

## Folk veterinary medicines in Jalaun district of Uttar Pradesh, India

Rajesh Kumar<sup>1</sup> & Kumar Avinash Bharati<sup>\*2</sup>

<sup>1</sup>Department of Botany, Bareilly College, Bareilly-243005, India

<sup>2</sup>Raw Materials Herbarium & Museum (RHMD),

National Institute of Science Communication And Information Resources, Dr K S Krishnan Marg, New Delhi-110012

E-mail: kumaravinashbharati@rediffmail.com

*Received 04.05.2010 ; revised 21.11.2011*

The aim of the present study is to document the prevalent folk medicinal knowledge of plants used for the treatment of various ailments of livestock in the district Jalaun of Uttar Pradesh. The study was carried out during February 2009 to April 2010 by taking interviews and discussions with the local inhabitants of the district. In total fifty seven plant species have been found to be used against twenty one ailments of livestock in the form of twenty-seven medicinal formulations. The comparative analysis between the previous studies conducted by several authors in India and the present study undertaken in Jalaun district revealed that out of fifty seven remedies reported here, fifty five remedies are found novel since they have been recorded first time.

**Keywords:** Folk medicine, Medicinal plants, Veterinary medicine, Jalaun

**IPC Int. Cl.<sup>8</sup>:** A61D, A61K, A61K 36/00

Folk medicine is the utilitarian relationship between human beings and the natural resources in their environment, put to medicinal use<sup>1</sup>. The importance of folk medicine lies in the fact that, in addition to contributing to our knowledge and the conservation ancestral cultures, it opens up the vistas of finding new uses of medicinal plants, and discovering new medicines derived from plants<sup>2</sup>.

The district Jalaun, situated in the lower Gangetic plain of Uttar Pradesh, is located between 79° 00'-79°59' N latitude and 25°53'- 25°54' E longitude. The area is characterized by tropical dry deciduous forest with patches of scrub forest and a number of ravines<sup>3</sup>. Agriculture and animal husbandry are the main occupations of more than 80 per cent population of the area. Residents still manage livestock in the same way as their forefathers. Usually, people rear cows, buffalos or goats but pigs, donkeys and horses are not uncommon. The major livestock ailments are diarrhoea, dysentery, anorexia, fever, mastitis, wounds, and the protrusion of the umbilical chord during pregnancy of the animal.

A perusal of literature reveals that except a few sporadic reports like investigation on human folk

medicines in Jalaun<sup>3</sup> and traditional veterinary medicine in the Bundelkhand area<sup>4</sup> no study on folk veterinary medicine of Jalaun district has been carried out so far. Therefore, the present study was undertaken to document and analyze local knowledge on the treatment of various livestock ailments.

### Methodology

A "Transect walks" method of the Participatory Rural Appraisal (PRA) technique was adopted for our field survey<sup>5</sup>. The local people of the area like elder members of different communities, traditional healers, livestock owners, herdsmen, etc were consulted on different aspects of traditional medicines followed by collection of plant/voucher specimens in field with field notes.

For better representation of different geographical locations, the area was divided into six blocks. About three sampling villages were selected from each block, and a total of 18 sampling villages like Vijuua pur, Hasan pur, Sarawan, Mudera, Bichauli, Atra kalan, Himmatpur, Babai, Churkhi, Titra Khalilpur, Jamuhan, Loha garh, Nunsai, Andha pur, Saidnagar, Dakore, Bandhur Bujung and Bagi Kadaura (Fig. 1). A total of 50 people from the age group 45-70 (80% men and 15% women), were interviewed during

