

## Seed Germination inhibition test for pregnancy detection in Malnad Gidda Cows

M. Narayana Swamy\*, C. Ravikumar and G. P. Kalmath

Department of Veterinary Physiology,  
Veterinary College, Bangalore – 560 024

\* Corresponding author email: mns263@yahoo.com

### Abstract

In the present study, the seed germination inhibition technique was applied to diagnose pregnancy in Malnad Gidda cattle breed, a dwarf breed found in coastal and neighboring heavy rainfall areas in Karnataka. The urine samples collected from six inseminated Malnad Gidda cows at two months of post insemination served as positive group and the urine from six non inseminated Malnad Gidda cows served as negative group. In both the cases, the urine was diluted at the ratio of 1:4 with distilled water. In each sterile Petri dish fifteen wheat seeds were taken on the blotting paper and 15 ml of diluted urine was added. For each cow the test was conducted with a replica of six tests in six Petri dishes. Control test was also carried out with the addition of water only to the wheat seeds. The Petri dishes were covered with the trays to avoid evaporation. After three days, the seeds were examined for germination inhibition percentage in positive, negative and control groups, wherein the mean germination inhibition percentage was  $73.65 \pm 2.81$ ,  $27.90 \pm 2.56$  and  $21.48 \pm 2.69$ , respectively. The mean shoot length of the germinated wheat seeds on fifth day was  $0.95 \pm 0.47$ ,  $3.62 \pm 0.51$  and  $5.54 \pm 0.68$  cm in positive, negative and control groups, respectively. Mean germination inhibition percent and reduced shoot length in positive group of Malnad Gidda cattle was indicative of pregnancy state. It was concluded that the seed germination inhibition technique is useful to detect pregnancy in Malnad Gidda cattle as a simple, non-invasive and economical method.

**Keywords:** Pregnancy Diagnosis, Cow, Seed Germination, Urine.