

Beet Root: An Anti-Anaemic Agent

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Anaemia is a common disorder among various species of animals and human, defined as a decreased concentration of blood haemoglobin or erythrocytes. Iron is an important element that makes up the haeme molecules of haemoglobin in erythrocytes allowing for oxygen transport and utilization. As per the scenario in Indian conditions it is a dreadful pathological condition especially for livestock farmers. Several pharmaceutical in Indian market have their haematinics products but the main problem arises for small and middle livestock farmers in with their economical conditions.

Beet root (*Beta vulgaris*) gives the best alternative in Indian conditions and the most interesting fact is its economic value with farmers as compared to commercial haematinics. It is a main source of Iron, Nitrate, Sodium, Potassium and Betalin as a part from its beneficial effect to treat anaemia. It also lowers the blood pressure by dilating the blood vessels, relaxing smooth muscles, increases oxygen carrying capacity, increases folic acid, reducing kidney stones and improves rheumatoid arthritis condition. In comparison to other vegetables the antioxidant capacity of beets is very high. It is being used as traditional medication for curing lots of diseases by different local communities. The most common ingredients in beet root are Betaine and Betalin. This is most potent to naturally detoxify the body and its suppressing action on multi-organ tumour.

Beet pulp is the residue left from ground sugar beet after sugar extraction. It may be used as energy source for ruminants and humans. It contains average 76% of its dry weight as carbohydrates in form of homo and hetero-polymer. In contrast to fruits, the main sugar in beet root is sucrose. Beet root juice provides antidote on heavy metal toxicity and also diminishes blood cholesterol level. The unique chemical structure of beet pulp as a fibrous high energy feed stuff is administered to substitute grain for feeding ruminants. Dried beet

pulp, a carbohydrate rich by-product of sugar industry has been a partial source of energy in ration of livestock and could be compared with cereal grains at two levels in ration of ruminants. The cost of beet root is low as compared to other iron rich vegetables and it is easy to store. This can be feed in dairy ration without undesirable side effects.

Chemical composition:-

Dry matter	89.5%	Lignin	2.83%
Crude Protein (CP)	10.7%	Sucrose	2.99%
Crude Fibre (CF)	21.54%	Calcium (Ca)	0.77%
Ether Extract (EE)	0.64%	Phosphorus (P)	0.09%
Carotene (mg/kg DM)	0.21	Magnesium (Mg)	0.30%
Ash	3.25%	Iron (Fe)	0.03%
Nitrogen Free Extract (NFE)	63.86%	Gross Energy (GE)	41641/kg DM