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Study on nutritional value of three new varieties of amaranth forages at different harvesting stages at Golestan province

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Abstract

In this research, nutritional value of three new cultivars (Kharkovski, Lora and Sim) of Amaranth forage in different stages of harvesting (before flowering, full flowering, milky grains and pulp) using a factorial arrangement in a completely randomized design with 8 treatments (three cultivars of Amaranth forage) Four treatments were carried out with three replications for each treatment and chemical compounds, cell wall parameters, minerals, gas production, gas production and fatty acids, energy and digestibility indices were determined by standard methods and protein portions (A , B1, B2, B3 and C) were determined using the pure kernel protein system (CNCPS), the mean comparison by A method Zun Duncan with a probability level of 5%.

Gastrointestinal testing was performed using male fistula method, and the digestibility of organic material was obtained from the gas production method.The average of crude protein in harvesting before flowering, full flowering, milky grain and pulp seed were 11.7%, 14.8%, 11.66% and 12.8% dry matter, respectively for the wire variety, respectively, 11.6% 2/16, 6/12 and 6/15 respectivelyand WSC values at different stages of harvesting and the highest amount for Kharkovsky variety were 47.4, 33.8, 26.2, 35.1, 33.5, and 3.5 percent, respectively, of dry matter For wire variety, 45.7%, 32.6%, 6%, 27.7%, 13% and 4.9% of dry matter were determined in different stages of harvesting.

Calcium, phosphorus, magnesium and potassium had the highest amount in the pulp grain stage for the Kharchovskii variety, respectively 1. 59, 0.41, 0.31 and 1.62% dry matter, and for wire variety, 1.69, 0, 33 and 1.81% of dry matter were determined.

With increasing plant growth, we saw an increase in cell wall, as well as calcium, phosphorus, magnesium and potassium minerals increased with increasing plant growth, metabolizable energy and net energy of livestock for both cultivars of amaranth.

At full flowering stage, the highest values Had.The digestibility of organic matter at full flowering stage for Kharkovsky and wire at full flowering stage was 84.7 and 79.3 mj / kg of dry matter respectively.

This plant has a high protein digestibility and protein content, as well as metabolizable energy and pure lactation. Despite the fact that the Amaranth forage in the whole flowering stage had

a higher protein content than other treatments, the forage of Amaranth of Kharkofsky cultivar had the highest amount in flowering stage Energy is metabolizable and lactating, so it can be beneficial for use in feeding ruminant animals.
Key words: Amaranth forage, harvesting stage, digestibility