\*Corresponding author

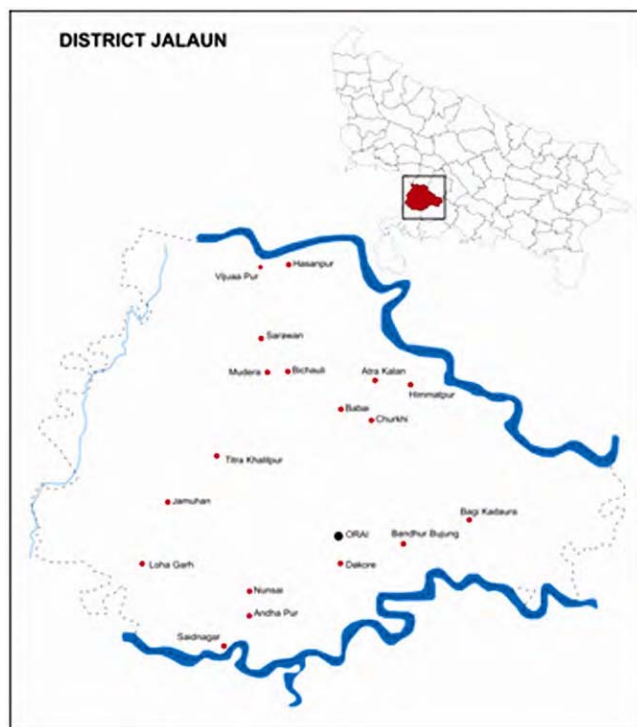


Fig. 1—Geographical position of district Jalaun and the villages where the traditional livestock remedies was documented

February 2009 to April 2010. The prevalent animal diseases, their diagnostic knowledge/ symptoms of ailments, medicinal plants and other raw materials used in the treatments, formulation preparation, doses, and method of administration were documented. During the study plant specimens were collected with field notes and preserved in the form of herbarium specimens<sup>6</sup>. The plants were identified with the help of relevant floras<sup>7, 8</sup>, followed by matching the specimens with the herbarium specimens deposited in the herbaria of BSI, Allahabad (BSA), and FRI herbarium, Dehradun (DD). The herbarium specimens have been deposited at the Department of Botany, Bareilly College, Bareilly, India.

## Results

### Observations

A total of 27 folk remedies were recorded. These remedies are prepared by 57 species of plants; they belong to 55 genera and 26 families. It has been observed that fruits and leaves are used in maximum number of preparations (10 each), followed by seed (9), root (4), stem (2), flower, bulb and bark (1 each). The folk remedies are enlisted in Table 1.

Table 1—Folk remedies documented for the treatment of ailments of livestock in the Jalaun district of Uttar Pradesh.

S No	Local name of the ailment & English term	Symptoms	Methods of treatment
1.	<i>Thanaila</i> (Mastitis)	Inflammation of the nipples and udder	<p>(i) About 100 gm of <i>Satawar</i> (root of <i>Asparagus racemosus</i> Willd.), 250 gm of <i>Mangraill</i> (fruit of <i>Mesua ferea</i>), 200 gm of <i>Sooth</i> (powdered-rhizome of <i>Zingiber officinale</i> Roscoe) and 125 gm of <i>Ajwain</i> (fruit of <i>Trachyspermum ammi</i> Sprague) are crushed together and orally administered with <i>Naar</i> (bamboo glass) as well as applied externally on the udder as an ointment.</p> <p>(ii) About 100 gm of <i>Satawar</i> (root of <i>Asparagus racemosus</i> Willd.), 25 gm of <i>Methi</i> (fruit of <i>Trigonella foenum-graecum</i> L.), 25 gm of <i>Saof</i> (fruit of <i>Foeniculum vulgare</i> Mill.), 250 gm of <i>Haraya</i> (fruit of <i>Terminalia chebula</i> Retz.), 50 gm of <i>Bahera</i> (fruit of <i>Terminalia bellirica</i> (Gaertn.) Rox.), 25 gm of <i>Kali Mirch</i> (fruit of <i>Piper nigrum</i> L.), 25 gm of <i>Long</i> (<i>Syzygium aromaticum</i> (L.) Merrill &amp; Perry.), 25 gm of <i>Choti Elaichi</i> (fruit of <i>Elettaria cardamomum</i> Maton), 250 ml <i>Sarsoo tale</i> (seed oil of <i>Brassica napus</i> L.) and 250 gm of <i>Pyaj</i> (bulb of <i>Allium cepa</i> L.) are crushed together and boiled in four liters of water until the remaining liquid is one quarter of the original volume. This mixture is then administered orally with one kg of <i>Gur</i> (Jaggery) to the cattle with a <i>Naar</i> (Bamboo glass).</p> <p>(iii) A few leaves of <i>Patthar-Choor</i> (<i>Trianthema portulacastrum</i> L.) are crushed, mixed with a little salt and applied to the udder and tits as an ointment.</p>

(Contd.)

