



NEWS TO USE

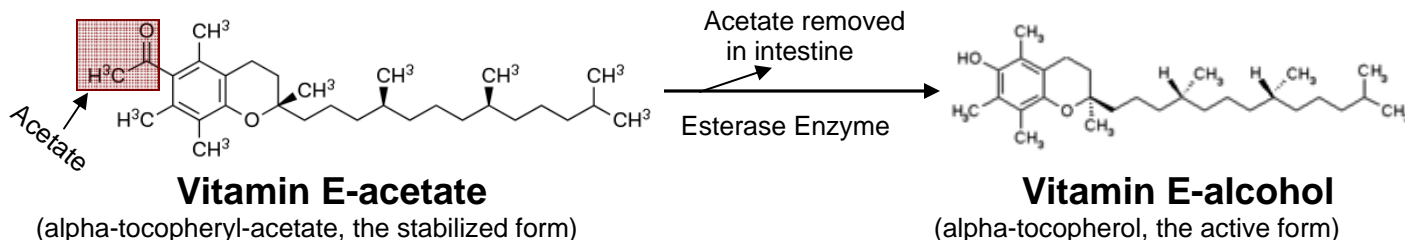
Vitamin E....Alcohol vs Acetate

The form of vitamin E used in Stuart Products' liquid supplements (EMCELLE TOCOPHEROL and EMCELLE E/D₃ LIQUID) is **different** than vitamin E sources used in all other liquid and powder supplements; yet is **the same form of vitamin E in milk**.

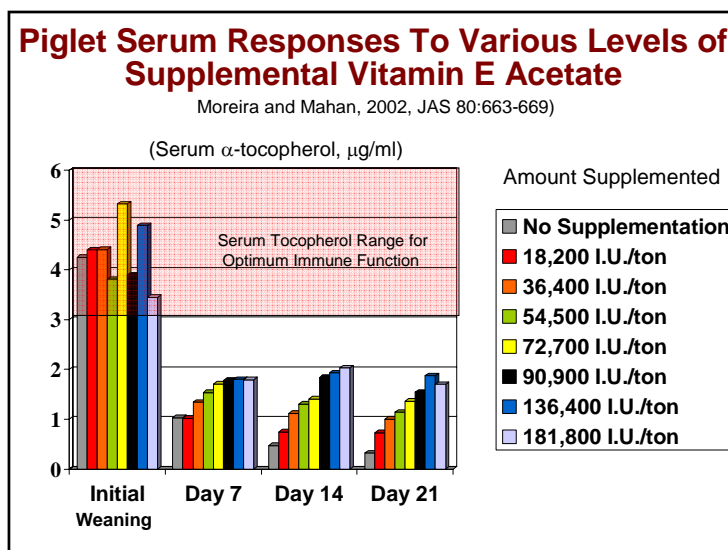
There are two critically important steps that most vitamin E supplements have to undergo in the intestine before the animal can absorb the vitamin: (1) removal of the acetate ester to form vitamin E alcohol and (2) making the vitamin E alcohol water soluble.

Why is form of supplemental vitamin E important?

Milk and grass contain the active form of vitamin E — **alpha-tocopherol**, the alcohol-form and biologically active source of vitamin E. Most supplements, including milk-replacer contain vitamin E-acetate (alpha-tocopheryl acetate), a stable source that has to have the acetate ester removed (de-esterified) by an enzyme in the animal's intestine before being utilized by the animal.



Nursing and newly-weaned animals have a **deficiency of the esterase enzyme** necessary to remove the acetate-ester from vitamin E before the animal can utilize the acetate-form of vitamin E (Jensen et al., 1997, JAS 75:437-445); therefore, regardless of amount of vitamin E acetate supplemented in feed, newly-weaned pigs can not efficiently utilize supplemental vitamin E acetate from feed (See Figure).



INFORMATION PROVIDED BY STUART PRODUCTS, INC. 112 Bedford Road, Bedford, TX 76022
800-747-4538 . Fax 817-590-2909

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