Control & Reduction of Mastitis

STARTVAC® is indicated to reduce SCC, incidences of mastitis and severity of symptoms. STARTVAC® must be used in conjunction with a Herd Health Plan.

Herd Health Plan

- Prompt identification and treatment of clinical mastitis
- All cows to receive dry cow therapy
- Liners of the milking machine to be replaced every 6 months, or 2500 milkings, whichever is the lesser
- Cows with chronic, recurrent clinical mastitis to be culled.
- Mastitis cows to be milked through a separate cluster, which is cleaned and disinfected between uses or to be milked last.
- All cows to be thoroughly teat dipped / sprayed after milking, using a quality teat dip solution.
- Consider housing the high cell count cows as a separate group and milk them last.
- If not practical, consider cluster disinfection after milking high cell count cows
- Ensure your dry cow treatment is effective against all strains of Staph. Aureus
- Vaccinate the correct cows on correct days depending on protocol (Classic or Alternative Protocol)

Stages for a successful mastitis investigation are:

- Contact your Veterinary Surgeon
- Identify the bacteria responsible for infection
- Assess mastitis control Management
- Set up Her d Health Programme with Veterinary Surgeon to improve mastitis control on farm.
- Vaccinate cows with Startvac vaccine

STARTVAC® prevents against both contagious and Environmental Mastitis

Contagious Mastitis
Staph aureus

- Most common cause of high somatic cell counts in Ireland
- Causes chronic infection
- Micro abscesses within the udder tissue
- Treatment success during lactation varies between, 10 & 25% with intramammary tubes
- Treatment success decreases with increasing age of the animal
- 70% of Staph aureus strains are resistant to penicillin
- Response with dry cow therapy can be up to 70%
- Can be difficult to isolate from bacteriology as there is intermittent shedding
- Cell counts highly variable in infected cows
- Treatment success for cows in lactation 4 and above are very poor
- Infection associated with poor teat skin and / or teat injuries

CNS (Coagulase Negative Staphs)

- Can cause clinical mastitis as well as high cell counts, affects animals of all ages and stage of lactation
- Heifers can calve down with CNS infections
- Response to treatment can be variable, with clinical and subclinical infections
- Responds well to dry cow therapy

Environmental
Coliforms and Ecoli

- 297 different strains
- Can cause toxic mastitis and death
- Clinical signs caused by endotoxins
- 70% cases eliminated by the cow without signs of clinical mastitis
- Clinical cases often have a watery secretion
- Subclinical E-coli is uncommon and is very unlikely to cause a high herd cell count
- Common cause of clinical mastitis

PRODUCT OVERVIEW

COMPOSITION PER DOSE (2 ML): Inactivated *Escherichia coli* (J5) 50 RED_{60}*; Inactivated *Staphylococcus aureus* (CP8) SP 140 strain expressing SAAC** 50 RED_{80}***. Adjuvant. * RED_{60}: Rabbit effective dose in 60% of the animals (serology). **SAAC: Slime Associated Antigenic Complex. ***RED80: Rabbit effective dose in 80% of the animals (serology).**INDICATIONS:** Cows and Heifers: To prevent Mastitis. For herd immunisation of healthy cows and heifers, in dairy cattle herds with recurring mastitis problems, to reduce the incidence of sub-clinical mastitis and the incidence and the severity of the clinical signs of clinical mastitis caused by Staphylococcus aureus, coliforms and coagulase-negative staphylococci. The full immunisation scheme induces immunity from approximately day 13 after the first injection until approximately day 78 after the third injection (equivalent to 130 days post-parturition). **SIDE EFFECTS:** Slight to moderate transient local reactions may occur after the administration of the vaccine, which disappears within 1 or 2 weeks at most. **ADMINISTRATION ROUTE:** Intramuscular, into the neck muscles. The injections should be preferably administered on the alternate sides of the neck. It is advisable to administer the vaccine at a temperature between +15 and +25 ºC. Shake before use**DOSAGE:** Cows and Heifers: 2 ml/animal. Generally, the following vaccination programme is recommended: First injection: at 45 days before the expected parturition date. Second injection: 35 days thereafter (corresponding to 10 days before the expected parturition date). Third injection: 62 days after the second injection (equivalent to 52 days post-parturition). The full immunisation programme should be repeated with each gestation. The whole herd should be immunised. Immunisation has to be considered as one component in a complex mastitis control program that addresses all important udder health factors (e.g. milking technique, dry-off and breeding management, hygiene, nutrition, bedding, cow confort, air and water quality, health monitoring) and other management practices. It can be used during pregnancy and lactation.**WITHDRAWAL PERIOD:** 0 days. **SPECIAL PRECAUTIONS:** Store at +2 to +8 ºC, avoiding freezing. Protect from light. **PACKAGING:** Pack of 20 vials of 1 ds. **EU**/2/08/092/003) / 5 ds vial. (**EU**/2/08/092/004) 25 ds bottle. (**EU**/2/08/092/006). Under veterinary prescription.

STARTVAC®

Inactivated vaccine against E. coli, coliforms, S. aureus and coagulase-negative Staphylococci

less mastitis post-partum

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HIPRA

1st vaccine against bovine mastitis post-partum

DugganVeterinary
CHOICE ▪ EXPERTISE ▪ RELIABILITY

How Startvac Works?

STARTVAC® as a vaccine works by "teaching" the immune system of the animal (the cow's natural defences) how to defend itself against a disease. STARTVAC® contains dead forms of two bacteria that normally cause mastitis (Escherichia coli and Staphylococci aureus).

