## Transmission Dynamics of Taenia-Cysticercosis Basic flowchart of the life cycle of Taenia solium Final Host H Parasite Pa Egg Production Mortality Mortality Mortality Eggs E Infectio Infection Intermediate Host H<sub>2</sub> Larval Larval Parasites P2 Parasites Pa Mortality Mortality μа Mortality Mortality

Vaccination against swine cysticercosis

$$c_1 = -ln(1 - G_1 \times C_1)$$
  
 $c_2 = -ln(1 - G_2 \times C_2)$ 

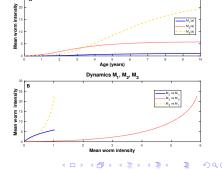
## The Mathematical Model

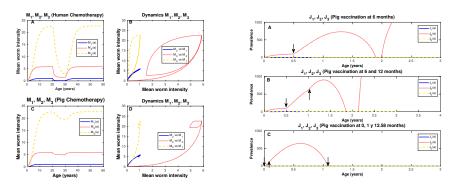
$$\frac{dM_1(a)}{da} = A_1 M_2(a) - A_2 M_1^2(a)$$

$$\frac{dM_2}{da} = B_1 M_1(a) - B_2 M_2(a) - B_3 M_2^2(a)$$

$$\frac{dM_3(a)}{da} = C_1 M_1(a) - C_3 M_3(a)$$

M1, M2, M3





## Conclusions

A mathematical model of taenia-cysticercosis is based upon the life cycle of the parasite.

The model can be adapted to any given community with mild, moderate endemicity, or even in hyperendemic regions.