Equations of dogs and vectors adapted for using vaccine and insecticide impregnated collar in dogs.

**Dogs**

(1)

(2)

(3)

(4)

(5)

(6)

**Vaccinated dogs**

(7)

**Dogs with insecticide impregnated collar**

(8)

(9)

(10)

(11)

(12)

(13)

**Vectors when using insecticide impregnated collar**

(14)

(15)

(16)