



Silage machine

Multistage silage process for long lasting nutritious hay for your animals



Target Markets / Potential Applications

- Cattle industry.
- Food fermentation sector.

IP Status

Patent granted in Colombia
(No 15088394)

Offer: Worldwide exclusive license in specific application category

Semi-automated system that mechanizes the silage process through 3 sub-systems

Innovators at **Universidad Tecnológica de Pereira** have designed a system that mechanizes the silage process that integrate 3 steps in a single machine.

This system compacts the feed to reduce the volume, vacuum packs and seals the bag containing the food and transport band to move the material between step one and two.

It is a rotating table, which in the upper part, houses four drawers made of aluminum foil, to carry out 4 stages: preparation, weighing and filling of the container, compacting and extraction.

Potential Benefits

Integrated

Low cost

Effective cost

High quality

The need

Small farmers and ranchers find it **difficult to adequately feed cattle** dedicated to milk and meat during wintertime.

Another problem arises when there is over production, this happens often on tropical weather regions. Leaving farmers with hard to sell products and under valuating the whole chain of production.

Currently this is solved by storing and preserving food, but **it can only be done by farmers and ranchers who have technological and economic resources**, because this work requires labor, in addition of tractors and mowers that small farmers might not have.

The solution

UTP innovators design a semi-automated system that mechanizes the silage process. This equipment has 3 sub-systems. The equipment has a system that compacts the forage, creates a vacuum for the bag with forage inside, and makes a seal that guarantees tightness. The last module is a transport band to move the material between step one and two.

This integration of the 3 steps in one single machine, does not exist. In this way, there is a more versatile product, easily commercially distributed and with a high-quality silage process which improves the quality of the product obtained.

Also, it takes less time in vacuuming system.

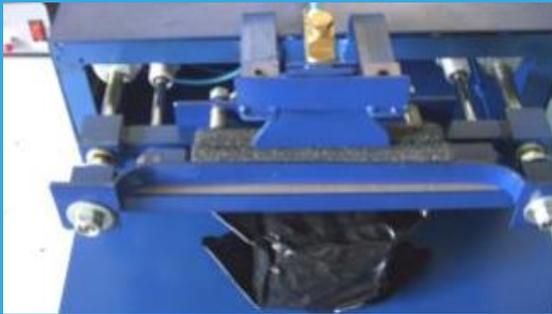


Fig. 1

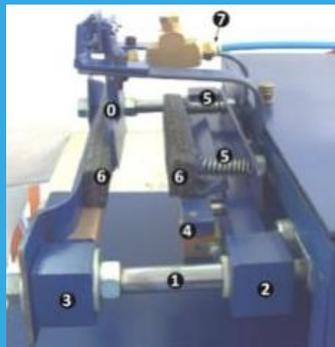


Fig. 2

Fig. 1 Top view of the prototype.

Fig. 2 Side view of the prototype.

Innovators

Main innovator



Héctor Fabio Quintero

Msc. PhD. Associated Professor Mechanical Engineering Faculty.
Universidad Tecnológica de Pereira

Innovation Maturity

TRL 1 - Basic principles observed and described

- The prototype have been probed.

CRL1 - Business model hypotheses identified

- The users have been identified.

What are the TRL & CRL?

Other relevant information

[Diseño de una máquina para el empaque de forraje de maíz para ensilaje: dosificación y compactación.](#) Rev. Fac. Nal. Agr. Medellín. 61(2): 4676-4685. 2008.



Universidad Tecnológica de Pereira Vicerrectoría de Investigación y Extensión
Gestión Tecnológica, Innovación y Emprendimiento.

🌐 <https://www.utp.edu.co>
✉ viceiie@utp.edu.co
☎ (+57) 036 313 71 14



For more information on this and other technologies, please contact:
David L. Hurtado Martínez, MA - CEO & TCM david.hurtado@licenciarte.tech