Table 1—Folk remedies documented for the treatment of ailments of livestock in the Jalaun district of Uttar Pradesh. (Contd.)

S No	Local name of the ailment & English term	Symptoms	Methods of treatment
2.	<i>Bail jharna/Bail nahi girna</i> (Placenta and umbilical cord are not expelled)	The placenta and umbilical cord remain inside after delivery	(i) Two handfuls of leaves of <i>Baas</i> ( <i>Bambusa arundinacea</i> Willd.), the leaves of <i>Poi</i> ( <i>Basella alba</i> L.) and straw of <i>Chawal</i> ( <i>Oryza sativa</i> L.) are taken in equal quantity; this mixture is fed to cattle just after delivery. (ii) About 250 gm of <i>Kadwa tale</i> (seed oil of <i>Brassica juncea</i> (L.) Hook.f. & Thomson or <i>Brassica napus</i> L.), 250 gm of <i>Gur</i> (Jaggery) and 50 gm <i>Methi</i> (fruit of <i>Trigonella foenum-graecum</i> ) are mixed and fed to the cattle.
3.	<i>Bhandar Faykna</i> or <i>Pahalay Jair Bahar Aana</i> (Placenta protrudes outside before delivery)	Swelling of the vagina, the placenta protrudes outside with or without the umbilical cord during last trimester of pregnancy but before delivery	<i>Kaccha Khair</i> (latex of <i>Acacia catechu</i> (L.f.) Willd.) and leaves of <i>Chippi Kasaili</i> ( <i>Cassia occidentalis</i> L.) are crushed together on stone with a little water to make a paste, it is used as ointment on vagina.
4.	<i>Dudh ki Kami</i> (Decrease in milk secretion)	Decrease in milk secretion	About 500 gm of <i>Alsi</i> ( <i>Linum usitatissimum</i> L.) oil-cake and 100 gm of <i>Gur</i> (Jaggery) are mixed and fed to cattle along with green fodder for seven days.
5.	<i>Bukhar/ Jawaar</i> (Fever)	Rise in body temperature	About 30 gm of leaves or pods of <i>Babai</i> ( <i>Cassia occidentalis</i> L.) and <i>Karwa tale</i> (seed oil of <i>Brassica juncea</i> or <i>Brassica napus</i> ) are crushed together and administered orally to the cattle, preferably in the morning and evening.
6.	<i>Khashi, Gardan-ki-Giltikalwar</i> and <i>Bukhar</i> (Cough, tonsillitis and fever)	Cough, inflammation of the tonsils and increase in body temperature	<i>Desi Ghee</i> (milk fat), <i>Kapoor</i> (Camphor or <i>Cinnamomum camphora</i> (L.) T.Nees & C.H.Eberm.) and <i>Bhayriya</i> ( <i>Urena lobata</i> L.) are crushed together in equal amounts and applied externally to the neck.
