

# नया आगाज़

आज समय की माँग पर  
आगाज़ नया इक होगा  
निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का  
नियम अब नया बनेगा  
अब परिणामों के भय से  
नहीं बालक कोई डरेगा

निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।

बदले शिक्षा का स्वरूप  
नई खिले आशा की धूप  
अब किसी कोमल-से मन पर  
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से  
परिणाम आकलन होगा।

नई राह पर चलकर मंज़िल को हमें पाना है  
इस नए प्रयास को हमने सफल बनाना है  
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए  
शिक्षक, शिक्षा और शिक्षित  
बस आगे बढ़ते जाएँ  
बस आगे बढ़ते जाएँ  
बस आगे बढ़ते जाएँ.....



# **Animal Nutrition and Reproduction (Dairy Husbandry)**

## **Student Handbook**

**for**

**CLASS  
XI**



**CENTRAL BOARD OF SECONDARY EDUCATION, DELHI**

**Shiksha Kendra, 2 Community Centre, Preet Vihar, Delhi-110092 India**

**Animal Nutrition and Reproduction (Dairy Husbandary) for Class XI**

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## Preface

Livestock sector is an integral component of Indian agriculture and provides livelihood support to millions of rural people having little access to land. The availability of feed and fodder to the livestock species have a significant bearing on productivity. According to Planning Commission of India and other sources, large gap exists between requirement and availability of feed and fodder in the country. The deficiency in feed and fodder is more conspicuous in arid and semi-arid regions. The shortage of dry fodder (40%), green fodder (36%) and concentrate (57%) is further increasing. For increasing milk production from the current level of 128 mt to 170 mt by 2020, 494 mt of dry fodder, 825 mt of green fodder and 54 mt concentrates will be required. Fodder which is being cultivated in only about 4% of the agricultural land is not adequate to meet the requirement of fodder in the country. The total projected milk demand in India for about 1500 million people will be about 170 mt by the year 2020. To meet this deficit successful implementation of modern bio- techniques including artificial insemination along with analytical techniques will be helpful for enhancing production and reproduction of livestock species. The course on “Animal Nutrition and Reproduction” for class XI students has been introduced with the following objectives:

- This is a basic course to equip students with knowledge and skills in the area of Animal Nutrition and Reproduction. Major topics covered in this book are anatomy of digestive system of dairy animals, anatomy of male and female reproductive system, basic concepts of animal reproduction, detection of heat in cattle and buffaloes, artificial insemination, breeding calendar and common reproductive disorders, common feed and fodders, feed processing and conservation, feeding of dairy animals, common nutritional deficiency diseases etc.
- Students will get an exposure to vocational/professional course on dairy production, which will motivate students to come up as entrepreneurs in the area of dairy production.
- This course is an effort to sensitize student in the field of dairy production. Students will get an opportunity to choose career in the area of Animal Husbandry and Dairying and they may further pursue diploma/ degree in this area.
- This course has been designed to provide entry level job skills to the students and will help to meet the human resource requirement for dairy production sector.

**Vineet Joshi, IAS**  
Chairman  
CBSE

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# भारत का संविधान

## उद्देशिका

हम, भारत के लोग, भारत को एक '[ सम्पूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य ]' बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,  
विचार, अभिव्यक्ति, विश्वास, धर्म  
और उपासना की स्वतंत्रता,  
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए, तथा उन सब में, व्यक्ति की गरिमा और '[ राष्ट्र की एकता और अखण्डता ]' सुनिश्चित करने वाली बंधुता बढ़ाने के लिए दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई० को एतद्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान ( बयालीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 ) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान ( बयालीसवां संशोधन ) अधिनियम, 1976 की धारा 2 द्वारा ( 3.1.1977 से ), "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

## भाग 4 क

## मूल कर्तव्य

51 क. मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;
- (च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परीक्षण करे;
- (छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले।

# THE CONSTITUTION OF INDIA

## PREAMBLE

**WE, THE PEOPLE OF INDIA**, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

**JUSTICE**, social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity; and to promote among them all

**FRATERNITY** assuring the dignity of the individual and the <sup>2</sup> [unity and integrity of the Nation];

**IN OUR CONSTITUENT ASSEMBLY** this twenty-sixth day of November, 1949, do **HEREBY TO OURSELVES THIS CONSTITUTION.**

1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation (w.e.f. 3.1.1977)

# THE CONSTITUTION OF INDIA

## Chapter IV A

### Fundamental Duties

## ARTICLE 51A

### Fundamental Duties - It shall be the duty of every citizen of India-

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

# Contents

## Chapter 1

Classification of Nutrients	1
-----------------------------	---

## Chapter 2

Anatomy of Digestive System of Dairy Animals	25
--	----

## Chapter 3

Common Feeds and Fodders Used in Dairy Animals	37
--	----

## Chapter 4

Packages of Practices for Production of Different Fodders	42
--	----

## Chapter 5

Feed Processing and Fodder Conservation	51
---	----

## Chapter 6

Feed Formulation	65
------------------	----

## Chapter 7

Feeding of Dairy Animals	74
--------------------------	----

## Chapter 8

Metabolic Disorders and Deficiency Diseases in Dairy Animals	82
---	----



## Chapter 9

Anatomy of Male and Female Reproductive System 87

## Chapter 10

Basic Concepts of Animals Reproduction 93

## Chapter 11

Importance and Role of Hormones Involved  
in Animal Reproduction 105

## Chapter 12

Oestrus/Heat Detection 110

## Chapter 13

Artificial Insemination 114

## Chapter 14

Breeding Calendar, Gestation Length in Different  
Dairy Animals, Pregnancy Diagnosis and  
Record Keeping 125

## Chapter 15

Common Reproductive Disorders in Dairy Animals 130