

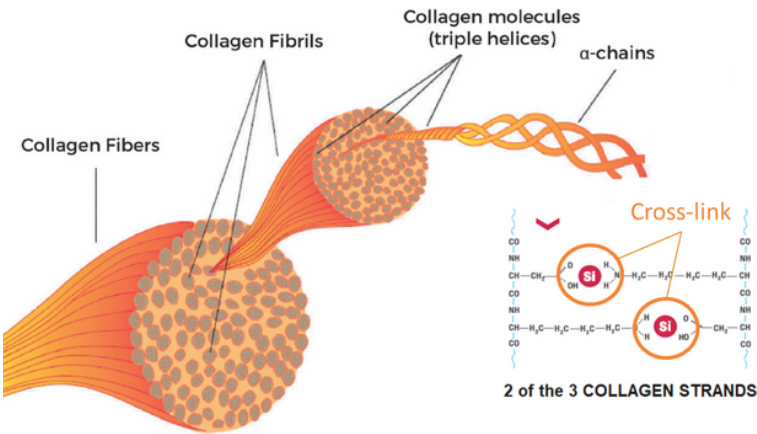


POULSIL®

THE BIO-ACTIVE SILICIUM



The Power of Si



Silicium (Si) is the 2nd most prevalent element on earth, which shows very interesting properties regarding bone health, cartilage, and blood vessels.

Because of its bond with collagen, elastin, keratin, and proteoglycans, Si contributes to the architecture, strength, durability, and elasticity of the connective tissue. Elevated intake of Si shows increased cortical bone strength, as well as a positive effect on the structural integrity of nails, hair, and skin, as well as overall collagen synthesis, and bone mineralization.

Different forms of Silicium



Chemical element



Silicium dioxide, limited bio-availability in the environment (Beer; Cereals)



Synthetic form

Modified Silicium dioxide (Poulsil)

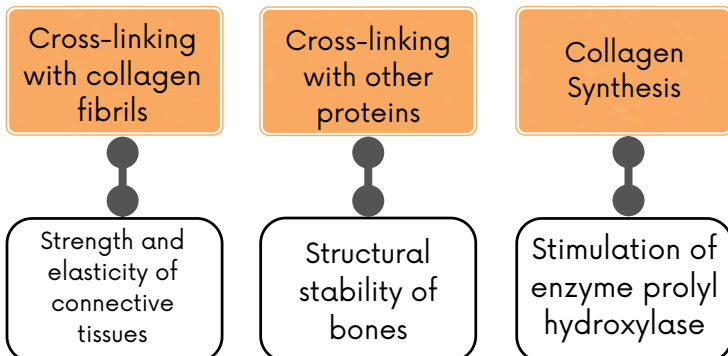
Formulated to provide highly bio-available silicium



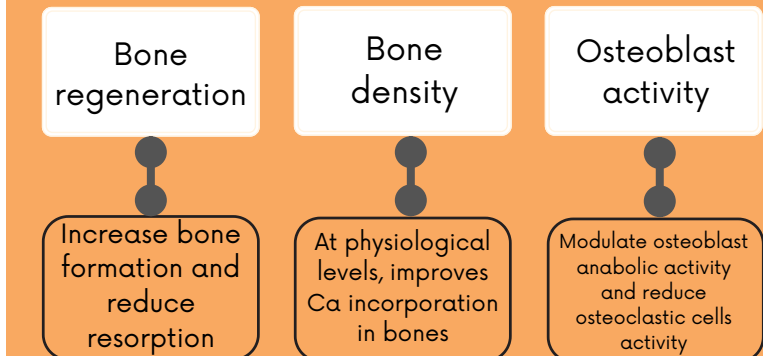
In-vivo conversion

Bioavailable silicium

Si as a vital component of collagen



Si in bone remodelling



Egg quality trial: (Zootest, 2023)

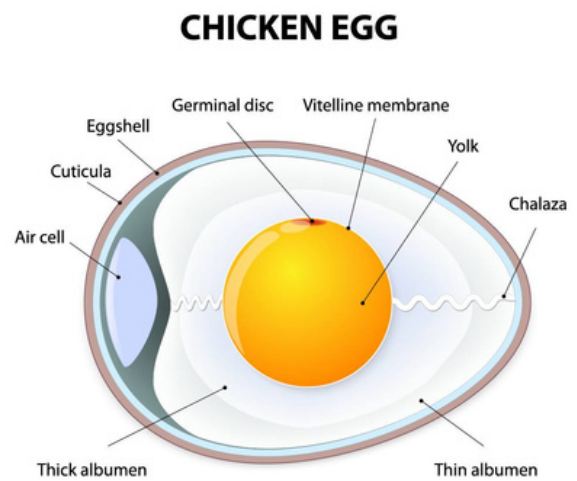
Trial performed on 3 batches of 390 hens, with the below setup:

Treatment	Poulsil inclusion levels in feed	No. of replicates	No. of hens per replicate	No. of hens per group
T1	Control	26	15	390
T2	Control + Poulsil (150 g/ton)	26	15	390
T3	Control + Poulsil (450 g/ton)	26	15	390

Experiment was run from 26 to 30 weeks-old, (duration = 28 days).

