Abstract:
The present invention relates to a formulation to treat coccidiosis. More particularly, present invention relates to a formulation prepared from Allium Odorum, Allium sativum, Tinospora cordifolia, Adhatoda vasica and Tridax procumbens to treat coccidiosis. The formulation prepared according to present invention is effective for the treatment of coccidiosis. The herbal composition used in present invention provides relief to the poultry without any side effect. The present invention provides an effective and low cost method for treating coccidiosis.
"A HERBAL FORMULATION TO TREAT COCCIDIOSIS"

FIELD OF INVENTION
The present invention relates to a formulation to treat coccidiosis. More particularly, present invention relates to a formulation prepared from *Allium Odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens* to treat coccidiosis.

BACKGROUND OF THE INVENTION
Coccidiosis is a parasitic disease of tropical and subtropical regions caused by the a protozoan type parasite that causes tissue damage in the intestinal tract. Symptoms include fever, malaise, abdominal discomfort, and watery diarrhea. The infection is usually self-limited, lasting 1 to 2 weeks, but occasionally it persists, resulting in malabsorption syndrome and, rarely, death. Coccidia can also damage the immune system and leave poultry more vulnerable to pathogens like *Clostridium*, *Salmonella* and *E. coli*. Eimeria and Isospora are the two genera that are often referred to as "coccidia." These two genera contain a large number of species that infect a variety of animals throughout the world. The diseases caused by these microscopic protozoal parasites are referred to collectively as coccidiosis, and they vary tremendously in virulence. Domestic poultry and birds are affected by coccidia called Eimeria (*scientific name*). There are different types of host specific species of Eimeria. Nine species of Eimeria infect chickens. Eimeria necatrix and E tenella are the most pathogenic in chickens. Seven species infect turkeys - the big three of concern are *Eimeria meleagrimitis*, *E. adenoeides*, and *E. gallapovonis*.

Anticoccidial medication is commonly added to poultry feed as a preventative measure against the disease. However, some medications, like ionophors - Coban, Avatec, allow leakage of oocysts, so the birds can build up an immunity to the parasite. Also, the birds can ingest more coccidia oocysts from the litter. Treatment of coccidiosis is used to control an outbreak. Amprolium, sulfadimethoxine, and sulfaquinoxaline are effective against coccidia as a treatment, however toxicity and withdrawal times are a matter of concern with sulfa-drugs.
*Allium odorum* of Chinese Chives is a species in the genus *Allium* (onion) which contains 824 species and belongs to family Alliaceae (Garlic Family).

Chemical composition in various parts of this plant are: the leaves and bulbs contain sulfur compounds, saponin and bitter substances. The seeds yield saponin and alkaloids. The leaves and the bulbs of this plant possess antibacterial properties. They are useful for the treatment of haemoptysis, epistaxis, cough, sore throat, dyspepsia, haematometra, asthma, dysentery and oxyuriasis. The usual dose is 20 to 30g per day in the form of a decoction. They are also used in an anti-inflammatory poultice. The seeds are active on spermatorrhoea, haematuria, incontinence, lumbago, arthrodynia and metrorrhoea. The usual dose is 6 to 12g per day in the form of a decoction (http://enervon.com). According to the Chinese literature, it is supposed to nourish and purify the blood, to act as a cordial and effective against poisonous bites of dogs, serpents, insects, haemorrhages of every sorts and spermatorrhoea (Chinese medicinal herbs: a modern edition of a classic sixteenth-century manual by Shizhen Li, Porter Smith, George Arthur Stuart).

Allium Sativum or Garlic is a species in the onion genus. It is a kind of a plant widely used in the Indian kitchen. Garlic has been found to have antibacterial, antiviral, and antifungal activity. Garlic is also alleged to help regulate blood sugar levels. It is found to be effective against infections, coughs and cold and diabetes.

*Tinospora cordifolia*, commonly known as Guduchi or Giloy is an herbaceous vine of the family Menispermaceae, indigenous to the tropical areas of India. It is a climbing shrub and is often grown on mango or neem trees. In traditional medicinal system, it is used for the treatment of gout, high uric acid, skin problems, autoimmune disorders and antipyretic.

