

Cattle Keeping with the Use of the Renewable Energy Sources (on the Deep Straw Unchangeable Animal Underlayer) for Heating Animal Houses

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Abstract—This article considers issues of cattle breeding in the conditions of fastened and unfastened cattle keeping. The authors conduct the experiment in the conditions of Eastern Siberia in the Limited Liability Company “Severnoe” in Krasnoyarsk territory. It deals with the animal keeping intensity in an animal house on the deep bio thermal unchangeable underlayer and gives cattle keeping technology detailed description. It includes the milk house facility type, the construction of the light animal house with adjunct forage manure passage facility, deep unchangeable bio thermal underlayer structure as the renewable source of energy, purposefulness of rearing stock growing on deep bio thermal underlayer, proximity of animals keeping conditions to their natural living conditions, etc. Unchangeable bio thermal underlayer that consists of the mixture of straw and cattle manure serves as the renewable source of energy.

The experiment done by the authors consists of red-motley breed heifer selection in the age of 10-15 days and their division into the control and the test group of 10 animals in each; the control group is kept in group sections on solid wooden floors, the test group – on the deep bio thermal unchangeable straw underlayer. Further data measurement is done in both groups.

Thus animal keeping in unheated light cattle breeding houses on deep unchangeable bio thermal underlayer even in the severe Siberian climate corresponds to their physiological requirements: contributes to healthy calf production and high cow milk productivity. Although total forage costs increase to some extent, when calculated for a product unit- they decrease. Animal place costs and labor costs as compared with traditional fastened cow keeping in the heated capital expensive cowsheds decrease in 2–3 times, which is decisive argument for cold cattle keeping technology choice in favor of deep unchangeable bio thermal underlayer use.

Key words—cattle keeping, calves preservation and reproductive ability, milk productivity, straw underlayer.

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