Vaccine against brucellosis needs work

Bison strike fear into the hearts of ranchers—not because these huge beasts sometimes charge people, but because many bison harbor the bacterium *Brucella abortus*. Ranchers worry that these bison may infect cattle herds with the bacterium, which causes brucellosis. Cows with the disease have high abortion rates and lower than normal milk production. Widespread use of a live vaccine, *B. abortus* strain 19 (S19), has greatly reduced the incidence of brucellosis in cattle.

In bison, S19 is useless—it fails to provide sufficient immunity and causes abortions. Moreover, the picture for bison won't brighten anytime soon.

Ranchers have begun to use a new vaccine, *B. abortus* strain RB51 (SRB51), for their animals because tests can't distinguish cattle vaccinated with S19 from those infected naturally.

In one of the vaccine's first trials in bison, Mitchell V. Palmer of the U.S. Department of Agriculture's Agricultural Research Service in Ames, Iowa, and his colleagues gave the new vaccine to 10 pregnant animals.

Two of the bison aborted their fetuses, the researchers report in the November AMERICAN JOURNAL OF VETERINARY RESEARCH. That's fewer abortions than the old vaccine caused but much higher than healthy animals' normal rate. The authors conclude that "lower doses of SRB51 may be required for safe inoculation of pregnant bison."

Researchers have yet to determine whether the new vaccine makes bison immune.

Bacteria from the vaccine survive in the aborted placenta, Palmer and his colleagues note, so using the vaccine without reducing the abortion rate could lead to infections of cattle and other animals that inspect or eat the placenta.

Another attempt to solve the brucellosis problem failed this summer. A Senate bill that called for sterilizing or killing thousands of infected bison (SN: 3/23/96, p. 188) died in committee.

When the cat's meow means ow!

Cats are famous for their stoic nature. Since their days as wild animals, they've hidden pain well.

As a result, veterinarians often fail to provide them with adequate pain killers, although studies of humans suggest that controlling pain may help speed healing.

Julie D. Smith of Kansas State University in Manhattan and her colleagues studied possible indicators of pain in cats that they had spayed and then treated with varying amounts of analgesics, they report in the November AMERICAN JOURNAL OF VETERINARY RESEARCH.

Cats that received no postoperative analgesics had higher concentrations of cortisol, a stress-related hormone, in their blood than did animals that received butorphanol for pain. Cats with elevated cortisol also had higher blood pressure readings. Veterinarians should consider pain a cause of high blood pressure, Smith recommends.

Is this cat in pain?

Contrary to many veterinarians' thinking, elevated heart and respiratory rates and high glucose concentrations were poor indicators of pain.