Infectious Diseases As a Cause of Infertility

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Infectious Diseases
As a Cause of
Infertility

John B. Herrick, D.V.M.

The practicing veterinarian confronted with infertility or sterility in cattle must be able to determine whether he is confronted with a herd or an individual cow problem. In order to accomplish this task, an accurate herd history plus a herd examination is imperative. Although there are other causes of herd infertility, infectious disease presents the greatest challenge to the practicing veterinarian, particularly from the standpoint of diagnosis.

The main infectious diseases found in cattle, presenting a herd problem, are brucellosis, vibriosis, trichomoniasis, granular vaginitis, leptospirosis and infections of undetermined specialization. These infections are all capable of existing in herds in the midwest and are frequently diagnosed.

These diseases present a great loss to the cattle industry. Veterinarians should be constantly on the watch for these diseases and must alert cattle owners of their occurrence so that measures can be taken to control them.

The chart (next page) briefly outlines the main differences of these infections.

Problems in Diagnosis

Brucellosis and leptospirosis are diagnosed by serological tests in a laboratory. Vaginitis is easily diagnosed by observation of lesions. Trichomoniasis, vibriosis and non-specific infections present the greatest problems in arriving at an accurate diagnosis.

Trichomoniasis:

A. Females:
   Inject 10 to 15 cc. of sterile saline via a 16-inch plastic pipette into the vagina. Recover as much of the wash sample as possible before putting it into the test tube. Vaginal wash samples should be taken from virgins and heifers 5 to 18 days after service.

B. Bulls:
   Clip the preputial hairs, wash the sheath and introduce a 24-inch plastic preputial pipette adjacent to the glans penis. Flush collected smegma into 10 cc. of sterile saline or douche with 200 cc. of sterile saline. Examine fresh smears and do not fail to differentiate cercomonads.

Samples should be examined shortly after collection if possible, but they may be stored over night in a refrigerator. The samples should be allowed to settle from one to two hours and then the superficial layer of sediment may be removed with a pipette. Place on a slide (cover glass prevents drying) and examine under low power of a microscope for protozoa.

Vibriosis:

A. Direct culture of the organism from an aborted fetus or an aborting cow gives the most positive diagnosis.

B. The serum agglutination test needs considerable amount of interpreta-
## Infectious Diseases Affecting Reproduction in Cattle

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<tr>
<th>Disease</th>
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<tr>
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<tr>
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<tr>
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<td>Leucorrhoea, Pyometra</td>
<td>Microscopic identification of protozoa</td>
<td>Breed non-contaminated females by natural service to clean bull or artificially breed infected cows to contaminated or clean bull. Controlled breeding program using infected bull.</td>
</tr>
<tr>
<td>Granular vaginitis</td>
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<tr>
<td>Leptospirosis</td>
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<td>Infections of undetermined specialization</td>
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<td>Culture and identification of organisms from tract of female or semen sample.</td>
<td>Intruterine infusion, Restoration of estrous cycles</td>
</tr>
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</table>
tion to be of value. Apparently, vibriosis infection is of a short duration (1-3 months).

C. Cervical mucus (obtained with a gauze tampon which is left in the vagina for 30 minutes, withdrawn, rinsed with saline, and centrifuged) is tested for Vibrio fetus agglutinins.

D. It is known that the bull may harbor and disseminate the Vibrio fetus organism. Preputial smegma obtained with a plastic pipette may be used for culture.

Infections of Undetermined Specialization:

Infertility problems or abortions from a herd where infectious diseases have been ruled out may be diagnosed from the culture of a semen sample from the bull (collected in an artificial vagina) or from the amniotic fluid or the aborted fetus. Specimens for culture also may be obtained from the cervical os with the aid of an expanding metal vaginal speculum and a sterile cotton swab introduced with a 24-inch forceps.

The diagnosis of infectious diseases that cause breeding problems in cattle is a tedious, time-consuming task. In many herds these diseases are allowed to exist for years because they are variable in clinical symptoms and an accurate diagnosis has been neglected. They are not new diseases nor are they extremely difficult to diagnose. Yet, they are costly if allowed to exist.

References

Wisconsin
(Continued from Page 135)

would become established as a Plan A county.

All blood testing under the state program is done at the central Disease Control Laboratory located at Madison. Samples are sent in by private veterinarians who are cooperating wholeheartedly with the state’s program and, also, by the district veterinarians employed by the State and Federal Government.

Under the state program, the vaccination of calves 4 to 8 months of age at state expense is offered to every herd owner. It is estimated that Wisconsin raises slightly more than 700,000 dairy calves for herd replacements each year and during each of the last two years, over 500,000 calves have been officially vaccinated.

Indemnity payments are also provided for reactors sent to slaughter from Plan A herds. In addition to the funds available from the Federal Government, a maximum of $25.00 for grades and $50.00 for purebreds is provided for from state funds.

Wisconsin farmers are cooperating with their veterinarians and their milk plants in an all-out effort to eradicate brucellosis. The activities and the problems of all groups are tied in closely with educational programs of county agents and agriculture instructors. All groups with a stake in Wisconsin’s billion-dollar industry are working toward the day when Wisconsin herds will be 100 per cent free from brucellosis and in a position to meet the most rigid demands of any milk market.

If more than 10 to 20 percent of the cows in a dairy herd are aborting, trichomoniasis should be suspected.