

## **Circulation of VACV in properties in the Serro-MG: measures to minimize the virus impact**

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The *vaccinia virus* (VACV) belongs to the genus *Orthopoxvirus* (OPV) and to the *poxviridae* family. This family is genetically and morphologically composed of viruses, with a double-stranded DNA genome, able to infect a wide spectrum of hosts. Vaccinia virus causes the bovine Vaccinia (BV), characterized as an occupational zoonosis. In humans, VACV causes vesicular-pustular lesions usually found on the hands and fingers, in addition to systemic signs and symptoms. In cattle, lesions are usually seen on the teats and udder. In outbreaks of BV, the rapid spread of the disease within the property can be observed. Studies show that the virus excreted through the milk of infected animals can be detected in handcrafted cheeses even after the ripening process. Thus, the objective of this study was to evaluate the circulation of VACV in an important region in the Minas Gerais state and to support rural producers regarding the production of dairy products in the outbreaks or not. For this, the study was conducted in 3 properties in the Serro region, due to the history of BV outbreaks. Semi-structured questionnaires were applied to verify possible failures in the production chain of handcrafted cheeses. The properties analyzed present a production of approximately 13 units of cheese per day. All properties carry out the disinfection of the teats of milking animals and the storage of milk is done through containment canisters. The cheeses from the analyzed properties are sold in other regions of the state and the country. Serum from domestic animals were collected to verify virus circulation in the properties. Of the 37 animals analyzed (dogs and cattle), none had lesions at the time of collection. Of these, 94.5% showed seropositivity by the technique of plaque reduction neutralization test (PRNT) demonstrating the silent circulation of the virus in the analyzed properties. None of them have reports of previous outbreaks. In this way, from the awareness of producers about VACV through lectures, courses and educational material, we aim to minimize the impact of the VACV virus on the region's dairy economy.

**Keywords:** *Vaccinia Virus*, occupational zoonosis, virus, outbreak, bovine vaccinia.