7.	<i>Kapna</i> (Shivering)	Shivering, increase in body temperature, restlessness, lack of feeding	About 50 gm of <i>Sindur</i> (Red oxide of Lead/Mercury), 200 ml of <i>Sarsoo-ka-tale</i> (seed oil of <i>Brassica napus</i> ) and one leaf of <i>Maddar</i> ( <i>Calotropis gigantea</i> (L.) W.T. Aiton or <i>Calotropis procera</i> (Aiton) W.T. Aiton) are crushed together and applied externally all over the body.
8.	<i>Pet may hawa banana/bharana</i> (Flatulence)	Excessive gas in the stomach, abdominal swelling and flatulence	About 25 gm of <i>Haldi</i> (rhizome of <i>Curcuma domestica</i> Vallars) are crushed in water and administered orally via <i>Naar</i> (Bamboo glass) to the animal.
9.	<i>Dust/Hayrana/Pokna</i> (Diarrhoea)	Loose stools and/or an increased frequency in bowel movements	<i>Rasaad</i> ( <i>Taraxacum officinale</i> (L.) Weber), root extract of <i>Ashwagandha</i> ( <i>Withania somnifera</i> Dunal.), <i>Ajwain</i> ( <i>Trachyspermum ammi</i> Sprague) and <i>Ghee</i> (Milk fat) are crushed together in equal amount and fed to the animal twice a day.
10.	<i>Afral Chara-nahi-khanay parl/ Bhuk nahi lagna</i> (Anorexia)	Loss of appetite, swelling of the abdomen	Two handfuls of leaves of <i>Gumma</i> ( <i>Leucas aspera</i> Link) are decocted in two liters of water. 250 ml of <i>Kadha</i> , the decoction, is administered orally in the early morning, before feeding time, until the cattle is cured.
11.	<i>Pet may keeray</i> (Worm infestation)	Initially appetite increases and then decreases, whitish discharge from the eyes, weight loss, occasional worms present in the dung	About 250 gm leaves of <i>Neem</i> ( <i>Azadirachta indica</i> A.Juss.), 50 gm of <i>Ajwain</i> (the leaves of <i>Trachyspermum ammi</i> Sprague), <i>Kala namak</i> (Black salt or sodium sulphate mixed with sodium chloride) and 100 gm of <i>Gur</i> (Jaggery) are mixed with 200 ml of water and administered orally with a <i>Tharki</i> (bamboo glass).
12.	<i>Kabj</i> (Constipation)	Decreased frequency of bowel movements	About 250 gm of leaves of <i>Ashwagandha</i> ( <i>Withania somnifera</i> Dunal.) are crushed and mixed with an equal amount of <i>Ghee</i> (milk fat) and administered orally. The dose varies from once to three times per day, depending on the condition of the animal.
13.	<i>Aakh-ki-Lalima/ Ki Char aana</i> (Conjunctivitis)	Redness of the eyes	Leaf extract of <i>Tulsi</i> ( <i>Ocimum tenuiflorum</i> L.) is used as an eye drop.

