

PHYTOCEE



TECHNICAL DATA SHEET

Natural Remedies Pvt Ltd.

5B, Veerasandra Indl. Area, Hosur Road. Bangalore -560 100 Tel: 91-80-40209999 Fax: 91-80-40209817

Natural Replacer of synthetic Choline Chloride

PHYTOCEE powder is unique polyherbal combination which gives phytochemicals Polyphenols, Withanolides and Triterpenoids to replace the bioactivity of vitamin C. Phytocee possessing antioxidant, antistress and immunomodulatory activities as evidenced from various in vitro and in vivo studies. Heat stability of vitamin C is always a challenge during pelletization and hence efficacy of vitamin C post heat-treatment is dubious. Phytocee overcomes these limitations and has proven to be an effective new generation phytochemical feed additive to combat various types of stress including heat stress and contributing to sustainable and profitable animal production.

BENEFITS

- Enhance and maintains the immune- competence
- Protects the bird from the ill effects of production stress and other stresses
- Compensate the stress induced depletion of vitamin C
- Stable in pelleting conditions of feed

PROPERTIES

Colour	:	Light brown to brown powder
Appearance	:	Free Flowing powder
pH (5% w/v solution)	:	2.5 – 4.5
Bulk density	:	0.30 – 0.50
Water Extractive value (%w/w)	:	NLT 35
Acid insoluble ash (%w/w)	:	NLT 4.0
Alcohol Soluble Extractive value (%w/w)	:	NLT 28.0
Phytochemical Analysis		
Total polyphenols as Tannic acid (%w/w)	:	NLT 10.0
Egallic acid (%w/w) by HPLC	:	NLT 0.005
Gallic acid (%w/w)	:	NLT 0.08

PHYTOCEE



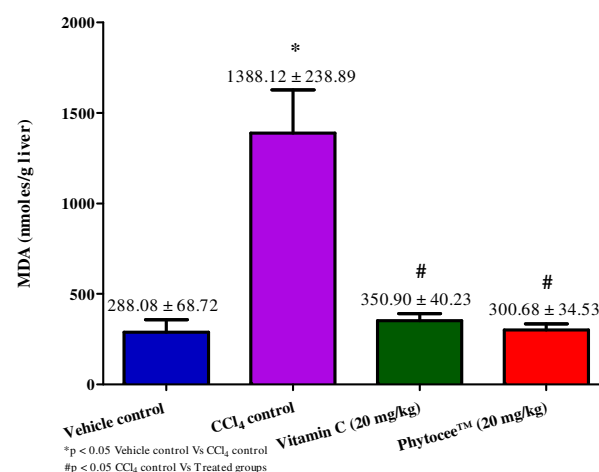
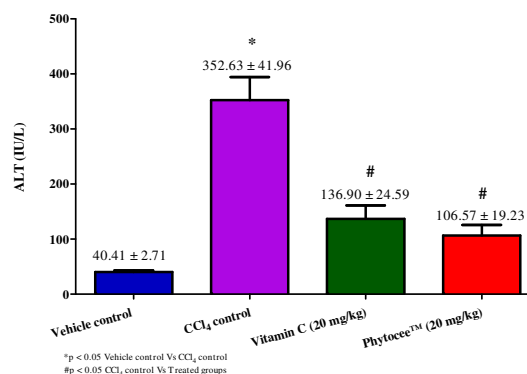
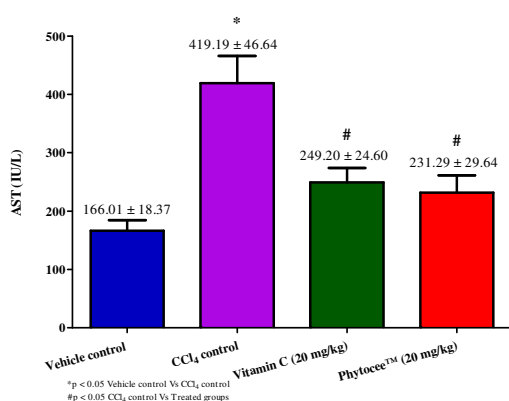
MODE OF ACTION

