

# PHYSIOLOGY OF STRESS AND NUTRITION FOR HORSES

## New literature review

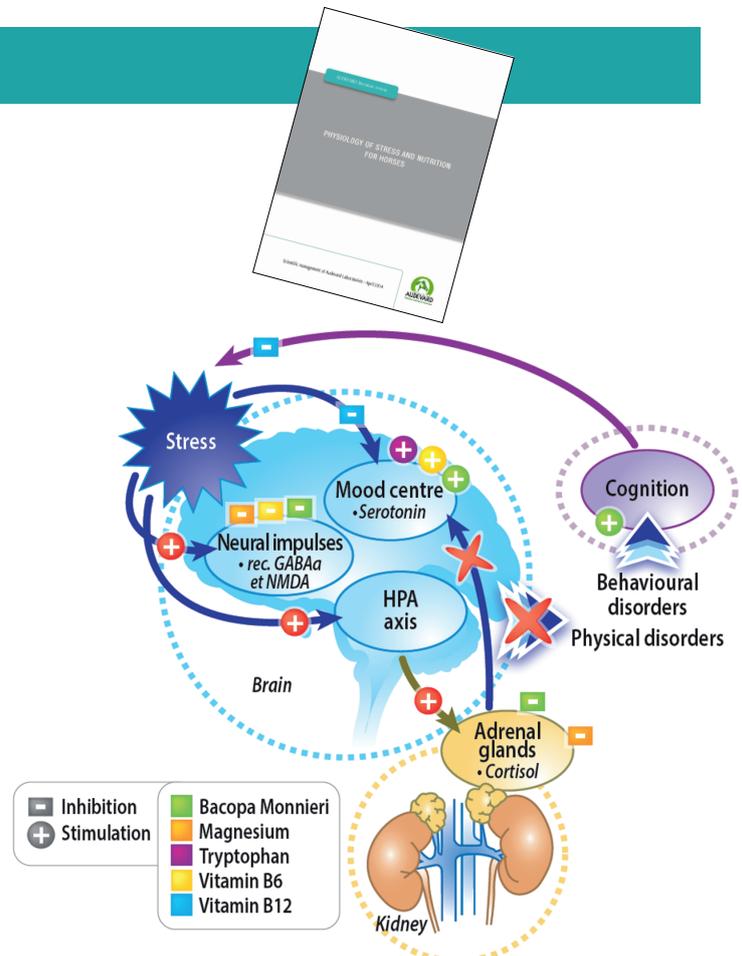
(Re)discover:

### 1. The 3 key stress mechanisms in horses

- HPA,
- GABAa,
- Serotonin

### 2. The cognitive system: a new target for stress management

### 3. Relevant nutrients to aid stress management

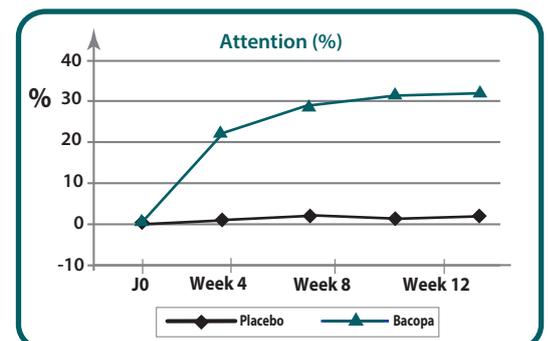


## Focus on Bacopa (Bacopa Monnieri)



*Bacopa monnieri* is a hardy, succulent plant belonging to the dicot group. A member of the scrophulariaceae family, it grows in the swamps and wetlands of Asia and in the southern United States. It has been used for many centuries in ayurvedic medicine to improve memory, learning and concentration and reduce anxiety (including epileptic fits) (AMR, 2004; Calabrese, 2008; Kidd, 1999).

- **Helps regulate cortisol levels** (Calabrese, 2008; Aguiar, 2013; Benson S et al., 2013).
- **Helps reduce anxiety with results comparable to lorazepam but without the adverse effects** (AMR, 2004; Bhattacharya 1998; Head, 2009)
- **Nerve impulse modulation** (Jobin Mathew et al, 2012)
- **Optimises cognitive function** (graphique ci-contre) (AMR, 2004 ; Negi, 2000 ; Stough, 2001 ; Calabrese, 2008 ; Kidd, 1999) par inhibition de l'Acétylcholine estérase (Peth-Nui T, 2012).



Source: "Effects of 12-Week Bacopa monnieri Consumption on Attention, Cognitive Processing, Working Memory, and Functions of Both Cholinergic and Monoaminergic Systems in Healthy Elderly Volunteers", Tatimah Peth-Nui, 1, 2 Jintanaporn Wattanathorn et al., Hindawi Publishing Corporation, Evidence-Based Complementary and Alternative Medicine Volume 2012, Article ID 606424, 10 pages doi:10.1155/2012/606424

# ZZEN

## ANXIOUS AND «HOT» HORSES

### Description

Some horses are more sensitive than others to stress caused by training, competitions, transportation and changes of environment. These new situations may require additional nutritional support.

### Purpose

ZZEN has been formulated by AUDEVARD Laboratories to provide additional nutritional support for horses suffering from excessive stress and nervousness, without affecting their sporting performance.

### Formula

The new ZZEN formula has been reinforced with tryptophan and vitamin B6, and still contains high concentrations of magnesium and vitamin B1, which nervous horses consume in greater amounts. The formula is completed with bacopa.

### Daily allowance

50 ml per day for 2 to 4 weeks, preferably at the start of the day. Shake well before use. Give ZZEN directly into the mouth or mixed in with feed.

### Professional format

1 L bottle - (EAN 3515657978352). Sufficient for 20 days' use.



#### Composition per Litre

##### Additives:

- **2b Aromatic substances:** Bacopa (*Bacopa monniera* - mother tincture) 136 800 mg, Ethanol (CAS No. 64-17-5) 40000 mg, Stevia extract (CoE 552) 3000 mg.
- **3a Vitamins, provitamins and substances with analogous effect:** 3a831 vitamin B6 1000 mg, 3a316 folic acid 200 mg, vitamin B12 20 mg.
- **3c Amino acids:** 3.4.1 tryptophan 33 000 mg.
- **Technological enhancers:** Mint flavour 3300mg.

##### Raw materials:

Magnesium chloride, Sorbitol, monpropylene glycol, sugar cane molasses

##### Analytical constituents:

Humidity 58,1 %, crude protein 3,1 %, crude fats 0 %, crude ash 9,2 %, crude cellulose 0 %, sodium 0 %.

This product belongs to the complementary feed for horses category.