(Contd.)

Table 1—Folk remedies documented for the treatment of ailments of livestock in the Jalaun district of Uttar Pradesh. (Contd.)

S No	Local name of the ailment & English term	Symptoms	Methods of treatment
14.	<i>Kandhay-ka-sujanl Jhatka lagna</i> (Inflammation of the shoulder)	Inflammation of the shoulder	<i>Dalda</i> (hydrogenated and saturated vegetable fat) is mixed with a little salt and gently massaged onto the shoulder once a day until cured.
15.	<i>Kandha sarakna</i> (Shoulder dislocation)	Inflammation of the shoulder, change in activity level, difficulty in walking	About 50 gm of <i>Sooth</i> (powdered-rhizome of <i>Zingiber officinale</i> ), 20 gm of salt, 20 gm of <i>Fitkari</i> (Aueminium sulphas) and one roasted <i>Kala-Bada Baigan</i> ( <i>Solanum melongena</i> L. var. <i>esculentum</i> ) are mixed together and applied locally on the inflammation.
16.	<i>GatiyalJoro-ka-dard</i> (Arthritis)	Inflammation and pain of the joints	Stems of <i>Harjorwa</i> ( <i>Equisetum officinales</i> D.Don) and <i>Geru</i> (Oker red Lumber) are crushed together and mixed with <i>Gai</i> (cow) or <i>Bakri</i> (goat) milk in equal amounts. The preparation is then applied to the joints.
17.	<i>Gala ghotu</i> (Diphtheria)	Inflammation of the throat, decreased feeding or animal stops feeding entirely	(i) About 100 ml leaf extract of <i>Neem</i> ( <i>Azadirachta indica</i> A.Juss.), 100 ml root extract of <i>Ashwagandha</i> ( <i>Withania somnifera</i> Dunal.) and 100 gm of ashes from burnt <i>Nagfani</i> ( <i>Opuntia elatior</i> Mill.) thorns are mixed together and used as an ointment inside the mouth and on the outer surface of the neck. (ii) About 250 gm of <i>Methi</i> ( <i>Trigonella foenum-graecum</i> ) seeds and 250 gm of <i>Masoor</i> ( <i>Lens esculenta</i> Moench) seeds are mixed together and fed to the cattle until cured. (iii) About 50 gm of <i>Lajwanti</i> ( <i>Mimosa pudica</i> L.) seeds and 500 ml of fresh, unboiled milk are fed to the cattle twice a day until cured.
18.	<i>Khujlee</i> (Scabies)	Itching of the skin	(i) The stem bark of <i>Tuj</i> ( <i>Garuga pinnata</i> Roxb.), <i>Sooth</i> (powdered-rhizome <i>Zingiber officinale</i> ), <i>Fitkari</i> (Aueminium sulphas) and <i>Chiraita</i> ( <i>Swertia chiratia</i> Ham.) are crushed together in equal amounts and used as an ointment. (ii) <i>Sarsoo-ka-tale</i> (seed oil of <i>Brassica napus</i> ) is applied externally on the skin as an ointment.
19.	<i>Jakham / Ghao</i> (Wound or injury)	Diagnosis is done through physical examination of the animal	Leaves of <i>Farhad</i> ( <i>Sida cordifolia</i> L.), <i>Hing</i> ( <i>Ferula asafoetida</i> H.Karst.) and <i>Kapoor</i> (Camphor or <i>Cinnamomum camphora</i> L.) T.Nees & C.H.Eberm.) are crushed together in equal amounts and the subsequent paste is put inside the wound for quick healing.
20.	<i>Garm Karna</i> (Regulation of estrus cycle)	Prepares female cattle for mating	About 250 gm of soaked <i>Gayhu</i> (the seeds of <i>Triticum aestivum</i> L.) are fed to the cattle along with green fodder.
21.	<i>Baccha ulat-jana</i>	The position of the fetus changes during pregnancy	The animal is bathed in a pond and afterwards the feet are tied with rope. Then, the animal is turned from left to right and again from right to left.

It has also been observed that Mastitis and diphtheria are the ailments treated with the varieties of local remedies (with 3 formulas each), followed by scabies (with 2 formulas). Approximately 57 species of plants and two minerals are used in the preparation of all 27 remedies. These formulations treat 21 broad categories of diseases. The species with the most diversified uses are *Brassica napus* (used in five formulations) and *Zingiber officinale*, *Trachyspermum ammi*, and *Trigonella foenum-graecum* (used in three formulations each) (Table 1).

In the present study, 14 species are used to cure mastitis, followed by maternity ailments by 10 species,

diphtheria by 6 species, cough, cold & fever by 5 species, gastro-intestinal disorders and scabies by 4 species each, fever and Skeleto-muscular problems by 3 species each, worm and wound/injury by 2 species each, etc. (Table 1).

### Discussion

Mishra *et al.* (2010) reported 12 remedies for veterinary care found in the Bundelkhand area but all differs from those enumerated in the present study<sup>4</sup>. In the context of human folk medicine, Khanna *et al.* (1996) explored Jalaun district and reported the use of 33 medicinal plant species. *Calotropis procera* is

the only species common to both the studies. However, the latex of the plant *Calotropis procera* is used to treat intestinal worm<sup>3</sup> in humans, whereas in present study, *Calotropis procera latex* is used in treatment of shivering in cattle.

The comparative analysis of the present study of 57 species of plant with previous studies conducted by different authors in India revealed that non of the plants

have been used similarly as used in the present study but the two species, i.e. *Cinnamomum camphora* and *Piper nigrum* have been used for healing wounds and treating mastitis respectively (Table 2). The above discussion demonstrates that except for the medicinal use of *Cinnamomum camphora* and *Piper nigrum* all the remedies enumerated in the present study are considered to be new findings.

