Saviotan® Feed is an additive for animal nutrition. Saviotan® Feed is a natural chestnut extract, rich in hydrolysable tannin. Production takes place in Radicofani, Tuscany, Italy. Woods come from FSC certified forests located in Tuscany. Chestnut tannin is obtained by water extraction from chestnut wood, by an environmentally sustainable unique process. Radicofani manufacturing plant, Gruppo Mauro Saviola srl, is FAMI-QS, GMP+ and UNI EN ISO 22000 certified.
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Saviotan® Feed for a potent upgrading effect on the metabolic utilization of absorbed nitrogen

The study on digestibility and nitrogen balance has been performed with 175 female Ross 800 broilers. No difference in weight gains and nitrogen intakes but the percentages of retained nitrogen in droppings collected for one weeks result significantly different: 61.6% for the untreated group and 71.5% for tannin group. Decrease in total nitrogen in the litter and better utilization of the absorbed nitrogen have been observed.

Saviotan® Feed for cholesterol reduction in egg yolk

Saviotan® Feed was administered to laying hens aged 50 weeks, at the level of 0.2% in the complete feed. In the trial, lasted 5 weeks, two breeds, Mugellese [Mu] and Leghorn [Le], and two diets, with and without Saviotan® Feed, were compared. Egg yolk cholesterol reduction has been significant in both breeds, more evident in the Leghorn [-17% vs -9% in Mugellese]. Shell thickness, egg weight and colour were not affected by the addition of Saviotan® Feed.

<table>
<thead>
<tr>
<th>Cholesterol in egg yolk [g/Kg total lipids]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MuC</td>
</tr>
<tr>
<td>23.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MuC</th>
<th>MuT</th>
<th>LeC</th>
<th>LeT</th>
</tr>
</thead>
<tbody>
<tr>
<td>untreated Mugellese hens</td>
<td>treated Mugellese hens</td>
<td>untreated Leghorn hens</td>
<td>treated Leghorn hens</td>
</tr>
</tbody>
</table>

Saviotan® Feed for diarrhoea control

Chestnut tannin controls diarrhoea through its antispasmodic effect (it slows the peristaltic movements of the intestine).

Administration of Saviotan® Feed often results in firmer droppings which positively affects the litter status thus improving the overall status and welfare of chickens in intensive production system. Farm experience confirms that Saviotan® Feed improves litter quality and reduces footpad dermatitis.

Saviotan® Feed for intestinal microbiota control

Saviotan® Feed interferes with the development of bacteria and parasite in gut because it complexes membrane protein altering the permeability of the cellular membrane. Saviotan® Feed antimicrobial activity was tested in vitro on Salmonella typhimurium, Escherichia coli, Campylobacter jejuni and Clostridium perfringens. Not all the four bacterial colonies reacted to Saviotan® Feed in the same way: Escherichia coli resulted the least sensitive and Clostridium perfringens the most sensitive.

Saviotan® Feed on the in vitro growth of the four bacteria at 24 hours

![Image of in vitro growth of four bacteria](image)

[Saviotan® Feed as an antimicrobial agent. World Poultry Science Journal]

Saviotan® Feed on the in vitro growth of Clostridium perfringens cultures

![Image of in vitro growth of Clostridium perfringens cultures](image)

[Saviotan® Feed as an antimicrobial agent. World Poultry Science Journal]

Saviotan® Feed for necrotic enteritis

Saviotan® Feed was tested in vivo for its efficacy in controlling the proliferation of Clostridium perfringens in the gut of broiler chickens challenged with coccidia. Chickens were euthanized at 20 and 25 days and examined for the level of gut infection by counting Clostridium perfringens and macroscopic gut lesions.

The extreme pathological conditions created in the broiler’ gut by challenging them must be considered exceptionally uncommon in practice but also in this extreme condition, the addition of Saviotan® Feed resulted capable of limiting the infection, even at the lowest level.

Number of broilers with more or less severe gut lesions at day 20

![Image of number of broilers with more or less severe gut lesions at day 20](image)


Number of broilers with more or less severe gut lesions at day 25

![Image of number of broilers with more or less severe gut lesions at day 25](image)


Counts of Clostridium perfringenes [log10 of CFU/g gut content]

![Image of counts of Clostridium perfringenes](image)

**Saviotan® Feed for future**

Ellagitannins (vescalagin, castalagin and roburin) have significant anti-HSV (Herpes simplex virus) activities against Aciclovir susceptible and Aciclovir resistant strains.

Lupini et al. (2009) showed that chestnut wood extracts have an inhibitory effect on avian reovirus (retrovirus) and avian metapneumovirus. Investigation on going.

**Saviotan® Feed for its antioxidant properties**

Saviotan® Feed is a polyphenol and exhibits greater antioxidant activities than simple phenolics: the number of hydroxyl groups and the degree of polymerization of tannin are considered to be correlated with their ability to scavenge free radicals. Antioxidant activity has been evaluated in vitro by using Folin-Ciocalteu reagent.

The results are expressed as total phenol content, measured as GAE (Gallic Acid Equivalents) which is considered to have an excellent correlation with the in vitro antioxidant activity.

<table>
<thead>
<tr>
<th>FOLIN-CIOCALTEU (GAE equivalent, mg/g)</th>
</tr>
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<tbody>
<tr>
<td>Saviotan® Feed</td>
</tr>
</tbody>
</table>


**Saviotan® Feed technical data sheet**

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>METHOD OF ANALYSIS</th>
<th>MEASURE UNIT</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Visual</td>
<td>/</td>
<td>Free flowing dark brown powder</td>
</tr>
<tr>
<td>Tannin content</td>
<td>ISO 14088</td>
<td>% w/w</td>
<td>Min 75</td>
</tr>
<tr>
<td>pH</td>
<td>Internal method n. LAB 004</td>
<td></td>
<td>3.2 ±0.2</td>
</tr>
</tbody>
</table>

**Saviotan® Feed for use in animal feedingstuffs**

Recommended instruction for use:

- Broilers: 0.4 – 1.0 Kg/ton
- Laying hens: 0.35 – 1.0 Kg/ton
- Turkeys (starter and finisher): 0.75 – 1.3 Kg/ton
- Turkeys: 1.0 – 1.5 Kg/ton
Saviotan® Feed

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