SHORT COURSE

on

"FEEDING OF LIVESTOCK DURING DROUGHT AND SCARCITY"

(November 1-10, 2006)

Sponsored by

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

NEW DELHI

at

DIVISION OF ANIMAL SCIENCES & FORAGE PRODUCTION

CENTRAL ARID ZONE RESEARCH INSTITUTE

JODHPUR – 342 003

SHORT COURSE

on

"FEEDING OF LIVESTOCK DURING DROUGHT AND SCARCITY"

(1st November to 10th November, 2006)

Course Director
Dr. N.V. Patil
Course Co-Director
Dr. B.K. Mathur
Dr. A.K. Patel
Dr. M. Patidar
Dr. A.C. Mathur

Sponsored by
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI

at

DIVISION OF ANIMAL SCIENCES & FORAGE PRODUCTION
CENTRAL ARID ZONE RESEARCH INSTITUTE,
JODHPUR – 342 003

FOREWORD

Indian subcontinent is more prone to droughts- their frequency, intensity and impact vary greatly with the geographic area. Droughts cause misery both to human and livestock due to the widespread crop failures leading to acute shortages of food and fodder and affecting human and livestock health, nutrition and production. Scarcity of drinking water particularly in arid region further aggravate the situation.

Indian arid zone essentially represents an animal based agricultural economy. The region is most prone to the droughts and in the past century the frequency of agricultural drought has been 43 to 68 years in one place or the other, sometimes wide spread in nature. Droughts persists in some areas for 3 to 6 years having a multiplying effect and exert tremendous stress on natural resources leading to scarcity of water, food and fodder.

There has been considerable work done by ICAR research Institutes, State Agricultural Universities, Deptt. of Animal Husbandry and Non Government organizations to combat drought effect on animal productivity and health. However, the drought management takes a form of crises management which needs to be a long term planning as short term strategy leads to uneconomic cost involved towards provision of relief measures like feed, fodders and water and its transportation to the destination.

The various technologies developed at the Central Arid Zone Research Institute, Jodhpur like feed and fodder banks, supplementary and complete feed blocks, use of newer feed resources in formulating economic rations, Physical and chemical treatments of feeds and fodders need planning for its implementation at farmer's level . There is an urgent need to impart knowledge on advances made in feed security measures in terms of quality and quantity for its implementation during drought period.

The task of providing training and have interactions on "Feeding Livestock during Drought and Scarcity" has been assigned to CAZRI, Jodhpur by the Indian Council of Agricultural Research, New Delhi. During the training, the scientists of this Institute, resource persons and line deptt. personnel will deliberate on technical advancements to ensure feed and fodder security during drought situations so that optimum animal production is maintained. I am glad that the training manual to be distributed to the participants has been brought. I am sure; this publication will be very useful to the scientists, administrators, development agencies and field workers engaged in livestock management programmes in arid and semi arid regions. I congratulate the Course Director and his team and especially all Contributors to bring out this useful manual and wish a great success in this short course.

Narain
31/8/06

(PRATAP NARAIN)
Director

Preface

In India due to its wider geographical diversity, erratic behavior of monsoon and uneven distribution of rainfall the agriculture always remains to be a gamble and facing of drought and floods simultaneously remain an annual reality. In certain parts of the country, drought like situation is an often perpetuate phenomenon and therefore termed as "normal situation" to that region especially in parts of Gujarat and Rajasthan.

Livestock play a special role in the drought prone areas where it contributes significantly to the GDP in these areas. Livestock provides a more sustained income to the farmers. The nature has also endowed these areas with some of the best breeds of cattle, sheep, goats and other species of livestock. During an acute 90 percent rainfall deficient year grain production may nose dive to less than 10 percent but production from livestock may be assured at more than 50 percent of the normal year. The drought prone area is also endowed with nutritious perennial grasses. But the failure of rain affects directly the growth of grasses as well as water resource to the livestock. And it results in loss of animal production and high mortality. Therefore ensuring feed /fodder security for animals remains foremost priority during the droughts. The endemic nature of drought in certain parts of the country, notwithstanding, drought management, takes the form of crises management, which perhaps reflects the absence or lack of long term planning to tackle natural calamities. A long-term strategy is required to tackle the drought and drought proofing of drought prone areas of the country. This requires diversification of agriculture on the one hand, while feed resource planning on the other.

Various advances made in the drought proof feed and fodder security technologies need proper implementation to save the valuable animal germplasm and also to ensure proper level of profitable production level. This will in turn help the small and marginal farmers in the country to gain their livelihood.

In recognition of highly expertised manpower and useful technologies developed, the Central Arid Zone Research Institute, Jodhpur has been identified to impart training on "Feeding of Livestock during Drought and Scarcity" to researchers, teachers and extension workers working in different fields of livestock production. The participants during the said course will be exposed to technological advancements made in the field of feeding management, feed and fodder processing, planning and integrating various feed resources and technologies for ensuring balanced feeding for livestock, management of grazing resources/ pastures, development of Silvipastoral system, identification newer feed sources and management of water resources as a drought proofing measure for livestock.

This manual is a write up of technical deliberations and it is expected to help devise a strategy to combat deleterious effects of drought on animal wealth and its production which remains an important source of livelihood for about 70 per cent farmers of our country.

(N.V. Patil)
Course Director