

New fears on transmission

London

THE UK agriculture ministry's Central Veterinary Laboratory in Weybridge, Surrey, is examining a suspected case of bovine spongiform encephalopathy (BSE) in a cow born after the government banned the use of cattle feed containing sheep and cattle offal. If confirmed, the case will embarrass the UK government, which maintains that the ban prevented any further spread of the disease.

The feed ban came into force in July 1988 after scrapie-infected sheep tissue was identified as the probable source of the BSE outbreak. Confirmation of the new case (believed to be a 15-month-old cow from southern England) may mean that the BSE agent can be transmitted from infected cows to their offspring, probably via the placenta, just as scrapie can be 'vertically transmitted' in sheep. But violation of the feed ban by a farmer left with stocks of feed containing sheep offal is another possible cause. If vertical transmission is to blame, then more cases of BSE in young cows should emerge over the coming months. Fears of vertical transmission of BSE lie behind calls for a ban on breeding from the offspring of animals that suffered from BSE.

Francis Anthony, chairman of the British Veterinary Association's farm animals committee, says that he supports a breeding ban, not on the grounds of public health, but to help the British beef industry. If herds are bred that have no connection with the BSE outbreak, he says, then British beef may regain some lost export markets. But a breeding ban may be limited in its effect: accurate pedigrees are not kept for all British

cattle, and many cows may be infected that do not yet show symptoms.

Anthony estimates that vertical transmission of BSE could delay the eradication of the disease from British cattle by 20 years. Even without vertical transmission, most experts expect new BSE cases to arise until the end of the century, because of the disease's long incubation period.

Anthony believes that the imposition of a breeding ban could give Britain a head start in dealing with BSE, as he thinks it likely that outbreaks will soon be confirmed in other countries (see *Nature* 344, 805; 26 April 1990). In the United States and France, BSE cases may be dismissed as rabies, Anthony says. The United States Department of Agriculture (USDA) seems to share his concern. Gary Colgrove of USDA says that a project has just been begun to examine the brains of cattle with unidentified neurological disease. Those suspected of containing lesions caused by BSE will probably be sent to the United Kingdom for further examination.

The current uproar surrounding BSE in the United Kingdom was sparked off by the discovery of spongiform encephalopathy in a domestic cat from Bristol (see *Nature* 345, 194; 17 May 1990), which reawakened fears of transmission to humans. A second suspected case, in a cat from Northern Ireland, is now being examined. Agriculture minister John Gummer, facing growing criticism from the British press, appears before the House of Commons agriculture select committee this week to explain the British Government's action to control the BSE outbreak.

Peter Aldhous

Health worries over use of milk hormone

Washington

COMPLAINTS by small dairy farms that a genetically engineered hormone designed to boost milk production could put them out of business has led two US states temporarily to ban the product.

Last month the governors of Minnesota and Wisconsin signed legislation that places a ban until mid-1991 on the sale or use of bovine somatotropin (BST) in the two states, which, combined, produce 20 per cent of the United States' milk. Wisconsin Governor Tommy Thompson said that the ban would allow "additional farmer and consumer education" without hurting the state economically. Vermont's legislature last week rejected a similar proposal.

Opponents of the hormone claim that it encourages overproduction, which would flood the market and eventually drive out small dairy farmers.

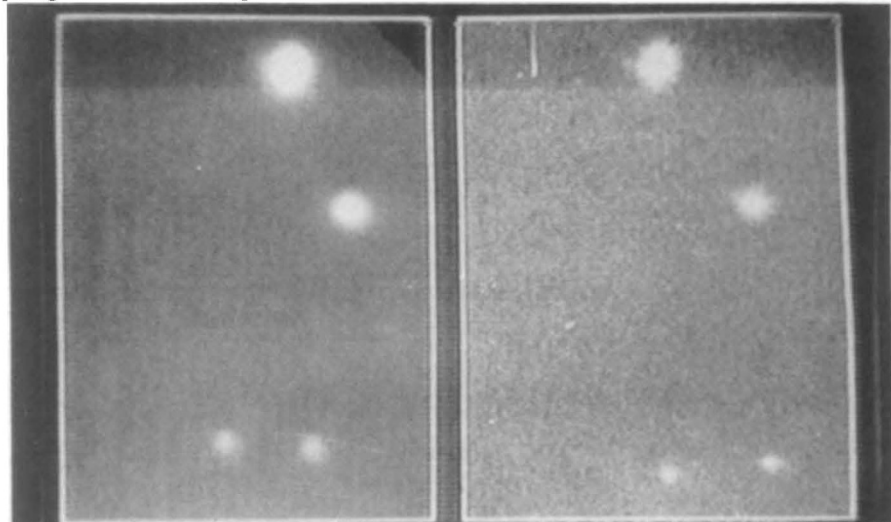
Health worries remain an issue in the debate. Although the US Food and Drug Administration (FDA) says that its studies show that the hormone presents no danger to the public, it has not yet published the data behind that claim.

The US General Accounting Office is investigating charges of favouritism in the FDA's examination of the drug. Jeremy Rifkin, president of the Foundation for Economic Trends, a Washington-based group that opposes BST and some other biotechnology products, points to several studies that raise questions about the hormone's biological impact. Beyond any possible impact on humans, BST appears to shorten the life of the cow. Although milk production can rise 10 to 25 per cent, "cow burnout" can cut reproductive lifespans by a third, he says.

Four biotechnology companies — Monsanto, Eli Lilly, American Cyanamid and Upjohn — have spent more than \$500 million in developing the drug. But BST has been plagued by public opposition and controversy since field trials began in 1985. Last year 2,500 US supermarkets agreed to boycott BST-produced milk (*Nature* 340, 667; 31 August 1989). Until FDA approves BST for general sale and use, which the agency plans to do later early next year, the supermarkets say they will not sell the milk.

Although the BST bans appear to place yet another hurdle in the path of agricultural biotechnology products, analysts caution against extrapolating. "It's one specific product. We don't think it means big trouble when you look at all the other [agricultural] biotech products", says Alan Goldhammer of the Industrial Biotechnology Association.

G. Christopher Anderson



These two photographs of constellation Carina — at right, the first photograph from the Hubble space telescope, and at left, the same star cluster taken by the Las Campanas Observatory in Chile — were released by the US National Aeronautics and Space Administration (NASA) last week. What appears to be an elongated blur at the top of the left photo has been resolved into a double star by Hubble. Although the first Hubble pictures were several times sharper than expected, NASA engineers expect to be able to improve Hubble's resolution considerably when the telescope is fully tuned up later in the year.