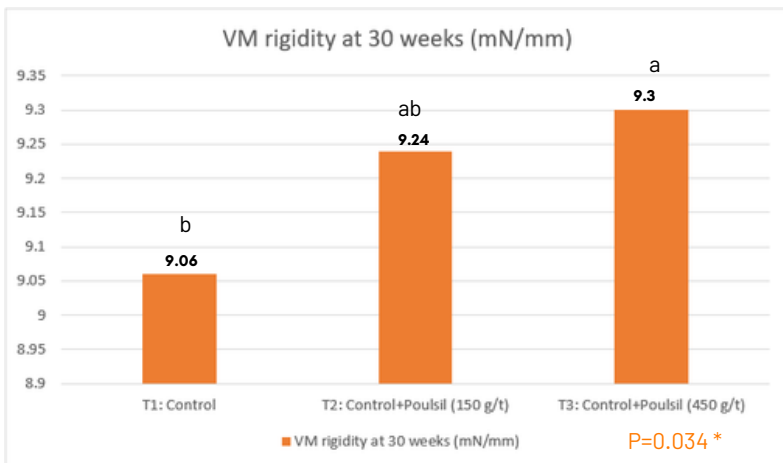
Vitelline Membrane

- The vitelline membrane (VM) is a multilayered structure that protects and gives shape to the egg yolk and separates it from the egg white.
- Together with the chalaza, VM keeps the egg yolk in the central part of the egg, thereby preventing its integration with the shell membranes.
- In addition, it acts as a diffusion barrier by transporting water and nutrients between the egg yolk and the egg white.
- It protects the embryo during the first 96 h of incubation against the strongly alkaline nature of the egg white (Mann, 2008)



Vitelline Membrane Rigidity

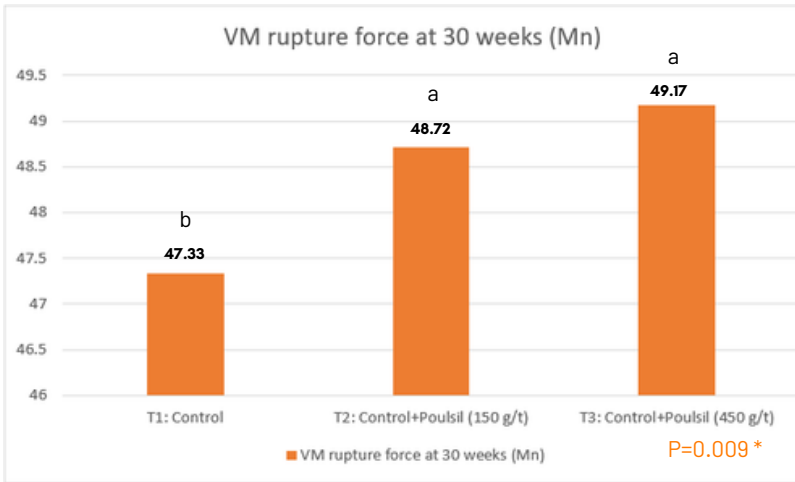
*Rigidity i.e. the extent to which vitelline membrane object resists deformation in response to an applied force.



Statistically significant improvement in vitelline membrane rigidity indicates a better egg quality from birds after Poulsil® supplementation.

Advantages of Higher Vitelline Membrane Rigidity

- The rigidity of the vitelline membrane, which encases the yolk of an egg, is essential for a number of reasons related to the protection and development of the embryo, as well as the quality of the egg itself.
- Embryo Protection: Ensures physical safety and integrity of the developing embryo.
- Albumen Separation: Maintains clear delineation between yolk and egg white.
- Bacterial Barrier: Reduces the risk of bacterial invasions.
- Egg Quality Maintenance: Retains yolk shape indicating freshness and quality.
- Yolk Positioning: Centers yolk for optimal embryonic development and culinary presentation.
- Nutrient Retention: Helps in preventing potential nutrient loss from the yolk.



