

OZOLEA-MAST

MILK WITH NO DISCARDS



NO CHEMICAL RESIDUE
in milk and meat

OZOLEA
exclusive
technology



+ EASY to USE
no prescription needed

+ SAFE
innocuous and safe
for the animal and for the consumer

+ CHEAP
the cow pays for
the product and for the feed

Your **NEW**
NO-WITHDRAWAL ally
both for lactating cows
and at dry-off

OZOLEA-MAST

MILK WITH NO DISCARDS

OZOLEA-MAST is a **non-drug veterinary device** for intra-mammary use in dairy cows that helps dairy farmers reduce the use of antibiotics which are not strictly necessary, **both for lactating cows and at dry-off**.

Antibiotics are often used because there are no useful alternatives. However, by supporting the body's natural defenses, OZOLEA-MAST can help the cow fully perform to its **natural abilities**. This allows the farmer to avoid milk loss and to sell their milk.

OZOLEA-MAST supports tissue functionality by creating a **film barrier** in contact with the inner wall of the teat canal. Right before the onset of clinical mastitis, there is often a disorder in the mammary tissue's functionality, which appears to be one of the primary causes of bacterial proliferation and mastitis occurrence.

As such, a superior level of support to the mammary **tissue functionality** and, above all, boosting tissue regeneration, make it possible for the tissue to combat the bacterial aggression since an intact and healthy tissue is better able to defend itself from pathogens. Moreover, the bioengineered oily barrier in some measure inhibits bacterial growth, particularly with repeated applications until the tissue is fully recovered.

OZOLEA-MAST is composed of a **single ingredient**: a pure human food grade vegetable oil, bio-engineered with exclusive Ozolea technology, which modifies some of the oil's fatty acid chains, thereby allowing the product, once in contact with the inner wall of the teat canal, to form a physical film barrier with two main functions:

- 1. To create an uncomfortable environment for bacteria, thus slowing down the aggressiveness of their attack.**
- 2. To protect the tissue from exposure to the external environment and from further bacterial attack, allowing it to naturally regenerate.**

To ensure the best protection and optimize regeneration of the tissue, the application must be repeated **after each milking for four days**. During this period, the milk **has no traces of the product**: this means no need of withdrawal periods, thus increasing the likelihood of continuing to ship milk.

The bio-engineering process of OZOLEA-MAST guarantees that the oil is **not absorbed or metabolized and does not exert pharmacological effects**. Between one milking and the next, the applied oil comes out naturally from the teat sphincter, preventing further bacteria from rising and allowing the natural regeneration of the sphincter itself and, therefore, the recovery of its natural elasticity.

For decades, the intra-mammary administration of antibiotics has been the primary procedure to manage sanitary udder issues on dairy farms. Today, we are facing a **global antibiotic crisis** due to the increase of antibiotic resistant bacteria. The WHO recommends prudent usage in both human and veterinary medicine. Specifically, reducing antibiotic usage diminishes the likelihood of bacterial resistance to those drugs. In some cases, antibiotics that had lost their effectiveness are able to **again be effective**. In dairy, reducing the frequency of antibiotic usage is the first step in the fight against resistant strains of bacteria.

The goal of Ozolea is to provide dairy farmers and their veterinarians with **innocuous, effective, safe, sustainable, and affordable solutions to reduce the use of “unnecessary antibiotics”**: this expression refers to an antibiotic treatment that happens to be useless.

In fact, many scientific research papers indicate that in 50-70-85% of cases, antibiotic treatment of cows is shown to be ineffective. Choosing an antibiotic treatment in this ‘inefficacy range’ leads to the rise of antibiotic resistant genes in bacterial populations.

The specific Ozolea bioengineering technique guarantees that no traces of the human food-grade ingredient are in the milk at the following milking; this is a key **benefit for the entire milk chain, a food safety guarantee for the dairy industry and, an immediate pay out for the farmer.**

By reducing the use of unnecessary antibiotics, you will help improve the productivity of your cows, ship more milk, and contribute to the global fight to lower antimicrobial resistance.



SafeMILK PROTOCOLS

OZOLEA-MAST,
the **four reasons why** to use it

**INNOCUOUS,
EFFECTIVE,
SAFE,
SUSTAINABLE.**



When do I use OZOLEA-MAST?