Table 2—Comparison on the use of the veterinary medicinal plant species in India

S. No	Species	Ethnoveterinary use in present study	Ethnoveterinary use reported in earlier studies
1.	<i>Acacia catechu</i>	Latex: Expulsion of placenta during pregnancy	Swelling, wound, crack paralysis (whole plant) <sup>9</sup> , diarrhoea (stem bark) <sup>10,11</sup> , muscular growth (whole plant) <sup>12</sup> , constipation (leaves) <sup>13</sup> , wounds <sup>14</sup> , foot disease <sup>15</sup>
2.	<i>Allium cepa</i>	Bulb: Mastitis	Cough <sup>9,16</sup> , cold, fever (bulb) <sup>9</sup> , stimulant (bulb) <sup>17</sup> , indigestion <sup>18</sup> , flatulence <sup>19</sup> , rabies, diarrhoea <sup>20</sup> , gastritis (leaves) <sup>13</sup> , insect expulsion from eye <sup>21</sup>
3.	<i>Asparagus racemosus</i>	Root: Mastitis	Milching disorder (root) <sup>22,28</sup> , diarrhoea, dysentery (root) <sup>23</sup> , demulcent (root) <sup>10</sup> , spasmolytic, diuretic, bronchial problems <sup>24</sup> , tonic <sup>25</sup> , expel intestinal worm <sup>26</sup> , arthritis <sup>29</sup>
4.	<i>Azadirachta indica</i>	Leaves: worm infestations and diphtheria	Constipation, repel external parasite (leaves) <sup>16,30</sup> , dyspepsia <sup>16</sup> , ulcer <sup>31,32</sup> , sore of nails & sole (leaves) <sup>33</sup> , wound (leaves) <sup>34,35</sup> , skin, stomatitis, prolapsed uterus, throat <sup>9</sup> , cough (leaves) <sup>17,36</sup> fever (stem bark) <sup>12,37</sup> , indigestion, cut, anthelmintic (leaves) <sup>34</sup> , mosquito repellent (leaves) <sup>10</sup> , liver disorder (leaves) <sup>11</sup> , foot & mouth disease (oil) <sup>19</sup> , meningitis, fungal infection (leaves) <sup>38</sup> , stop eating (leaves) <sup>26</sup> , retention of urine, broken horns, burns, mange, tympany, indigestion, snakebites, foot and mouth disease and tetanus <sup>15</sup> , insect removal <sup>21</sup> , refrigerant <sup>39</sup> , insecticide, antiviral and antiseptic <sup>14,28</sup>
5.	<i>Bambusa arundinacea</i>	Leaves: The placenta and umbilical cord remain inside after delivery	Bone fracture (shoot) <sup>31</sup> , expulsion of the placenta (leaves) <sup>21</sup>
6.	<i>Basella alba</i>	Leaves: The placenta and umbilical cord remain inside after delivery	Wound (stem) <sup>40</sup> , labour pain <sup>41</sup>
7.	<i>Brassica juncea</i>	Oil: Leaves: Fever, the placenta and umbilical cord remain inside after delivery	Strength, warmth <sup>9</sup> , foot & mouth disease (seed) <sup>19</sup> , Rabies (whole plant) <sup>20</sup> , loose motion <sup>13</sup>
8.	<i>Brassica napus</i>	Oil: Mastitis, fever, shivering, skin itching, the placenta and umbilical ord remain inside after delivery	Astringent, antiseptic, lice repel external parasite, wound, crack nipple <sup>34</sup>
9.	<i>Calotropis gigantea</i>	Leaves: Shivering	Sprain (latex) <sup>16</sup> , swelling (latex, leaves) <sup>9,16</sup> boil (leaves) <sup>43</sup> , dysentery (bark), stomachache (leaves) <sup>9</sup> , wound (leaves) <sup>10,36,37</sup> leg swelling (leaves) <sup>44</sup> , arthritis (leaves) <sup>37</sup> , scabies (latex) <sup>34</sup> , injury, infection (leaves) <sup>45</sup> , gastric <sup>13</sup>
10.	<i>Calotropis procera</i>	Leaves: Shivering	Fever (root) <sup>46</sup> , cut, skin, wound (latex) <sup>23</sup> , bronchitis (leaves) <sup>36</sup> , mouth ulcer (leaves) <sup>47</sup> , neck injury (root) <sup>26</sup> , tumors <sup>21</sup> , wound healing <sup>28</sup> , throat swelling, scorpion stings and as an insecticide <sup>48</sup>
11.	<i>Cassia occidentalis</i>	Leaves: Expulsion of placenta during pregnancy Pods: Fever	Foot & mouth disease (leaves) <sup>49</sup> , liver <sup>11</sup>
12.	<i>Cinnamomum camphora</i>	Camphor: Wound, injury, cough, tonsilitis and fever	Wound <sup>9</sup>

(Contd.)