Antioxidant activity

Phytocee has been evaluated for its antioxidant effect by DPPH free radical scavenging assay, AAPH induced oxidative stress in HepG2 cells [Chandrasekaran et al., 2010], hydrophilic ORAC and lipophilic ORAC assays in vitro. The antioxidant activity was also evaluated in laboratory animals [Joseph et al., 2015] subjected to oxidative stress induced by carbon tetrachloride (CCl₄), a toxicant known to cause liver damage by getting converted in to a free radical. Liver damage was indicated by the increase in lipid peroxides as measured by MDA levels and increase in serum levels of the liver enzymes (AST and ALT). These toxic effects were counteracted by Phytocee and the effects of Phytocee were comparable to that of Vitamin C.

Antistress activity

Under stressful conditions, hypothalamus releases corticotrophin releasing factor (CRF), which binds with CRHR1, the primary receptor of CRF. This binding of CRF with its receptor CRHR1 is responsible for the normal response to stress. Under chronically stressful situations, this leads to negative effects. Hence, a study was conducted using CHO-K1 DA cells to see if Phytocee could able to block the CRHR1 receptor in vitro, which might help in preventing the deleterious effects of stress. Phytocee was found to significantly block the CRHR1 receptor at a concentration of 100 µg/ml in CHO-K1 DA cells stimulated with CRF.



COMPOSITION

Phytocee is composed of *Embllica Officinalis*, *Ocimum Sanctum* and *Withania Somnifera* which give

Active constituents: -

Total polyphenols as Tannic acid (%w/w): NLT 10.0

Egallic acid (%w/w) by HPLC : NLT 0.005

Gallic acid (%w/w) : NLT 0.08

CAUTION

Keep the product in cool and dry place, away from heat, free from rodents and other invaders.

PHYTOCEE



MANUFACTURED BY

NATURAL REMEDIES PVT LTD

BACKGROUND

Understanding and controlling environmental conditions is very crucial to successful animal production and welfare. Among environmental stressors, heat and production stress are very important stressors challenging animal production globally.

Livestock's experiencing stress show many metabolic and hormonal responses. One of the very prominent effect of such stress is increase in the metabolic rate. Higher metabolic rate leads to increase in free radical formation and reactive oxygen species production inside the body. More and more evidence are now suggesting that oxidative stress and the resulting lipid peroxidation (LPO) leads to oxidative damage and affects production parameters and immunity. Further, it is also demonstrated that stress can have a significant deleterious effect on food safety through a variety of potential mechanisms.

Among many intervention strategies to deal with stress conditions, exogenous phytogetic supplementation in diet has shown to prevent or ameliorate the oxidation process and bring about homeostasis between oxidants and antioxidants, thus improving overall performance of animal.

Phytogetic supplementation to combat stress susceptibility has been an area of substantial interest to researchers and livestock producers.

Stress and stressors

Fast growing poultry birds are faced with stressful situations day in, day out and this we can call as production stress. Especially, in the present-day scenario where intensive poultry production is carried out under diverse and varying environmental conditions, housing and husbandry practices, the quantum of production stress encountered by birds is huge. Factors that cause stress to birds include but not limited to environmental temperature (excessive heat or cold), fear, disease, handling, starvation, toxicity, social interactions, vaccination, crowding, beak trimming, forced moulting and nutritional stress. Unmanageable chronic stress negatively affects birds, which is often indicated by increase in mortality and decrease in growth performance. Protecting birds from stress

induced effects is vital to prevent mortality and the decrease in growth performance.

Can production stress be prevented?

- It is difficult to prevent production stress but it can be managed by following best farm management practices to maintain good air, water and feed quality, right stock density, control foul odour etc. Even in best managed farms, birds undergo stress because of their faster growth rate. So, in addition to best management practices, use of a feed additive with antistress and antioxidant potential is important to protect birds from stress.

USAGE :

Poultry	Inclusion rate
Commercial Broiler & Layer	100 g per ton of feed OR 1:1 replacement
Breeders	200 g per ton of feed OR 1:1 replacement

SHELF LIFE & STORAGE:

Phytocee Powder has a shelf life of 2 years from the date of manufacturing. Keep product in cool & dry place

PACKING :

Phytocee powder is available in 5 kg Aluminium pouch.