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Nutritive value of seeds of *Setaria italica*

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Setaria italica (Foxtail millet) of the family Poaceae is one of the oldest crops and the second most widely planted millet species in the world. According to "An historical relation of the island Ceylon", a book written by Robert Knox during the 17th century, *Setaria* was consumed in considerable amounts in ancient Sri Lanka, especially during the times of famine. Linoleic acid, an essential fatty acid is the precursor of conjugated linoleic acid (CLA). As CLA cannot be synthesized in the human body, it must be obtained from milk or meat products in our diet. CLA is produced by biohydrogenation of linoleic acid by rumen bacteria. As *Setaria italica* contains considerably high amounts of linoleic acid, it can be a good source of linoleic acid for animals; and their animal products will be a good source of CLA for humans. Health benefits of CLA includes anticarcinogenic effect, improving oral glucose tolerance, reducing serum insulin level in type-2 diabetic patients, antiatherogenic effect and reducing body fat while maintaining a lean muscle mass.

In our search for linoleic acid rich, economical plant sources as potential animal feed, seed extracts of *Setaria italica, Panicum missiaceum, Mucuna prurita, Dolichos biflorus Artocarpus heterophyllus* were analyzed. The linoleic acid content in 100 g of seeds were 3.76 g, 1.99 g,1.83 g, 0.48 g and 0.54 g, respectively. Further analysis on *Setaria italica* indicated the presence of 75.88 ± 1.97% linoleic acid, 17.18 ±1.97 % oleic acid and 3.58 ±2.54% of palmitic acid. Nutrient composition of the seeds of *Setaria italica* indicated, 8.3±0.1 of % crude protein, 15.23±2.64 % of crude fiber, 4.96±0.152% ether extract and 10.7±0.173% of moisture.

Considering the above nutritive values of *Setaria italica*, it may be used to increase the nutritive quality of animal products such as dairy and meat products in Sri Lanka. Further studies are required to confirm this.