The plant Adhatoda vasica commonly known as vasaka belongs to a family Acanthaceae. It contains vasicine, a quinazoline alkaloid which is responsible for its medicinal property. The plant is distributed all over the plains of India & in lower Himalayan ranges. Traditionally, the plant is used for bleeding due to idiopathic thrombocytopenic purpura, local bleeding due to peptic ulcer, piles, menorrhagia, relief in pyorrhoea and for bleeding gums by locally application, relieves or eases muscular spasms, cramps or convulsions and lowers blood pressure.(www.hi//green.com)
*Tridax procumbens*, commonly known as *Jayanti veda* or *ghamra* in India and belongs to the family *Asteraceae*. It is a species of flowering plant and is best known as a widespread weed. It is native to tropical, subtropical, and mild temperate regions. *Tridax procumbens* is known for several potential therapeutic activities like antiviral anti oxidant, antibiotic efficacies, wound healing activity, insecticidal and antiinflammatory activity. (Suseela L; saravathy, A; Brindha, P(2002), *Journal of Phytological Research* 15 (2): 141-147.) Some reports from tribal areas state that the leaf juice can be used to cure fresh wounds, to stop bleeding, as a hair tonic.

**OBJECTIVES OF THE INVENTION**

The main object of the present invention to provide a herbal formulation for curing coccidiosis in poultry.

Another objective of present invention is to provide an effective and low cost method for treatment of curing coccidiosis in poultry having no harmful side effect.

**SUMMARY OF THE INVENTION**

Accordingly, the present invention provides a formulation for treating coccidiosis. More particularly, the present invention relates to a herbal formulation for treating coccidiosis comprising *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens*, and a method of preparation thereof.

**DESCRIPTION OF THE INVENTION**

The present invention provides a herbal formulation for treating coccidiosis. More particularly, the present invention relates to a herbal formulation for treating coccidiosis comprising *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens* and a method of preparation thereof.
The present invention provides a herbal formulation comprising plants *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens*, and is prepared by a process comprising the steps of:

(a) washing plant material derived from the plants *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens*;

(b) mixing the plant material of step (a) in water in an amount sufficient to make paste of the plant material;

(c) grinding the mixture obtained from step (b) to obtain the herbal formulation.

The plant material is collected, washed, mixed and then is ground to paste. Water is added for grinding the plant material in a sufficient quantity to make a paste of the plant material.

In an embodiment, the plant material is selected from the group consisting of a whole plant, a rhizome, a leaf, a seed, a root, a bark, a flower or a fruit.

In another preferred embodiment, the plant material is rhizome of *Allium odorum*, leaves of *Allium sativum*, leaves of *Tinospora cordifolia*, leaves of *Adhatoda vasica* and leaves of *Tridax procumbens*.

In another embodiment, the plant materials are mixed in a ratio of 2-4 parts of *Allium odorum*, 1-2 parts of *Allium sativum*, 2-3 parts of *Tinospora cordifolia*, 1-2 parts of *Adhatoda vasica* and 1-2 parts of *Tridax procumbens*.

The composition of the present invention may be administered as such or in admixture with a pharmaceutically acceptable vehicle, adjuvants, inactive excipients, diluents or lubricants.

Non-limiting examples of pharmaceutically acceptable vehicle, adjuvants, inactive excipients, diluents or lubricants which can be used in the composition of the present invention include: cellulose, substituted cellulose, calcium carbonate, dicalcium phosphate, starches, lactose, modified food starches, dextrose, calcium sulfate, magnesium carbonate, magnesium stearate, stearic acid, glycerin, vegetable oils, polysorbates or lecithin.

The herbal formulation in a dosage of 400-600 mg/bird is given to the poultry once every morning till
recovery.

**EXAMPLE**

Formulation of the present invention was prepared from the rhizome of plant *Allium odorum and leaves of* each of the plants *Allium sativum, Tinospora cordifolia, Adhatoda vasica and Tridax procumbens*. 160g of rhizome of *Allium odorum, 70g of Allium sativum, 130g of Tinospora cordifolia, 75g of Adhatoda vasica and 75g of Tridax procumbens* were washed, mixed and grounded to make paste using sufficient amount of water. The medication is fed to birds as feed mixture with a dosage of 400 mg per bird.

**RESULTS:**

Unsporulated Oocysts are to be randomly allocated to 4 concentrations (v/v; 0%, 15%, 30%, and 45%) of extracts. The effect of herbal drug on inhibition of sporulation were studied and found significant.

