CHAPTER I

INTRODUCTION
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The remarkable improvement of livestock production has been attained in many industrialised countries, particularly in the last two decades, due to the integrated effect of rapid developments in several fields of industry. Increased feed production, improved animal health, better husbandry and breeding of animals with desirable genetic potential for improved performance are the most important of these developments. But in developing countries, like India, similar improvements in livestock production have generally been inadequate, one of the principal limiting factors being the use of semen of bull with poor genetic quality.

According to the livestock census (1972), the total cattle population of India was 178.38 million which forms nearly one fifth of the total bovine population of the world (I.C.A.R., 1977).

Every year there is significant increase in their numbers. Our cow is, however, the poorest yielder on the globe. This deterioration in cattle wealth has occurred due to unscientific breeding policy adopted by the farmers. The lay breeder accepts any bull for his cow without assessing his milk index and other hereditary characteristics. In order to produce better type of cattle, our country, therefore, needs sires of superior genetic make up.
For rapid development of our cattle wealth, the cross-breeding of Indian cattle with foreign blood like Holstein and Jersey bulls has been given topmost priority under different cattle development programmes sponsored by the Indian Council of Agricultural Research, New Delhi.

Since the exotic bulls are not readily available to meet up the entire requirements of different developmental projects now under progress in India, the authorities are thinking very seriously to import exotic frozen semen from other developed countries. It would perhaps, be most desirable to organise such private and public agencies for production and distribution of quality semen available from pure bred pedigreed exotic animals.

Semen quality depends upon many variable factors. Of these, libido plays a significant role. Although, in the bull, the degree of sexual interest and ability to serve cannot be taken as an index of fertility (Lagerlof, 1934a), it is essential for artificial insemination operation to maintain libido as there is a good circumstancial evidence that, in general, it will ensure a higher percentage of usable ejaculates.

There are various means and ways by which libido can be increased to a considerable extent with the expectation that semen of good quality may be obtained. In developed countries,
It has become a common practice to adopt precollection stimulation by restraining the bull before ejaculation to induce greater libido resulting in the production of semen of superior quality. Kerruish (1955) and Crombach et al. (1956) claimed that precollection stimulation of the bull had a marked influence on semen quality and, although the effect on fertility had not been clearly shown, the routine adoption of this practice was considered justified. Although, precollection stimulation is believed to be one of the main factors influencing semen quality, definite proof is largely based on circumstantial evidence (Melrose, 1962).

The available literature reveal that, studies involving numerous parameters for determining the effects of sexual stimuli on the quality and quantity of semen, have been attempted within a limited scope providing information only on a few parameters.

To meet up the above deficiency in our knowledge, a broad based investigation pertaining to the effect of precollection stimulation on semen characters of Jersey, Holstein cross (Holstein X Sahiwal) and Sahiwal bulls was undertaken.

The present study on semen character was conducted on the following items:

1. Quantity (semen volume).
2. Quality:

a) Colour and Consistency
b) pH
c) Initial motility
d) Live and dead spermatozoa
e) Total count of spermatozoa (sperm density)
f) Fructose content of semen
g) Abnormal spermatozoa.

3. Conception Rate:

Comparative study on conception rates in female animals inseminated with semen collected from three different breeds against unrestrained, one false mount and two false mounts prior to ejaculation.

The results of the present study may indicate whether restraint or precollection stimuli in the form of one false mount and two false mounts have any beneficial effect on the improvement of semen pictures of the three breeds. The results may be of great help in exerting a favourable impact upon the progress of artificial insemination in India.