Table 2—Comparison on the use of the veterinary medicinal plant species in India (Contd.)

S. No	Species	Ethnoveterinary use in present study	Ethnoveterinary use reported in earlier studies
13.	<i>Curcuma domestica</i>	Rhizome: Flatulence	Injury (rhizome) <sup>50</sup> , anthelmintic, vermifuge, rheumatism (rhizome) <sup>51</sup> , indigestion (rhizome) <sup>9,34</sup> , wound (rhizome) <sup>18, 42, 52</sup> , ulcer <sup>52</sup> , appetiser <sup>11</sup> , dysentery <sup>19</sup> , dislocation of bone <sup>34</sup> , expectorant <sup>20</sup> , mouth cavity <sup>36</sup> , antiseptic, constipation (rhizome) <sup>34</sup> , teat swelling <sup>21</sup>
14.	<i>Elettaria cardamomum</i>	Fruit: Mastitis	Indigestion <sup>11</sup> , fever <sup>12</sup>
15.	<i>Ferula asafoetida</i>	Wound, injury	Indigestion <sup>9</sup> , gastric <sup>13,17</sup> , bronchitis <sup>36</sup>
16.	<i>Lens esculenta</i>	Seeds: Diptheria	Lactation (seeds) <sup>9,14</sup> , swelling <sup>9</sup> , injury (seeds) <sup>34</sup>
17.	<i>Linum usitatissimum</i>	Seeds: Lactation	Dysentery (seeds) <sup>9</sup> , stomachache (seeds) <sup>53</sup> , burns <sup>21</sup>
18.	<i>Mimosa pudica</i>	Seeds: Diptheria	Regulate fertility, urinary disorder (leaves) <sup>37</sup> , wound (leaves) <sup>34</sup> , leg swelling (whole plant) <sup>10</sup> , Maggot (leaves) <sup>54</sup>
19.	<i>Ocimum tenuiflorum</i>	Leaves: Conjunctivitis	Cough (whole plant), rhinitis, purulent disease (leaves) <sup>37</sup>
20.	<i>Opuntia elatior</i>	Thorns: Diptheria	Bodyache (leaves) <sup>55</sup>
21.	<i>Oryza sativa</i>	Straw: The placenta and umbilical cord remain inside after delivery	Dysentery (seeds) <sup>9</sup> , bone fracture <sup>10</sup> , mouth and throat ailments (seeds) <sup>52</sup>
22.	<i>Piper nigrum</i>	Fruit: Mastitis	Cough, cold, fever, mastitis (seeds) <sup>9</sup> , indigestion <sup>9, 18</sup> , throat swelling (seeds) <sup>4</sup> , diarrhoea (flower, fruit) <sup>17</sup> , intestinal disorder (seeds) <sup>36</sup> , urinary disorder <sup>12</sup> , cholera (leaf) <sup>23</sup>
23.	<i>Sida cordifolia</i>	Leaves: Wound, injury	Shivering (whole plant) <sup>55</sup>
24.	<i>Solanum melongena</i>	Fruit: Shoulder dislocation	Epistaxis (fruit)
25.	<i>Swertia chiratia</i>	Whole plant: scabies	Fever <sup>12</sup> , mouth ulcer (root) <sup>20</sup> , rabies, fever <sup>15, 57, 58</sup>
26.	<i>Terminalia bellirica</i>	Fruit: Mastitis	Diarrhoea, colic (fruit) <sup>43</sup> , dysentery <sup>10</sup> , Gastropathies <sup>30</sup> , Ulcer <sup>58</sup> , wounds <sup>29</sup>
27.	<i>Terminalia chebula</i>	Fruit: Mastitis	Diarrhoea (flower, fruit) <sup>17</sup> , anthrax (fruit) <sup>37</sup> , dysentery (fruit) <sup>10</sup> , gastropathies, ulcer (fruit) <sup>30</sup> , liver (fruit) <sup>11</sup> , stomachache (fruit) <sup>19</sup>
28.	<i>Trachyspermum ammi</i>	Fruit: Mastitis, Diarrhoea Leaves: Worm infestation	Hypocaemia, downer cow syndrome <sup>31</sup> , expectorant (seeds) <sup>51</sup> , lactation (root) <sup>40</sup> , removal placenta, wound, sore (seeds) <sup>34</sup> , appetizer <sup>11</sup> , indigestion <sup>9,12,51</sup> , dysentery, stomachache, fever (seeds) <sup>9</sup>
