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## Effect of supplementation of glucogenic precursors with b-complex vitamins and minerals on milk yield and milk composition of deoni cows

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**Abstract**

The present study was carried out in 6 deoni cows at Livestock Farm Complex, College of Veterinary and Animal Sciences Udgir Dist. Latur (Maharashtra). Six deoni cows parturited before 3 months (early lactation) were selected to study the effect of supplementation of glucogenic precursors with b-complex vitamins and minerals on milk yield and milk composition. The milk yield of each cow and milk composition was recorded before supplementation, during supplementation and on 7<sup>th</sup> day after end of supplementation. The suspension having glucogenic precursors with b-complex vitamins and minerals was supplemented 100 ml twice a day for 5 days. Highly significant increase in average milk production of cows was found in comparison with milk production before supplementation. Fat and lactose content in milk has non-significant difference during the supplementation, but found significantly higher on 7<sup>th</sup> day of supplementation. Other parameters like SNF, Density, protein and salt has non-significant difference before supplementation, during supplementation and 7<sup>th</sup> day of supplementation of glucogenic precursors with b-complex vitamins and minerals.

**Keywords:** Glucogenic precursors, milk yield, milk composition, deoni cows

**Introduction**

Protein supplementation is often necessary to meet maintenance nutrient requirements of cows grazing dormant range forage and greater nutrient demands during gestation and lactation amplify the need for supplementation. Young, supplemented range cows often experience a period of negative energy balance and weight loss before and after parturition [7]. It has been suggested that increased supply of protein as RUP may result in alterations in glucose supply and metabolism [7]. The energy imbalance can lead to the occurrence of metabolic disorders related to nutrition and feed management problems, like ketosis [3]. Preventive measures against this disease and its negative influence upon milk production involves dietary inclusion of various glucogenic preparations [5, 1]. The aim of the investigation was to evaluate the influence of glucogenic precursors in the early lactating dairy cow on milk yield, and milk composition

**Material and methods**

The present study was carried out in six Deoni cows at Livestock Farm Complex, of College of Veterinary and Animal Sciences Udgir Dist. Latur (Maharashtra). Six Deoni cows parturited before 3 months (early lactation) were selected to study the effect of supplementation of glucogenic precursors with b-complex vitamins and minerals on milk yield and milk composition. The suspension having glucogenic precursors with b-complex vitamins and minerals was supplemented 100 ml twice a day for 5 days. The milk yield of each cow and milk composition was recorded before supplementation, during supplementation and on 7<sup>th</sup> day after end of supplementation.

All the results were analyzed statistically by using paired 't' test and interpreted the results as per [6] and chemicals for conducting experiment. The method employed for drying fig was tray - drying.

## Result and Discussion

**Table 1:** Average Milk yield of Deoni cows before supplementation of glucogenic precursors with b-complex vitamins and minerals

Cow no.	Average Milk yield before supplementation	Average Milk yield during supplementation	Average Milk yield after Supplementation (on 7 <sup>th</sup> day)
	2.00±0.12	2.50±0.14**	2.46±0.05**

**Table 2:** Average milk composition of Deoni cows

S. No.	Particulars	Fat%	SNF%	Density%	Protein%	Lactose%	Salt%
1	Average Milk composition before supplementation	4.93±0.07	8.52±0.05	29.05±0.30	2.08±0.03	5.06±0.04	0.77±0.001
2	Average Milk composition during supplementation	4.92±0.08 <sup>NS</sup>	8.54±0.05 <sup>NS</sup>	28.88±0.33 <sup>NS</sup>	2.08±0.04 <sup>NS</sup>	5.05±0.05 <sup>NS</sup>	0.77±0.002 <sup>NS</sup>
3	Average Milk composition after 7 <sup>th</sup> day of supplementation	5.37±0.10**	8.56±0.07 <sup>NS</sup>	29.07±0.24 <sup>NS</sup>	2.086±0.04 <sup>NS</sup>	5.20±0.02*	0.77±0.002 <sup>NS</sup>

Average milk production of Deoni cows before supplementation, during supplementation and after 7<sup>th</sup> day of supplementation of glucogenic precursors with b-complex vitamins and minerals is depicted in table 1. In Table 2 depicted the average milk composition of Deoni cows before supplementation, during supplementation and after 7<sup>th</sup> day of supplementation of glucogenic precursors with b-complex vitamins and minerals.

Average values of milk production in table 1 showed highly significant increase in milk production during supplementation and after 7<sup>th</sup> day of supplementation than the milk production before supplementation. [4] and [2] reported significant increase in milk production of cows after supplementation of glucogenic precursors/additives in the ration of cows.

The values of milk composition in table 2 indicated that fat and lactose content in milk has non-significant difference before and during the supplementation, but found significantly higher on 7<sup>th</sup> day of supplementation. Other parameters like SNF, Density, protein and salt has non-significant difference before supplementation, during supplementation and 7<sup>th</sup> day of supplementation of glucogenic precursors with b-complex vitamins and minerals. [4] reported increased milk protein, lactose after supplementation of glucogenic precursors in cows whereas [2] reported increased milk fat and protein content after supplementation of glucogenic additives in the diet of cows.

## Conclusion

It was concluded that milk yield was highly increased and increased the lactose and fat in milk was found after supplementation of glucogenic precursors with b-complex vitamins and minerals to Deoni cows

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