Vitelline Membrane Rupture Force

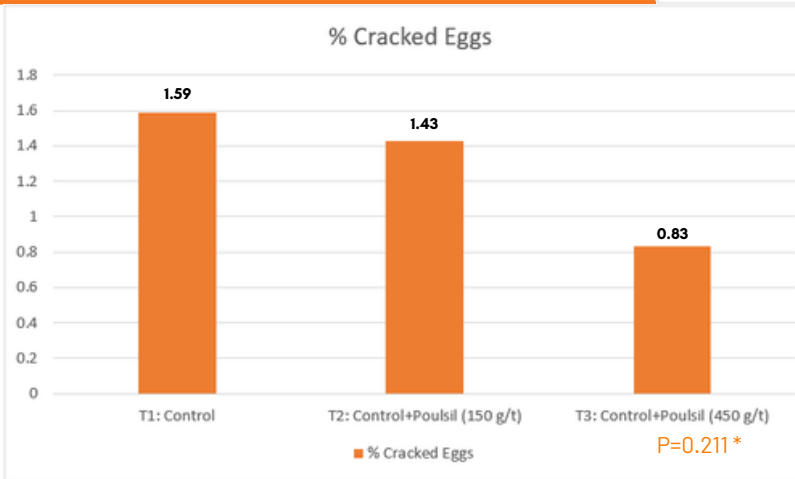
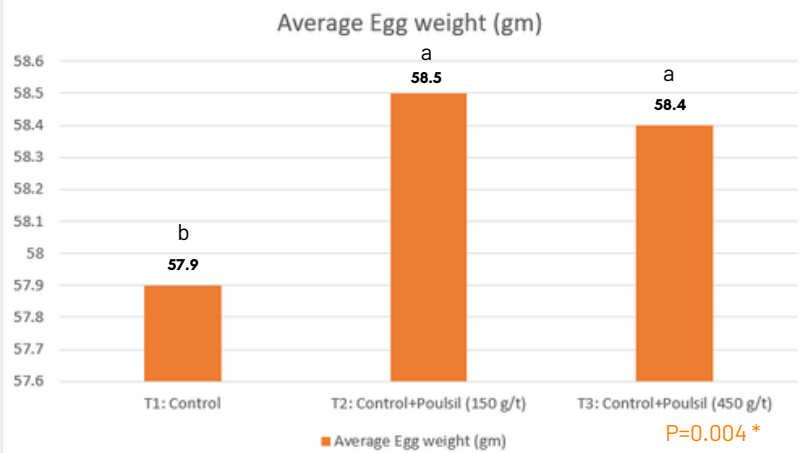
*The maximum force applied on the yolk before membrane rupture.

Highly statistically significant improvement in vitelline membrane rupture force indicates a better egg quality from birds after Poulsil[®] supplementation.

Average Egg Weight

*The average of the egg weight from 27 - 30 weeks.

Highly statistically significant improvement in average egg weight indicates a better egg quality from birds after Poulsil[®] supplementation.



% Cracked Eggs

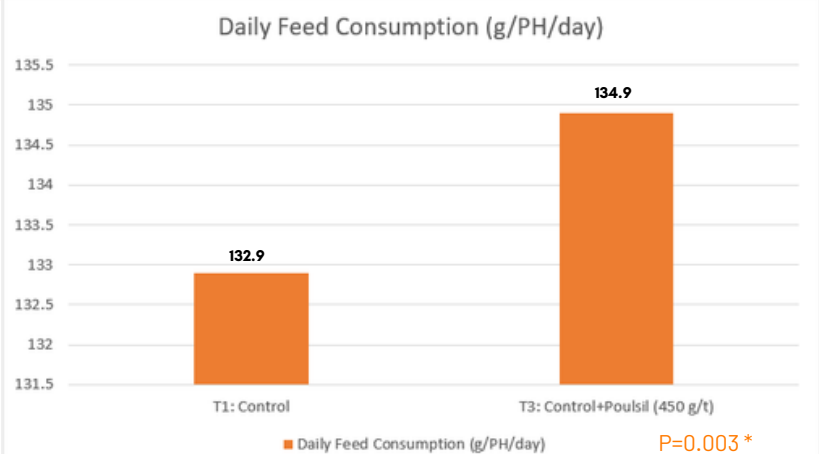
*The average of the % cracked eggs from 27 - 30 weeks.

The % cracked eggs has declined from birds with higher Poulsil[®] supplementation.

Daily Feed Consumption

*The average of the daily feed consumption from 27 - 30 weeks.

The daily feed consumption increased significantly in birds with higher Poulsil[®] supplementation.



Added Value of Better Egg quality

Better hatchability

Greater egg production volume

Lesser culled eggs

Better hen day production & egg size



Application – Broilers; Breeders; Layers; Turkeys



Recommended dosage :
150g./ton (21.4 mg Si /Kg of
feed)



17 €/KG Poulsil