When it is given to a cow, the animal immune system recognises the bacteria as "foreign" and makes antibodies against them. In the future, the immune system will be able to make antibodies more quickly when it's exposed to the bacteria again. The antibodies will help to fight the bacteria preventing mastitis occurring or reducing the severity of its symptoms.

It is important to note that STARTVAC® reduces mastitis postpartum, and does not simply eliminate mastitis. Vaccination with STARTVAC® must be understood as a component of a control program intended to increase the cows' natural resistance to disease, by limiting the spread of the bacteria in the udder, and to diminish the infection pressure on healthy animals.

STARTVAC®, the first vaccine against bovine mastitis has the following therapeutic indication:

- For herd immunisation of healthy cows and heifers, in dairy cattle herds with recurring mastitis problems,
- to reduce the incidence of clinical and sub-clinical mastitis
- to reduce the severity of the clinical signs of mastitis caused by Staphylococci aureus, coliforms and coagulase-negative staphylococci.

What strains of mastitis does STARTVAC® prevent?

Staph.aureus, Coliforms (E-coli), CNS. (For more information on these strains of mastitis, see back page)

European Medicine Agency (EMEA) Field and Laboratory Trials
STARTVAC® has been registered with the Irish Medicine Board as Prescription Only Medicine(POM) after going through high levels of efficacy and safety trials performed by the EMEA. These trials showed high levels of reduction in Somatic Cell Count, incidences of clinical and subclinical mastitis and also in the severity of infection.
These results can be seen on
www.dugganvet.ie /startvac.htm.

What is the time to allow before milk can be taken from the animal for human consumption?
Milk can be taken at any time after injection.

If a vaccine date is missed what are the consequences?
As the protocol has been devised to target the periods when immunity is best suited to its use, a missed vaccine may decrease the duration of the immunity and increase the likelihood of the animals exposure to mastitis.

Benefit Analysis

Benefit:

- Reduction in Somatic Cell Count (Increase in bonuses and reduction in penalties)
- Reduction in Clinical and Subclinical cases (Cost between €200 and €1200)
- Decrease in severity of mastitis cases
- Decrease in antibiotics
- Increase in yield/Higher productivity
- Lower Veterinary costs

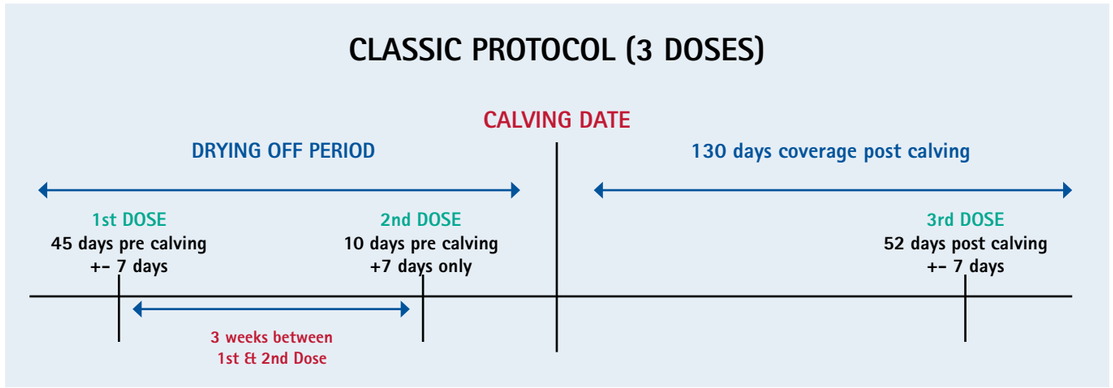
CLASSIC PROTOCOL (3 Dose)

Where the exact dates of covering the total period of gestation are confirmed, the classic protocol should be used. By using two applications before calving (45 and 10 days) and one application post calving (52 days) the objective of reducing mastitis is achieved at the time of greatest risk of infections and economic loss.

N.B There has to be 3 weeks between 1st and 2nd Dose.

45 days	+/- 7 days	(52 - 38 days)	Pre Calving	First dose
10 days	**+ 7 days only***	(17- 10 days)	Pre Calving	Second dose
52 days	+/- 7 days	(45 – 59 days)	Post Calving	Third dose

*In the case of an early calving, the 2nd dose can be administered 10 days post calving



ALTERNATIVE PROTOCOL (4 Dose)

Where the gestation period of the herd is unknown a blanket 4 dose protocol (referred to as the Alternative Protocol) is to be administered in year one to ensure complete cover. In year 2, once the correct gestation dates have been recorded, the farmer can then revert back to the Classic Protocol and administer 3 doses per animal.

YEAR	FIRST DOSE	SECOND DOSE	THIRD DOSE	FOURTH DOSE
Year 1	**December**	**January**	**May**	**September**
Year 2	**45 ± 7 days**	**10 + 7 days**	**52 ± 7 days**	

N.B There has to be 3 weeks between 1st and 2nd Dose.

1. The entire herd should be vaccinated together in December (dose 1)
2. The entire herd should be vaccinated in January (dose 2), with no animal vaccinated within 3 weeks of 1st dose
3. After the 2nd dose its important to vaccinate every 4 months for hyperinmmunization (repeated injections of antigen leading to high levels of antibody). This will maximise the cows immunity against Coliforms / E-coli for a longer period of time.
4. The entire herd should be vaccinated in May (dose 3), regardless of when second dose was given
5. The entire herd should be vaccinated in September (dose 4)- this ensures continuous immunity against Coliforms / E-Coli
6. In year two, with correctly recorded data the Classic Protocol (3dose) can be adapted.