

## Herbal Galactogogues – A Booster for Milk Production in Dairy Animals

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### Abstract:

Milk is considered as the breakfast powerhouse of nutrient. Adequate milk production is very much important to feed the growing population. In order to meet the requirement, use of galactogogues that aid in initiating, maintaining and augmenting of adequate milk production is necessary. Shatavari, jivanti, fennel, fenugreek, dill, anise, cumin etc are some of the herbal galactogogues which known to possess phyto-estrogenic properties with immense potential to promoting lactation. Hence, they can be considered as a potential galactagogue for dairy animals.

### Introduction:

Livestock sector plays a vital role in the rural economy as providing family income and generating gainful employment in the rural sector. India has emerged as world's number 1 nation in the dairy sector and has witnessed rapid development in the milk production. On other hands, the productivity of dairy animals in India is very low because of various factors like underfeeding, malnutrition, various diseases, stress, etc which hamper the economy of the dairy industry. With the demand for organic food and ban on the use of certain antibiotics, hormones like oxytocine, harmful residual effects and cost effectiveness in the livestock feed, the search for alternative feed additives has become the necessity of the day. Herbal feed additives as alternatives could either effect feeding pattern or effect the growth of favourable microorganisms in the rumen or stimulate the secretion of different digestive enzymes, which in turn may improve the efficiency of nutrients utilization or stimulate the milk secreting tissue in the mammary glands, resulting in improved productive and reproductive

performance of dairy animals. Hence, traditional herbal medicines in veterinary practice have a large potential as an alternate therapy (Tabares *et al.*, 2014).

### Galactogogues:

A galactagogue is a substance that promotes lactation in dairy animals. It may be synthetic, plant-derived or endogenous. They act through exerting an influence on an adreno-hypothalamo-hypophyseal-gonadal axis by inhibiting hypothalamic dopaminergic receptors or by inhibiting dopamine producing neurons. These medications increase prolactin secretion by antagonizing dopamine receptors. Galactogogues stimulate the activity of alveolar tissue and raise the secretory activity and thereby restore and regulate milk yield. The animal production can be enhanced by using different herbals as a component of animal feed (Gabay, 2002).

- 1. Synthetic galactogogues:** These galactogogues are manufactured artificially in labs. Examples - Domperidone, metoclopramide
- 2. Endogenous galactogogues:** These galactogogues are synthesized inside the body of mammals. Examples - Prolactin, insulin, somatotropin
- 3. Herbal galactogogues:** This includes the plants which helps in enhancing the milk production. Examples - Shatavari, jivanti, fennel, fenugreek, dill, anise, cumin, turmeric etc

**Table 1. List of herbal galactogogues to feed for dairy animals** (Mohanty *et al.*, 2014)

Sl. No.	Herb name and Botanical name	Parts used	Effects
1	Alfalfa ( <i>Medicago sativa</i> )	Leaves	Estrogenic and lactogenic stimulant
2	Anise ( <i>Pimpinella anisum</i> )	Seeds	Anti-spasmodic, mildly estrogenic
3	Black cumin ( <i>Nigella sativa</i> )	Seeds	Galactopoetic
4	Caraway ( <i>Carun carvi</i> )	Seeds	Post-partum galactagogue and lactational herbs
5	Dill ( <i>Anethum graveolens</i> )	Seeds	Galactagogue
6	Fennel ( <i>Foeniculum vulgare</i> )	Seeds	Promote milk ejection, milk flow and increases udder milk production
7	Fenugreek ( <i>Trigonella foenum-graecum</i> )	Seeds	Galactagogue, oxytocic, stimulate milk ducts of mammary gland tissue,

			promotes milk ejection
8	Goat's rue ( <i>Galega officinalis</i> )	Dried aerial parts	improve milk yield moderately regulate estrogen levels
9	Jivanti ( <i>Leptadenia reticulata</i> )	Roots	Increase milk yield and correct milk regularly
10	Milk thistle ( <i>Silybum marianum</i> )	Leaves and seeds	Galactagogue, cholagogue, increase milk supply
11	Red clover ( <i>Trifolium pratense</i> )	Flower	Estrogenic effect
12	Shatavari ( <i>Asparagus racemosus</i> )	Roots	Increase milk supply and weight of the mammary glands, inhibits involution of lobulo-alveolar tissue and maintained milk secretion

#### Role of herbal galactogogues on milk production:

- They can be used as feed supplements for cattle
- They have positive influence on growth and puberty
- They have hormone like action
- Induces growth of mammary tissue
- Acts against microbial infections

#### Advantages of herbal galactogogues:

- Herbal galactogogues are freely available in nature. Hence, they are cost effective
- Do not have any residual effects and can be easily digested in the body of dairy animals
- Do not have any side effects since there is only usage of naturally available herbs
- They mainly focus on the root cause of the disease
- Any person who has the knowledge of medicinal herbs can treat the dairy animals

#### Herbal galactogogues under commercial use:

Anifed, Galog, Galactin, Immu-21, Leptaden, Payapro, Ruchamax (appetizer, restorative, carminative, stomachic and tonic), and Calshakti platina are some of the herbal galactogogues manufactured by different pharmaceuticals to safeguard the health of the



animal and the ultimate user. Jivanti and Shatavari are very commonly incorporated in the preparation of these pharmaceuticals due to their promising effect. (Mohanty *et al.*, 2014).

**Alfa alfa****Anise****Black cumin****Caraway****Dill****Fennel****Fenugreek****Goat's rue****Jivanti****Milk thistle****Red clover****Shatavari**

### Conclusion:

Globally, India is the largest producer of milk. But, the productivity per animal is very low compared to the global average. Due to adverse effects on health and high cost, there is limitation in utilization of synthetic galactagogue which leads to side effects on dairy animals.



Therefore, use of potential herbal galactagogue would help in augmenting the farmer's income by increasing milk production, residue free and would make India to achieve white revolution.

**References:**

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