

Deltanil®

Don't let the buzz
reduce your
performances



Deltamethrin in oily solution

Shaping the future
of animal health

Virbac

FLIES ARE A MAJOR THREAT TO YOUR LIVESTOCK

BITING flies

(ex: Horn fly, Stable fly, Mosquito)

NUISANCE flies

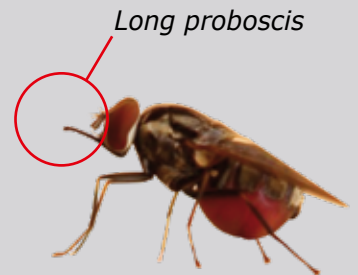
(ex: Face fly, House fly)

Among flies, stable flies are biting flies with the most PAINFUL bites of any bloodsucking insect and feeds mainly on the legs and flanks of cattle



CONSEQUENCES of *Stomoxys Calcitrans*

STRESS + HARASSEMENT
leading to reduce feed intake:
LOSS OF PRODUCTIVITY



Strong economic impact
28€/cow/year^(1,2)



**LOSS
OF MILK**

Up to 3L/cow/day⁽¹⁾



Risk of anemia, Blood cell depletion:
RISK OF DEATH
for weak young animals

**Up to 2L of severe
exsanguination/cattle/day***



**LOWER
WEIGHT GAIN**

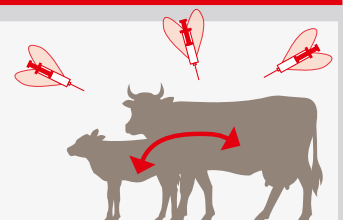
**Up to -0.2kg/day/
non treated steer**

* *Stomoxys calcitrans*, the most common stable fly species, can uptake 10 mg of blood by meal.

RISK OF DISEASES TRANSMISSION

**100
DISEASES**

due to virus/bacteria/protozoans
can be transmitted
by *Stomoxys calcitrans*⁽⁴⁾

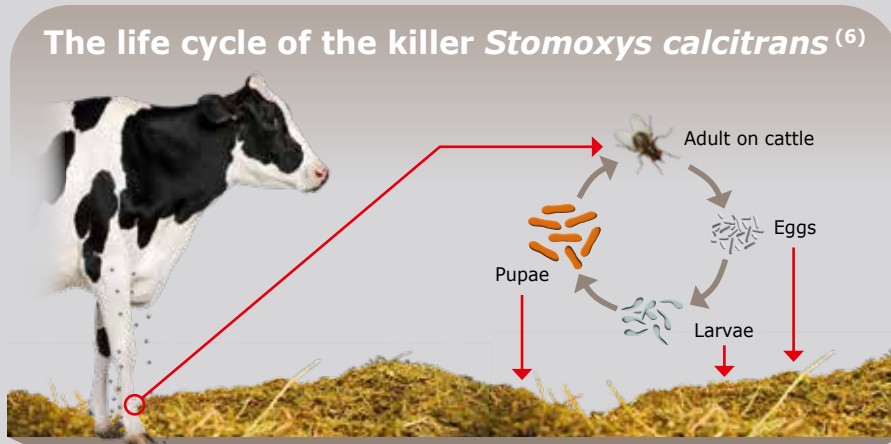


Examples: Blue Tongue virus, anthrax, summer mastitis, Lumpy skin disease

AN INTEGRATED APPROACH IS NEEDED AGAINST FLIES ⁽⁵⁾

1 adult fly =

- Up to 800 eggs layed in different clutches in 7 to 10 days
- Between each clutch, a blood meal taken on cattle



Stable flies bred in moist, decaying organic matter and manure mixed to straw is thus a paradise for their larvae.