**In-vivo studies**

40 numbers of day old broiler chicks are to be divided into 2 groups T1 to T7 consisting of 20 chicks in each group. The population were infected and therapeutic dosage was administered from 12 day old till the end of trial (6 week). The control population was not administered any drug. On 14th day birds are infected with sporulated oocysts of *Eimeria tenella* or mixed *Eimeria* spp., On 21 DPI, 50% birds in each group were sacrificed and studied for gross lesion score, microscopical lesion scoring as per standard protocol. It was found that test bird population did not suffer much in comparison to control. Body weight and Feed efficiency of the birds after 1, 7, 12, 14, 16, 21, 28, 35 & 42 days were also recorded and found significant difference among test and control population.

**ADVANTAGES OF THE INVENTION**

The formulation prepared according to present invention is effective for the treatment of coccidiosis. The herbal composition used in present invention provides relief to the poultry without any side effect. The present invention provides an effective and low cost method for treating coccidiosis.
We Claim:

1. A herbal formulation for the treatment of coccidiosis, comprising plants *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens* and is prepared by a process comprising the steps of:
   (a) washing plant material derived from the plants *Allium odorum*, *Allium sativum*, *Tinospora cordifolia*, *Adhatoda vasica* and *Tridax procumbens*;
   (b) mixing the plant material of step (a) in water in an amount sufficient to make paste of the plant material;
   (c) grinding the mixture obtained from step (b) to obtain the herbal formulation.

2. The herbal formulation as claimed in claim 1, wherein the plant material is selected from the group consisting of a whole plant, a rhizome, a leaf, a seed, a root, a stem, a bark, a flower or a fruit.

3. The herbal formulation as claimed in claim 1, wherein the plant material is rhizome of *Allium odorum*, leaves of *Allium sativum*, leaves of *Tinospora cordifolia*, leaves of *Adhatoda vasica* and leaves of *Tridax procumbens*.

4. The herbal formulation as claimed in step (b) of claim 1, wherein the plant material is mixed in a ratio of 2-4 parts of *Allium odorum*, 1-2 parts of *Allium sativum*, 2-3 parts of *Tinospora cordifolia*, 1-2 parts of *Adhatoda vasica* and 1-2 parts of *Tridax procumbens*.

5. The herbal formulation as claimed in any of the preceding claims, wherein the herbal composition is in admixture with a pharmaceutically accepted vehicle or an adjuvant.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K36/8962 A61K36/59 A61K36/19 A61K36/28 A61P33/00

ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, BIOSIS, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents:
* "A" document defining the general state of the art which is not considered to be of particular relevance
* "E" earlier application or patent but published on or after the international filing date
* "L" later document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
* "O" document referring to an oral disclosure, use, exhibition or other means
* "P" document published prior to the international filing date but later than the priority date claimed
* "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
* "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
* "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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Date of the actual completion of the international search: 31 August 2012
Date of mailing of the international search report: 11/09/2012

Authorized officer: Markopoul os, Eytyxi a
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<th>Relevant to claim No.</th>
</tr>
</thead>
</table>
| Y        | DATABASE WPI  
Thomson Scientific, London, GB;  
AN 1998-440169  
XP002682678,  
& HU 9 602 190 A2 (B0R05 G)  
| Y        | KURKURE N V ET AL: "Evaluation of herbal cocci diostat 'Cosyni' in broiler 
INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY SEP 2006 LNKD-PUBMED:16999029,  
vol. 44, no. 9, September 2006 (2006-09), pages 740-744, XP009162370,  
ISSN: 0019-5189  
pages 740, col umn 1, paragraph 2  
pages 741, col umn 2, paragraph 5 - page 743, col umn 2, paragraph 3 | 1-5 |
| A        | RAJAKUMAR N ET AL: "Ethno-medicinal application of plants in the eastern region of Shimoga district, Karnataka, India",  
JOURNAL OF ETHNOPHARMACOLOGY, ELSEVIER SCIENTIFIC PUBLISHERS LTD, I E,  
vol. 126, no. 1, 29 October 2009 (2009-10-29), pages 64-73, XP026688322,  
ISSN: 0378-8741, DOI: 10.1016/J.JEP.2009.08.010 [retrieved on 2009-08-15]  
| 1-5 |
| A        | ROCHFORT ET AL: "Plant bioactives for rumi nant health and productivi ty",  
PHYTOCHEMISTRY, PERGAMON PRESS, GB,  
vol. 69, no. 2, 1 January 2008 (2008-01-01), pages 299-322, XP022408889,  
ISSN: 0031-9422, DOI: 10.1016/J.PHYT0CHEM.2007.08.017 | 1-5 |
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
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<tr>
<td>HU 9602190 A2</td>
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