You can use OZOLEA-MAST on several occasions:

- at the first signs of tissue imbalance or when, in the very early stages of a mastitis, you are waiting for the results of a milk culture, or when you recognize that there is no clear infection but the functionality of the tissue is compromised (for example, due to the presence of flakes in the milk or for the signal of the electrical conductivity of the milk),
- in the chronic case of a high somatic cells count or in the case of recurrences with conventional treatments (make sure to test the somatic cells at least 8 days after the last application of Ozolea-Mast: the lowering of somatic cells in this case does not derive from a therapeutic effect but come with an autonomous regeneration of the tissue, a slower phenomenon but with persistent results),
- during or after the systemic antibiotic treatment recommended by the veterinarian, to encourage the synergy and the best performance of the local tissue by the animal,
- in tissue imbalances that are typical postpartum,
- or in the selective dry cows protocols, to avoid the use of antibiotics in animals that have shown better health behavior during the last lactation.

How does OZOLEA-MAST work?

OZOLEA-MAST, once in contact with the inner wall of the teat canal, forms a physical filming barrier with two functions:

1. to create an uncomfortable environment for the bacteria and thus slow down the aggressiveness of the possible bacterial attack,
2. to reserve a respite for the tissue from exposure to the external

environment and from bacterial attack, allowing it to proceed with the natural regeneration process.

The tissue, thus regenerated, is able to defend itself properly from further possible aggressions.

How is OZOLEA-MAST applied?

The OZOLEA-MAST intra-mammary applicator is applied after milking by gently inserting the special spout into the teat canal: the best hygiene conditions must be observed to avoid contamination.

What is the difference in action of an intra-mammary antibiotic treatment compared to OZOLEA-MAST?

The two interventions are not comparable, since antibiotics are a therapeutic treatment prescribed by the veterinarian and OZOLEA-MAST a veterinary device freely usable by the breeder. Antibiotics have the goal of eliminating the bacteria that cause infection. OZOLEA-MAST aims to support the functionality of the tissue and the competence of the animal to autonomously manage a possible bacterial aggression.

How much product do I need for one animal?

In lactation, 1 pack of 8 applicators is the correct quantity for a dairy cow: each applicator must be used in the sensitive quarter, after each milking for four days if you milk twice a day.

In dry cows, 1 pack of 8 applicators is the correct quantity for a cow: you have to use an applicator per quarter after the second to last milking and an applicator per quarter after the last milking.

Compliance with the suggested instructions leads to the best results.

How long is a complete cycle of OZOLEA-MAST applications in lactation?

It lasts 4 days, if you milk twice a day. During these 4 days, the milk does not contain any trace of foreign compounds. OZOLEA-MAST has no pharmacological or metabolic effect: it is not assimilated by the body and, therefore, it leaves no chemical traces in the meat.

How long is a complete cycle of OZOLEA-MAST applications for dry cows?

It lasts for 2 milkings: during and after these 2 milkings, the milk does not contain any trace of foreign compounds. OZOLEA-MAST has no pharmacological or metabolic effects as it is not assimilated by the body and, therefore, leaves no chemical traces in the meat.



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Should I use two different products for lactation and dry cows?

No, there is no need to use two different products.

With the same OZOLEA-MAST product you can solve different situations where the tissue imbalance is a triggering cause; with the protection of the tissue and the restoration of its integrity, it will be the animal's own immune system that exercises the best defensive strategies for the situation specific to be addressed. It's also cheaper: by buying just one product, you can solve a variety of situations while still selling your milk.

How long does it take to see some improvement in the udder?

During lactation, the sooner action is taken the better the result. The signs of tissue imbalance may disappear after the second-third application. However, we suggest that farmers complete the cycle of eight applications to avoid recurrences and to obtain better functional and productive performances.

If you intervene for high somatic cells count, it will take about 6-9 days after the last application to measure a reduction in somatic cell value. If the initial value is very high, a new cycle may be needed to get the desired result.

What is meant by "unnecessary antibiotic"?