PROTECTION OF THE HERD
by reducing the fly population

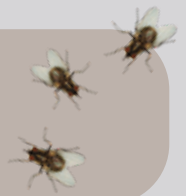
At the LARVAL stage:

- ▶ Manure management Inside & Outside
- ▶ Larvicidal treatments



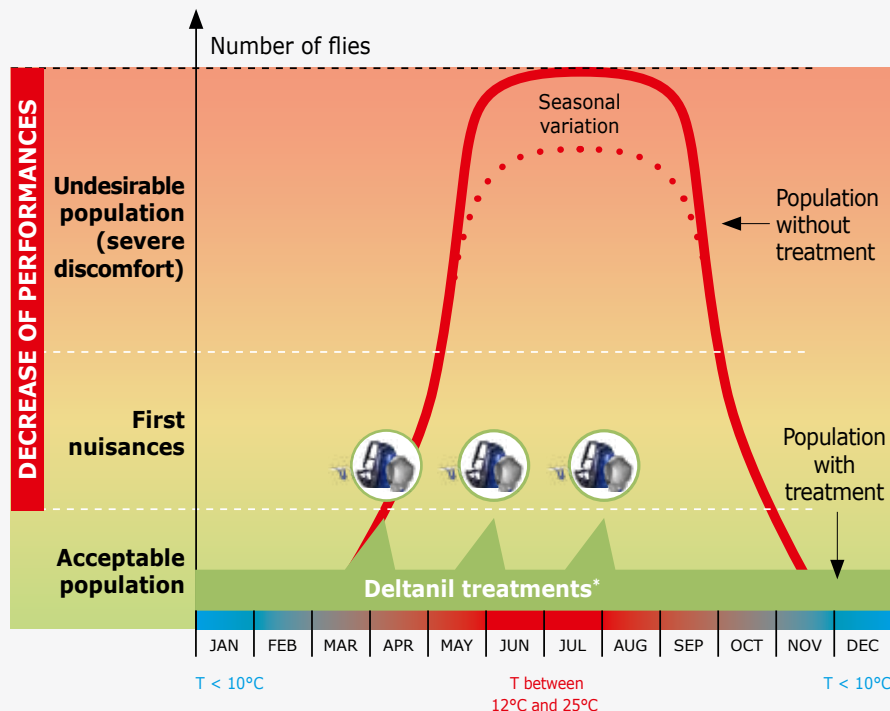
At the ADULT stage:

- ▶ Individual treatment of animals with Deltanil®



TREATING THE ANIMALS EARLY IN THE SEASON WITH DELTANIL IS KEY

Early treatments allow to break the infestation cycle



*The frequency of treatments depends on each farm situation

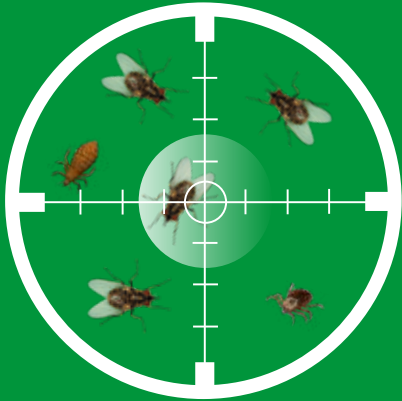
When to start to treat?

- ▶ By quantifying fly burden ^(3,7) to decide the best time to start treating with Deltanil®

Method of counting	Treatment threshold
Stable flies	5 flies per front leg
Fly-repelling behaviors	10 tail flicks/min OR 10 paniculus reflex/min

Observation of 15 cows per building once a week between 11am-2pm

WIDE SPECTRUM OF EFFICACY



▶ Insecticidal & Acaricidal activity

SIMPLE & EFFICIENT DOSAGE



Cattle 10ml

100mg of deltamethrin =
proven lethal effect on up to
900,000 stomoxys like flies

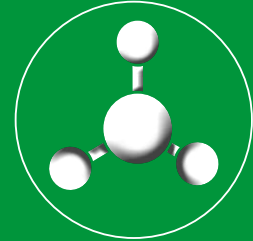
Number of cows treated

DELTANIL® 1L = 100

DELTANIL® 2.5L = 250

Sheep 5ml - Lamb 2.5ml

OILY EXCIPIENT



- ▶ Excipient based on triglycerides medium-chain with a key property of penetration enhancer
- ▶ Deltamethrin activity also enhances by DELTANIL® specific excipient



1L

Farnpack
& Flexibag (2.5L)

