

Capacity Building of Scheduled Caste Women through Expert Lecture on Stress Management in Dairy Animals under Field Condition

Impact of stress on animal productivity has drawn global attention in recent years in the era of climate change. Physiology of stress present in human is also recorded in all mammals including dairy cattle. Alike human, stress overall impairs performance, health and well-being. In expansion, stress affect dairy cattle performance by altering milk yield, growth, immunity, health, feed intake, acid-base balance, follicular growth and dynamics, steroidogenesis, estrus period and estrous cycle, embryonic development and survivability and finally conception and fertility of the dairy animals. Thus, for present context, it is pertinent today for the farmers to understand effect stress for animal welfare specially cows and productivity for which farmers rare them.

With the above background, the Eastern Regional Station of ICAR-IVRI, Kolkata in collaboration with Pranabananda Vidya Mandir (PVM, Bharat Sevashram Sangha, BSS), Daria, Canning-I (South 24-Paraganas) jointly organized a One-day Capacity Building Program on “Management of Stress in Dairy Animals”, at Daria village of Canning I block (South 24



Paraganas) of West Bengal on 5th March, 2025. The program was planned under Development Action Plan for Scheduled Castes (DAPSC) Scheme for the year 2024-25. A total of ten (n=29) scheduled caste women belonging Dakshin Daria, Gobramari, Purba Daria, Ronia and Shibnagar villages were participated in the program. Dr. Sadhan Bag and Dr. G. K. Das, Principal Scientist (who coordinated the events) from ERS, ICAR-IVRI and Sri Sujit Mondal, the Secretary, PVM-BSS, Daria were present in the program. In the beginning of the program, all the beneficiaries registered their name. Dr. G. K. Das in brief explained the purpose of incorporating Skill Development Program for rural women under DAPSC scheme.

Capacity Building Program -Effect of Stress on Dairy Cattle Productivity:

The purpose of the Capacity building program was to make rural women especially scheduled caste women aware of stress in animals and its effect on the dairy animal productivity by sharing knowledge and make them more efficient in dairy animal farming operation to improve livelihood through more income generation. Dr. Bag provided an insightful overview of



the history of ICAR-IVRI, highlighting its significant contributions to the development and production of veterinary biologicals, diagnostics, and vaccines for livestock and poultry. He then elaborated animal husbandry practices in general, emphasizing the impact of stress on livestock, particularly in dairy cattle.

Dr. Bag discussed the challenges posed by global climate change, stressing its adverse effects on both human and livestock health. He educated the participants on the thermal comfort zones of various livestock species, explaining how prolonged exposure to high temperatures and humidity



leads to heat stress, especially in cattle of different age groups. He further explained that heat stress in animals results in reduced feed intake, slower growth rates, lower feed conversion efficiency, decreased milk and meat quality, irregular estrous cycles, early embryonic mortality, stillbirths, mummified

fetuses, and declining semen quality. Additionally, heat stress weakens immunity and increases physiological parameters such as respiration rate, pulse rate, and rectal temperature.

To mitigate heat stress, Dr. Bag recommended various strategies, including improved housing management (well-ventilated shelters, avoiding direct sunlight, and preventing overcrowding), optimized feeding practices (restricting feeding and grazing during the hottest part of the day, offering pelleted feed, low-fiber diets, and providing fresh, cool water), and technological interventions (installation of exhaust fans, water sprinklers, and fogging systems). He also suggested supplementing animal diets with electrolytes, minerals, and antioxidants such as Vitamin E, Vitamin C, Zinc Oxide, Selenium, Betaine, and Astaxanthin, along with probiotics and prebiotics. Lastly, Dr. Bag addressed zoonotic diseases such as tuberculosis and brucellosis, detailing their impact on both animals and humans. He emphasized preventive measures to minimize the risk of disease transmission when handling cattle and other livestock species.



Promotion of Dairy Farming among the Rural Women:



Another objective of the program was to promote dairy farming among the scheduled caste women those who have dairy cow (s) already at home. All the beneficiaries attended today's program received awareness kits comprising printed materials on the vaccination schedule of

dairy cows and buffaloes, common bacterial (Haemorrhagic Septicaemia, Black Quarter, Brucellosis, Anthrax, Tuberculosis etc.), viral (Foot and Mouth Disease) and parasitic diseases those affect dairy cattle and buffaloes and alters the productivity, anthelmintic schedule for tape worm, round worm, lice and ticks, writing pad, pen and masks.

Dr. G. K. Das deliver a talk on dairy cattle reproduction and explained how lack of reproduction



knowledge decreases annual as well as life time production as well as income from dairy cows. He interacted with the beneficiaries and enquired information from the beneficiaries in the areas like relationship between age and body weight of heifer for onset of puberty, age of puberty and sexual maturity, importance of

body weight bringing estrus, different signs of estrus, duration estrus and estrous cycle, time of



A. I. in relation to the onset of estrus, period of gestation, time of first post-partum estrus etc.

At the last, all the beneficiaries received stainless steel feeders and medicine kits (comprising anthelmintics, feed supplements vitamins (A, D3, E, Biotin), trace minerals (Copper, Cobalt, Zinc, Manganese, Iron, Iodine, Selenium, etc), mineral mixture (vital vitamins, chelated minerals, prebiotics, probiotics, enzymes, herbal galactogogue etc), appetizer, digestive tonic, anti-stress preparation, liver extract, multi-function skin gel against mange, ringworm, eczema, foot lesions, FMD lesion, dermatomycosis, sulphadiazine, appetizer, anti-diarrheal powder,

Zinc, Manganese, Iron, Iodine, Selenium, etc), mineral mixture (vital vitamins, chelated



galactogogue boli and liquid, to motivate them and continue dairy farming in future also.