is a method of conserving forages or agricultural by-products](#) with high moisture content, which is based on fermentation and uses a small amount of energy for the production of volatile fatty acids (acetic and lactic) under anaerobic conditions (in the absence of oxygen). In this process there is an increased acidity of the material that does not allow the development of certain microorganisms that could decompose it, thus practically maintaining the same conditions in which it was stored.

The silage that was developed by Coopecañera is mainly made up of sugar cane, added with other substances to improve its protein levels. The nutritional quality of the cane silage is similar to that of corn silage, considered until now as the "ideal silage". Regarding the amount of crude protein, cane silage has almost double that of corn. Several studies developed at CINA focus on silage, a low-cost green forage conservation technique that allows agricultural producers to take advantage of the grasses that grow in the rainy



season and store them to feed their livestock during times of scarcity. The agricultural sector is one of the most prone to be hit by climate variability, especially in periods of drought. The lack of rain reduces the amount and distribution of grass available for animal feed, which can cause beef cattle to lose weight and lower milk production yield.

The cane silage currently produced and marketed by Coopecañera is an innovative product that offers an alternative to livestock producers which is attractive in both price and quality. Cane silage contains a high percentage of protein and other essential nutrients that cattle need, providing more energy than a grass-based diet alone cannot normally obtain. Livestock feeding in many cases already complements the pasture with fresh sugarcane and corn and the advantage with silage is that the product can be stored preserving all its properties and used at any time. Currently, Coopecañera sells cane silage to local producers and continues to develop the marketing strategy to expand demand.

The cooperative continues to collaborate with the University of Costa Rica and its Animal Nutrition Research Center CINA to seek other options and new innovative products derived from sugarcane for its production and commercialization in the medium term. These efforts are part of Coopecañera's Strategic Plan, which is projected to generate new forms of income, providing its associates with timely services that allow them to maintain and improve the cultivation of sugarcane.

Currently, Coopecañera sells sugar, whole cane, chopped cane, molasses, and silage of cane for livestock. In alliance with *La Gran Bodega de las Frutas y Verduras*, it also [produces compost-type organic fertilizer from fruit and vegetable waste](#). These wastes are collected by Coopecañera and transferred to its facilities, where the appropriate process is implemented for its conversion into organic compost. The fertilizer allows the Cooperative to diversify its products and at the same time contributes to the management of waste in the territories, preventing them from producing greenhouse gases. In addition, for local agricultural producers the organic compost offers a valuable alternative to the use of chemical fertilizers, reducing environmental pollution and providing consumers with healthier products.

The [Instituto Nacional de Fomento Cooperativo \(INFOCOOP\)](#) of Costa Rica has provided its support to the entire process developed by Coopecañera for product diversification and promotes on its website the results achieved with the creation of cane silage, the innovative product that allows improving the activity of local ranchers.

Coopecañera demonstrates in fact the key role ensured by a Cooperative so that small farmer members can face the great challenges of economic and environmental sustainability. The Cooperative [provides a set of essential services to its members](#), mentioned on its website and by establishing national and international strategic alliances, it has managed [to position its products in fair trade markets](#).

In addition, with the initiative taken for the production of cane silage, Coopecañera has also managed to include its members in the community of innovators seeking new solutions within the framework of the most advanced global trends towards agro-ecology and environmental sustainability.



To know more

[Cooperativa Coopecañera website](#)

[Article in Universidad de Costa Rica website](#)

[Cooperativa Coopecañera - Services](#)

[Cooperativa Coopecañera – Organic fertilizer](#)

[Article in INFOCOOP website](#)

[Article on silages in Universidad de Costa Rica website](#)

[Document on cane silage - Universidad de Costa Rica](#)

[Document on silages - Escuela Agrícola Panamericana, Zamorano Honduras](#)

[Centro de Investigación de Nutrición Animal \(CINA\)](#)



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A cow is eating from a trough in a stable. The trough is filled with a mixture of feed, likely including sugarcane silage. The cow is dark-colored with a white face.