



Effect of a Functional Feed Additive on the Stress Nervous Modulation Response - Preliminary application on dairy systems -



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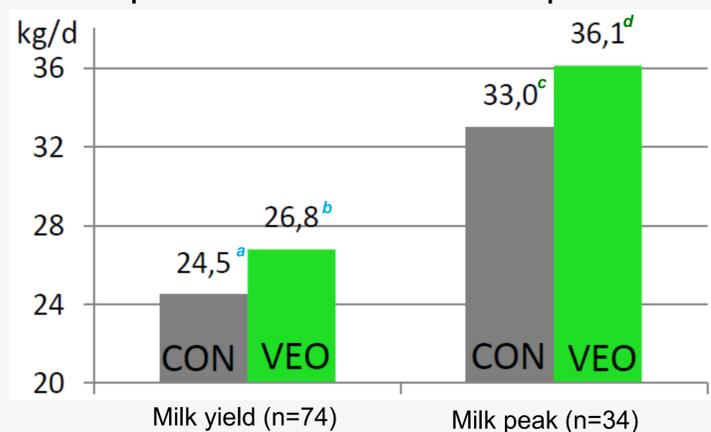
Context & Objective:

- Lemon essential oil (LEO) has been reported to enable relieve physical stress⁽¹⁾.
- To evaluate the effects of feed additive based on purified and specific fractions of LEO on 2 dairy systems: renewal calves and milking cows

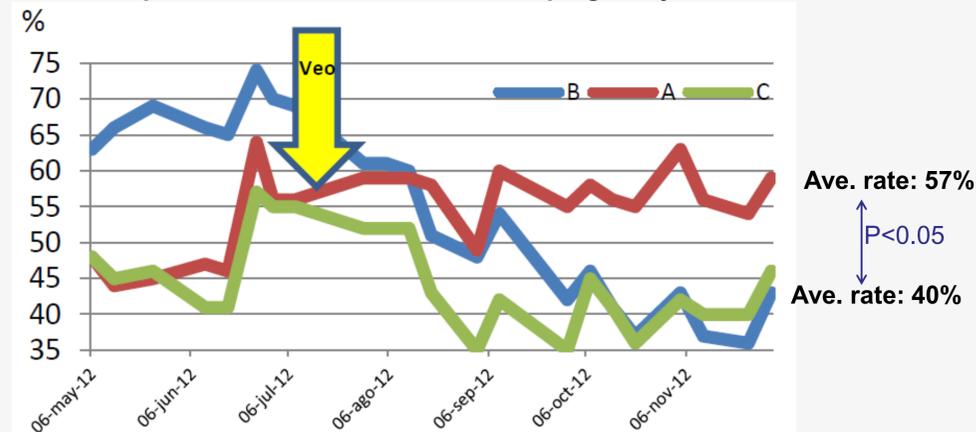
Material & Methods:

- **Trial#1 (07/14/2012 - 12/04/2012):** On 37 paired milking cows conducted under an intensive rotating pastured system. The feed additive was incorporated (330 g/MT) via the pelleted feed distributed at milking parlour (group A, VEO). Milk performances and pregnancy rates were monitored over the test*.
- **Trial#2 (08/08/2013 - 01/02/2014):** Completed over 1600 un-weaned Holstein young female calves reared in a specific Colombian dairy nursery farm. Started feed of treated group was supplemented with (250 g/MT) of the tested feed additive. Live-weight are monthly monitored and growth performance calculated*.

Graph 1: Effect of the additive on milk performance

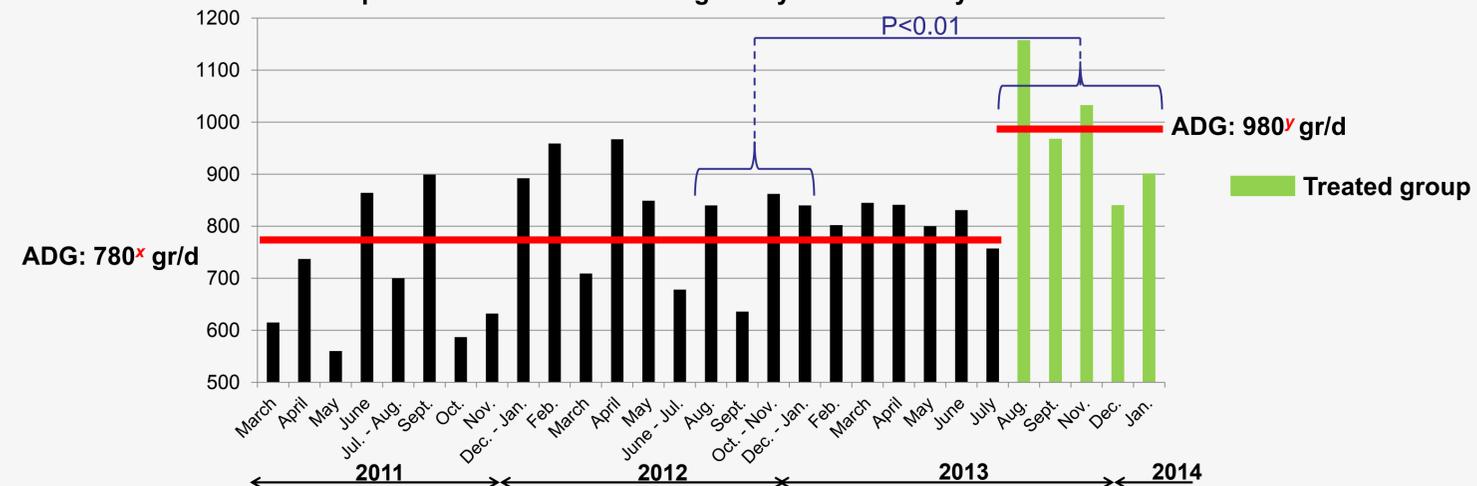


Graph 2: Effect of the additive on the pregnancy rate



Results:

Graph 3: Historical of the Average Daily Gains of Dairy Calves



Are these interesting results directly linked to an improvement of animal welfare status? Thus, further investigations based on animal welfare parameters are in progress to establish the mechanism of action of this feed additive based on purified fractions of LEO.

⁽¹⁾ Stress Health 24, 3-12 (2008) - *A Fisher's test was completed for statistical significance. ^{a,b} P<0.05, ^{c,d} P<0.1 ^{x,y} P<0.01