

Cleaner forage for higher dairy output: the University of Milan estimates the economic benefits for the farmer at +USD 28,908 per year, when using Ra-Rake.

**Scientific tests measure its financial impact on farm profits**

---

PRESS RELEASE - Casorate Primo, 15 July 2019

In summer, feeding cows with high-quality forage is more important than ever.

Scientific tests conducted by researchers coordinated by Prof. Rapetti of the University of Milan reveal another interesting fact for any farmer who is careful about his financials.

We know that a high ash content in forage can cause several problems: one of them is certainly the negative influence on protein value in forage and the consequent reduction in milk output.

According to Davide Reginelli, head of the Angelo Menozzi - Landriano (Pv) Educational and Experimental University Farm, with about 100 dairy cows:

*" **The higher the forage quality, the better the animals' response and therefore the lower the food cost; moreover, if welfare is higher, animal performs better also in terms of reproduction.***

*Especially when the cow has trouble eating, **such as during the summer**, the output is lower, but an appetizing forage is precious to compensate for the decrease in production."*

Analyses carried out on forage harvested with Ra-Rake, compared to the one harvested with a rotary rake, reveal how - mainly because of the greater contribution of ash caused by the second compared to the first (**RA-Rake generates an increase of ash in the forage 66% lower than that obtained with the rotary rake**) - the forage after raking obtained with the rotary has a negative impact on the net energy for lactation for LB of dry matter, quantifiable in a reduction of 0.544 Mcal.

Since we know that in order to produce one LB of milk the animal needs on average to assimilate 5.883 Mcal of net energy for lactation, these 0.544 Mcal per LB of dry matter less mean that the **difference in daily productivity due to the different ash content in the forage is 1.76 LBS of milk per animal.**

In fact, according to Reginelli, university expert and farmer, "***...if the feed is better from a nutritional point of view and its protein content is higher, the mixture is richer in digestible fiber, so the cow responds by better ruminating and producing more milk.***"



A simple scheme can better express this calculation:

Increase in ash in Ra-Rake vs Rotating forage:	-66 %
Difference of net Energy for lactation Ra-Rake vs. Rotary:	0.544 Mcal/LB DM
Forage in daily ration	22 LBS
Less milk produced with Rotary-obtained forage	- 1.76 LBS

A really important productivity recovery!

For a herd of 250 cows, all other things being equal, it means that the farmer will have in his pocket at the end of the year USD 28,908 more.

In fact, the increase in milk produced, equal to 1.76 LBS per day per cow, involves an annual increase of 160,600 LBS or about +USD 28,908 (if the price of milk was 0.18 USD/LB).

Here are some simulations in the case of farms of different sizes:

Daily productivity increase per cow fed with forage after raking obtained with RA-Rake and with rotary rake	1.76 LBS/day
---	--------------

Number of cows	Yearly increase (LBS)	Milk price (USD/LB)	Yearly income increase (USD)
50	32,120	0.18	5,781.60
100	64,240	0.18	11,563.20
250	160,600	0.18	28,908.00
500	321,200	0.18	57,816.00
1000	642,400	0.18	115,632.00

The impact, of course, increases for larger farm sizes, but even for a small farm the higher revenues are interesting. Since there is no increase in farm costs, the extra income is equivalent to extra profits.

And then, especially in summer, if the cow eats better, it produces more milk; Reginelli, who is an expert in animal nutrition both from a scientific point of view (thanks to his university background) and operational, says:

"The other positive aspect of clean forage is that it is more palatable when the cow has trouble eating; during the summer, in the heat, some stables lose up to 20% of the milk produced. It is true that this decline is not only linked to food but also to the climate, but everything counts and with a good forage you can quickly recover even 2.2 LBS of milk a day.

This economic impact confirms the assumptions made at the beginning of the project and encourages the adoption of this machine, so innovative in its simplicity.



### What is Ra-Rake.

**For over a century Repossi Macchine Agricole has been designing and producing combed and rotary rakes;** the latest addition to the range of rakes, RA-Rake, is the revolutionary double star rake, thanks to which in 2017 the company obtained a prestigious Horizon 2020 funding, launched by the European Union to promote and support innovation, research and technological development.

The innovation, ingenious but simple, allows you to take advantage of the advantages of star rakes without having to bear the negative consequences on the forage: according to research by the University of Minnesota, the star rake is in fact the fastest and cheapest, but is also the one that collects more stones and soil.

In fact, the single star, mechanically driven by the clutch with the ground, moves the hay, but in this way pollutes it with a large amount of ash. Gabriele Repossi, the inventor of the new machine, had the idea of equipping it with two stars of different diameters: the larger one did not touch the forage, but had the sole task of moving the second star, the smaller one, which moved the forage without polluting it with stones and soil.

Since the rake does not need complex and expensive mechanisms to move the smaller star, it benefits from reduced costs (both purchase and maintenance) and allows it to operate at high speed, a peculiarity of the star rakes.

### Repossi Macchine Agricole

**Founded in 1898 and now in its fourth generation, the company looks to the future with innovative and patented solutions, including the RA-Rake double wheel rake, which in 2017 received Horizon 2020 funding from the European Commission.**

Repossi Macchine Agricole srl - Via Vittorio Emanuele II, 40 - 27022 Casorate Primo (PV)

P.IVA 01981040189 - Tel 39 02 9056625 -www.repossi.it www.rarake.eu - email marketing@repossi.it

Repossi Macchine Agricole is distributed in the US by  
FARMPower IMPLEMENTS

Office - 815.308.5740

Fax - 815.308.5322

ahogue@Farmpower.us

[www.farmpowerimplements.com](http://www.farmpowerimplements.com)