Top advantages of DELTANIL® used with the Farnpack



Bibliography

- 1 - TAYLOR, D. B., MOON, R. D., & MARK, D. R. (2012). Economic impact of stable flies (Diptera: Muscidae) on dairy and beef cattle production. *Journal of Medical Entomology*, 49(1), 198-209.
- 2 - BYFORD R.L., CRAIG M.E., CROSBY B.L. (1992). A Review of ectoparasites and their effect on cattle production. *J. Anim. Sci.* 70:597-602
- 3 - CAMPBELL, J.B.; SKODA, S.R.; BERKEBILE, DENNIS; BOXLER, D.J.; THOMAS, G.D.; ADAMS, D.C.; AND DAVIS, R. (2001) «Effects of Stable Flies (Diptera: Muscidae) on Weight Gains of Grazing Yearling Cattle». Faculty Publications: Department of Entomology. Paper 27. <http://digitalcommons.unl.edu/entomologyfacpub/27>
- 4 - BALDACCHINO, F., MUENWORN, V., DESQUESNES, M., DESOLI, F., CHAROENVIRIYAPHAP, T. AND DUVALLET, G. (2013). Transmission of pathogens by Stomoxys flies (Diptera, Muscidae): a review. *Parasite*, 20.
- 5 - DUREL L., ESTRADA-PEÑA A., FRANC M., MEHLHORN H. & BOUYER J. (2015) Integrated fly management in European ruminant operations from the perspective of directive 2009/128/EC on sustainable use of pesticides. *Parasitol Res* 114:379-389
- 6 - University of Florida, http://entnemdept.ufl.edu/creatures/URBAN/MEDICAL/Stomoxys_calcitrans.htm
- 7 - GERRY A.C., PETERSON N., MULLENS B. (2007) Predicting and controlling stable flies on California dairies. UCANR Publications.
- 8 - PREE D. J., STEVENSON A. B., BARSZCZ E. S. (1996) Toxicity of Pyrethroed Insecticides to Carrot Weevils: Enhancement by Synergists and Oils. *Journal of Economic Entomology* 89(5):1254-1261 .

Legal mention :

Legi, Patres colendissimi, in Arabum monumentis, interrogatum Abdalam 1 Sarracenum, quid in hac quasi mundana scaena admirandum maxime spectaretur, nihil spectari homine admirabilius respondisse. Cui sententiae illud Mercurii adstipulatur: Magnum, o Asclepi, miraculum est homo 2. Horum dictorum rationem cogitanti mihi non satis illa faciebant, quae multa de humanae naturae praestantia afferuntur a multis: esse hominem creaturarum internuntium, superis familiarem, regem inferiorum; sensuum perspicacia, rationis indagine, intelligentiae lumine, naturae interpretem; stabilis aevi et fluxu temporis interstitium, et (quod Persae3 dicunt) mundi copulam, immo hymenaeum, ab angelis, teste Davide4, paulo deminutum. Magna haec quidem, sed non principalia, idest quae summae admirationis privilegium sibi iure vendicent. Cur enim non ipsos angelos et beatissimos caeli choros magis admiremur? Tandem intellexisse mihi sum visus, cur felicissimum proindeque dignum omni admiratione animal sit homo, et quae sit demum illa conditio quam in universi serie sortitus sit, non brutis modo, sed astris, sed ultramundanis mentibus invidiosam. Res supra fidem et mira. Quidni? Nam et propterea magnum miraculum et admirandum profecto animal iure homo et dicitur et existimatur. Sed quaeenam ea sit audite, Patres, et benignis auribus pro vestra humanitate hanc mihi operam condonate.

Iam summus Pater architectus Deus hanc quam videmus mundanam domum, divinitatis templum augustissimum, archanae legibus sapientiae fabrefecerat. Supercaelestem regionem mentibus decorarat; aethereos globos aeternis animis vegetarat; excrementarias ac feculentas inferioris mundi partes omnigena animalium turba complerat. Sed, opere consummato, desiderabat artifex esse aliquem qui tanti operis rationem perpenderet, pulchritudinem amaret, magnitudinem admiraretur. Idcirco iam rebus omnibus (ut Moses5 Timaeusque6 testantur) absolutis, de producendo homine postremo cogitavit. Verum nec erat in archetypis unde novam sobolem effingeret, nec in thesauris quod novo filio hereditarium largiretur, nec in subselliis totius orbis, ubi universi contemplator iste sederet. Iam plena omnia; omnia summis, mediis, infimisque ordinibus fuerant distributa. Sed non erat paternae potestatis in extrema fetura quasi effeta defecisse; non erat sapientiae, consilii inopia in re necessaria fluctuasse; sui, tibi illam praeferes.