The expression "unnecessary antibiotic" indicates an antibiotic treatment that ends up being ineffective. The scientific literature agrees that about 55% of cases of antibiotic use in dairy cows are ineffective; by not achieving the desired effect, the choice to use an antibiotic treatment in the range of ineffectiveness results in an increase of the ecological pressure on bacteria and consequently their dangerous survival mechanism through the expression of resistant genes.

Are there traces of chemical residues in the milk after the application of OZOLEA-MAST?

No. The Ozolea bioengineered oil remains in contact with the tissue for a specific time, then it comes out naturally throughout the teat sphincter. At the next milking there is no longer any trace of bio-engineered oil in the teat canal and only pure milk comes from the sphincter.

Does the tissue "absorb" the Ozolea bio-engineered oil?

No. There is consolidated scientific literature that shows that both corn oil and sunflower oil are neither absorbed nor metabolized by animal tissues.

Does OZOLEA-MAST have mucoadhesive properties?

No, OZOLEA-MAST has no mucoadhesive properties. A specific test carried out by a laboratory, certified according to the international standard EN ISO 10993, shows that after 60 minutes from the application only 10% of the product is still in contact with the tissue, while the rest is naturally shed outside the sphincter.

At the next milking, the tissue has no traces of product. The absence of mucoadhesive properties guarantees the absence of contamination in the milk.

Does OZOLEA-MAST kill bacteria?

No. OZOLEA-MAST does not kill bacteria. It supports the functionality of the tissue and it is particularly effective when the animal has a residual defensive competence. In fact, the mammalian immune system is perfectly capable of fighting and killing bacteria when the proportion of the infection is still manageable. Furthermore, a perfectly intact and properly functioning tissue performs its defensive strategies better.

Which types of bacteria is OZOLEA-MAST effective against?

There is no distinction between bacteria because OZOLEA-MAST is based on a completely different approach compared to antibiotics. The specific film-forming barrier works to protect the tissue, which creates uncomfortable conditions for any type of bacterium. The result is a temporary slowdown in bacterial proliferation; in fact, bacteria prefer to colonize damaged tissues, rich in blood and nutrients, rather than using energy to open a gap in an oily barrier. In this case they simply choose to go and colonize other areas and failing to ascend into the udder, they exit the sphincter in search of easier environments for their survival.

What kind of oil is used to produce OZOLEA?

Ozolea bioengineers only valuable, human food-grade oils. The bioengineering process does not add any chemical element foreign to the oil.



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Does OZOLEA-MAST interfere with the cheesemaking process?

No. Besides the fact that no trace of the product can be found in milk, a cheese maker has done a specific test for Ozolea. He introduced an entire 5 ml applicator in a 4-liter pot of milk: during the transformation OZOLEA-MAST floated over the whey and was eliminated with the same serum. The aging of the cheese has not given any difference compared to the usual cheeses.

Is OZOLEA-MAST able to lower high somatic cells count?

It depends on the causes from which the value of somatic cells derives: OZOLEA-MAST can help chronic high cells or cases of recurrence with traditional treatments as it allows the tissue to regenerate. The main indirect effects of regeneration concern both the reduction of epithelial exfoliation (somatic cells of exfoliation) and a better defensive competence against pathogens (somatic cells deriving from macrophages and neutrophils) due to the better performance of intact tissue.

Since the process of autonomous tissue regeneration is a slow process, it is necessary to allow time for the tissue to complete the regenerative process: the measurement of the new somatic cell value must take place at least 8 days after the last application. This is a slower process than traditional treatments, but the results will be more lasting and infection will be less likely to recur.

Can OZOLEA-MAST replace an antibiotic treatment prescribed by the veterinarian?

No, OZOLEA-MAST has no therapeutic effect and does not kill bacteria. In specific situations, when the antibiotic is used improperly and is ineffective, OZOLEA-MAST helps to achieve better results due to its

ability to support the tissue and thus indirectly optimizes the animal's immune response.

Can I use OZOLEA-MAST before the teat sealant at dry-off?

Yes. If you normally use a teat sealant, you can use OZOLEA-MAST at your discretion only after the last milking before introducing the sealant, or you can use it after the second to last and after the last milking, just before inserting the sealant. You know the needs of your animals and should choose the most suitable procedure for them. If in doubt, please call us.