29.	<i>Trianthema portulacastrum</i>	Leaves: Mastitis	Eye problem (root) <sup>37</sup>
30.	<i>Trigonella foenum-graecum</i>	Leaves: Mastitis and diptheria	Urinary disorder (seeds) <sup>37</sup> , appetizer (seeds) <sup>11</sup> , loose motion (seeds) <sup>13</sup> , galactagogue <sup>39</sup> , fertility regulation and in the treatment of gastric troubles, tympany, tetanus, and food poisoning <sup>15</sup>
31.	<i>Triticum aestivum</i>	Seeds: Regulation of estrus cycle	Dysentery (seeds) <sup>9</sup> , bone fracture <sup>10</sup> , constipation (seeds) <sup>13</sup>
32.	<i>Urena lobata</i>	Whole plant: Cough, tonsilitis and fever	Insect repellent, boil (root bark) <sup>10</sup> , wound (leaves) <sup>52</sup>
33.	<i>Withania somnifera</i>	Root: Diarrhoea, constipation and diptheria	Lice (leaves), coagulate milk (fruit) <sup>10</sup> , fever <sup>9</sup> , ulcer (root) <sup>11, 60</sup> , expulsion of placenta <sup>21</sup>
34.	<i>Zingiber officinale</i>	Rhizome: mastitis, scabies and shoulder dislocation	Blood purifier, expectorant (rhizome) <sup>51</sup> , cough (rhizome) <sup>9,19</sup> , cold (rhizome) <sup>9</sup> , fever (rhizome) <sup>9,11</sup> , strength, warmth <sup>9</sup> , indigestion (rhizome) <sup>9, 18,35,51</sup> , bone fracture <sup>40</sup> , diarrhoea (flower, fruit), gastric (rhizome) <sup>17</sup> , anthrax (rhizome) <sup>37</sup> , dyspepsia <sup>11</sup> , rabies <sup>20</sup> coughs and cold <sup>14</sup> , indigestion, heat stroke, constipation, cough, dysentery, mange, hoof disease, skin disease, tympany, stomachache, tetanus and food poisoning <sup>15</sup>

## Conclusion

Due to intimate relationship with nature over a long period of time a well developed folk veterinary system has been established in Jalaun district. Animals and plants are integral part of their culture, religion, magico-religion and traditional pharmacopoeia. Even when the indigenous have access to modern health-care modalities, some of the traditional practices still remain prevalent in the village. This is a clear indication of their faith in the folk medicine.

## Acknowledgement

The authors are highly grateful to the Botanical Survey of India, Allahabad, for their valuable help in the plant identification process. We also express our gratitude to Dr H B Singh, Scientist, NISCAIR, New Delhi for his valuable suggestions and help rendered during the writing of this paper. Our special thanks to Julia MS Mudrick of Provo, Utah, United States for her valuable help with the language editing of this paper. We express our gratitude to Dr Gurnam Saini and Dr Jitendra Nath Jha, who provided scientific terminologies for the various livestock ailments. The second author is grateful to the Council for Scientific and Industrial Research (CSIR), India for providing financial assistance in the form of a Senior Research Fellowship (SRF-NET).

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