

Best results are secured when the perfusion is started within ten to fifteen minutes after death of the animal.

To date it has been established that the gland remains alive as indicated by a normal use of blood glucose and oxygen and the giving off of normal amounts of carbon dioxide. The milk produced during the perfusion has been found to be normal in composition provided the blood is not depleted of some essential milk precursor. When the blood becomes depleted of glucose the milk becomes deficient in lactose.

FACTORS INVOLVED IN THE EJECTION OF MILK

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Abstract

The literature is confused due to a lack of differentiation between secretion and ejection of milk from the alveoli and small ductules. Sympathetic denervation of the left half of the udder of several cows in the Kentucky Agricultural Experiment Station herd revealed the fact that the nervous control of the ejection of milk is indirect rather than direct. Milk was not ejected in either half of the udder following fright or intravenous injection of adrenalin at the start of milking.

Similar injections of posterior lobe fractions (pitocin and pitressin) caused a more complete drainage of the gland. When these were injected following fright or adrenalin injections the milk was ejected after a lapse of thirty seconds. At the end of complete normal milkings intravenous injections of posterior lobe fractions caused a prompt resumption of ejection of milk. Such strippings tested from 18 to 25 percent of fat. Greater response was noted from the use of pitocin than pitressin and the effect of the pitressin is believed to be from pitocin contamination, due to incomplete fractionation.

These experiments seem to indicate that the ejection of milk is the result of a conditioned reflex and in this matter the act is indirectly controlled by the nervous system through an established balance between naturally produced adrenalin by the medulla of the suprarenals and pitocin produced by the posterior lobe of the pituitary body.

Paper to be published in an early issue of the Journal of Dairy Science.