In the selective dry procedure, is OZOLEA-MAST more or less effective compared to an antibiotic treatment?

A study being published shows that there is no statistically significant difference when using OZOLEA-MAST or conventional antibiotic treatment: somatic cells were measured monthly during the four months after delivery.

The study assessed only animals suitable for selective drying, i.e. groups of cows that had not shown health problems during the previous lactation.

Is OZOLEA-MAST legal in the European Union and in the U.S.?

Yes, OZOLEA-MAST meets all the requirements for veterinary devices, having demonstrated through international standards not to fall into the category of veterinary medicine.

Is OZOLEA-MAST a veterinary medicine?

No, OZOLEA-MAST is a veterinary device. The exclusion from the category of the veterinary medicine has been demonstrated by recognized

international standards. For this reason, the product does not have a therapeutic effect of its own and is therefore not advisable in the case of full-blown mastitis; OZOLEA-MAST is, in fact, used when the animal has its own residual self-defense competence, which the product supports for a better autonomous resolution of the problem by the animal itself.

What should I do if I have a milking robot?

With the milking robot, the result of OZOLEA-MAST is optimal as the detection of electrical conductivity allows to accurately and widely detect the presence of a mammary secretory disorder. The application of OZOLEA-MAST in the earliest stages allows the tissue a timely autonomous regeneration, with consequent better defenses against aggression and better competence in the autonomous management of inflammation. The application calendar remains twice a day, at the end of the cow being milked—preferably morning and evening, for four days.



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What happens if I use OZOLEA-MAST on a full-blown mastitis?

The lack of therapeutic effect of OZOLEA-MAST makes the product not advisable and in any case not sufficient for use in the event of full-blown mastitis: according to the instructions of the veterinarian, an antibiotic or an alternative recognized treatment must be administered. However, the use of the product can facilitate an autonomous regeneration of the tissue and a better synergy of the animal with the pharmacodynamic behavior of the prescribed antibiotic.

The recommendation of a timely intervention before the symptoms of a full-blown mastitis is also aimed at maintaining the best functional performance of the tissue: by intervening in advance the animal will continue to produce more milk and will not be stressed by possible aggressions.

Why should I invest in a cycle of OZOLEA-MAST if I still don't know if that animal will have a mastitis?

The productivity of the animal depends on the functionality of the tissue: keeping the udders perfectly functioning thanks to the regeneration of the tissue guarantees the maintenance of a high lactation curve, which is instead compromised following a full-blown mastitic event. The convenience of OZOLEA-MAST lies not only in intervening without having to worry about discarding milk, but also and above all in keeping animals productive.

SSafeMILK PROTOCOLS

M8

The **UDDER** at **DRY-OFF**: Selective dry cow treatment



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OZOLEA-MAST
MILK WITH NO DISCARDS



OZOLEA-MAST

**Animal device - Veterinary device
for intramammary use in dairy cows**

Single use applicator

Ingredients: Ozonized Zea Mays Germ Oil

OZOLEA-MAST contains a food-grade vegetable oil, bioengineered to provide a physical barrier to the inner wall of the teat canal, without any pharmacological or metabolic effect. It supports tissue functionality when not severely compromised. No chemical residues in milk and meat.

Suitable for lactating and dry-off applications.

Not cytotoxic (UNPEN ISO 10993-5 Standard)

Not to be sold individually.

For proper use, follow the instructions reported on the packaging.

5 ml - 0,169 fl.oz.

Storage:

max 20°C/68°F

Ref.US202003

OZOLEA Rete Agricola

Castegnato BS ITALY

www.ozolea.it info@ozolea.it

SSafeMILK PROTOCOLS

- **CORRECT** storage
- A very **attentive MILKER**
- A **PROMPT** intervention
- The proper **SSafeMILK** protocol

All you need
to **support** the **EFFICACY**
of **OZOLEA-MAST**



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OZOLEA-MAST



TECHNICAL SHEET 2020

Ref. TS-MA-US202001

Description:

Bioengineered superior quality food grade vegetable oil.
The bioengineering process is based on exclusive Ozolea technology.
Intramammary use for dairy animals (bovine, ovine, caprine).

OZOLEA-MAST provides a physical barrier to the inner wall of the teat canal, without any pharmacological or metabolic effect. It supports tissue functionality when not severely compromised.

It does not leave any residue in the milk. It does not leave any residue in the meat.

Not cytotoxic (UNI EN ISO 10993:5 Standard).

Suitable for lactating and dry-off applications.

Ingredients:

Ozonized Zea Mays Germ Oil

Storage:

Store the product in a dry place at a temperature below 20°C/68°F, preferably in the refrigerator (4°C-10°/39-50°F).

Classification:

Veterinary device for intra-mammary use in dairy cows.

It does not require veterinary prescription.

Use and dose:

Lactating use: an intramammary administration after each milking for 4 days.

Do not wait for clear symptoms: prompt use helps achieve suitable tissue protection.

Use at dry-off: an intramammary administration for each quarter after the last two milkings.

Packaging:

Pack of 8 single-use intra-mammary applicators of 5 ml/0,169 fl.oz. each.

OZOLEA RETE AGRICOLA Castegnato BS ITALY

info@ozolea.it | www.ozolea.com



OZOLEA-MAST

BOTH for LACTATING COWS and at DRY-OFF!

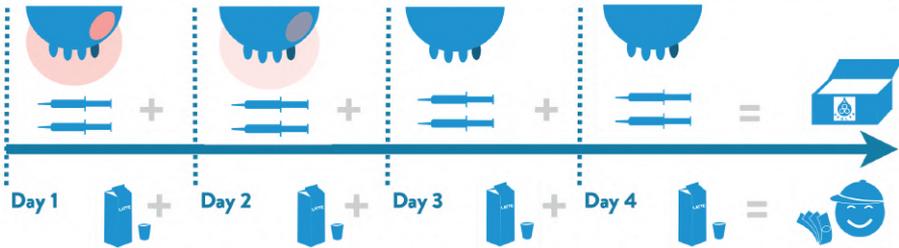
IN LACTATION: one applicator in the sensitive quarter after each milking for 4 days

PROMPT USE

Apply at very first signs of tissue unbalance: do not wait for clear symptoms.

A PROTECT TISSUE REGENERATES ITSELF

Ozolea Bioengineered Oil creates a filming barrier in contact with the tissue, protecting it and providing a temporary relief from bacterial insult. The regenerated tissue successfully performs its natural defensive mechanisms.



KEEP ON SELLING YOUR MILK EVERY DAY!!

PRE-DRY USE: one applicator per quarter after the last two milkings.



ONE applicator per quarter after the SECOND to LAST MILKING BEFORE DRYING



REPEAT ONE applicator per quarter at the LAST MILKING BEFORE DRYING



NEW

Why withdraw your milk if you can sell it?
SELL YOUR MILK, DON'T WASTE IT!

SAFE for the consumer, for animals, for the farmer, for the veterinarian, for the pharmacist!



NO MILK OR MEAT WITHDRAWALS



GENTLY RUB
5-6 seconds after each application



NO VETERINARY PRESCRIPTION



KEEP COOL UNTIL READY TO USE

Ask your **VETERINARIAN!**

OZOLEA-MAST is not a veterinary medicine: it supports the tissue functionality when it is not yet severely compromised. A prompt application is essential to obtain the desired results.

Are you a Veterinarian, a Pharmacist, a dairy industry Quality Control Manager? Call us to stay informed on scientific and legal aspects of Ozolea.

OZOLEA-MAST

MILK WITH NO DISCARDS

Joey Airosa
Airosa Dairy Farm
2950 lactating cows
Pixley, CA



Why
withdraw
your
milk
if you can
sell it?

SELL YOUR MILK! DON'T WASTE IT!

By reducing the use of unnecessary antibiotics, you will help improve the **productivity** of your cows, **ship more milk** and contribute to the global fight to lower **antimicrobial resistance**.

OZOLEA-MAST is a non-drug veterinary device for intra-mammary use in dairy cows that helps dairy farmers reduce the use of antibiotics which are not strictly necessary, both for lactating cows and at dry-off.



For you,
for animals,
for the environment.

Discover new no-withdrawal solutions at
info@ozolea.it