

(Enzootic Pneumonia),

(MYCOPLASMA INFECTIONS)

M (Porcilis M)

Korea

September 2004

Bart Mourits, *DVM*
Intervet International

(Enzootic pneumonia)

(Mycoplasma)

- (Epidemiology)
- (Clinical picture)
- Control
- (Conclusions)

M. Hyopneumoniae

(Characteristics of M. hyopneumoniae)

-
- , 10 colony \pm 1 mm
-
- β -lactam

(Pathogenesis)

M. Hyopneumoniae가



가



2

(Etiology)

Mycoplasma hyopneumoniae

2

(Enzootic Pneumonia), **PRDC**
 (Porcine Respiratory Disease Complex),
 (Mycoplasma Induced Respiratory Disease)

Primary pathogens	Secondary pathogens
Aujeszky virus	Circo virus (PCV-2)
PRRS virus	<i>App</i>
Swine influenza virus	<i>P. multocida</i>
Corona virus	<i>S. suis</i>
<i>M. hyopneumoniae</i>	<i>H. parasuis</i>
<i>A. pleuropneumoniae</i>	<i>M. hyorhinis</i> / <i>M. hyosynoviae</i>
<i>B. bronchiseptica</i>	<i>A. pyogenes</i>

Mycoplasma

(Mycoplasma isolated from pigs)

M. hyopneumoniae

M. hyorhinis

M. hyosynoviae

M. flocculare

M. suis

M. hyopharyngis

M. hyoarthritis

M. hyogenitalium

(Transmission)

-
-
-
-
- →
-
-
- (≤ 3.2 km)
- > 500

(Risk factors; incidence & severity)

- (,)
-
-
-
-
-
- Co2

M. Hyopneumoniae

■ ■ ■

(There is a close association between M. hyopneumoniae and...)

- **P. multocida**
- **A. pleuropneumoniae**
- **PRRSV**
- **Swine influenza**

M. Hyopneumoniae

P. multocida

(Interaction of M. hyopneumoniae and P. multocida)

(Design)

Group	Chall.* M. hyo.	Vacc. M. hyo.	Chall.* P. mult.
1	3 weeks	-	16 weeks
2	12 weeks	3 + 8 weeks	16 weeks
3	12 weeks	-	16 weeks
4	-	-	16 weeks

*Intra tracheal challenge

M. Hyopneumoniae

P. multocida

(Interaction of M. hyopneumoniae and P. multocida)

(Results)

Group	Cough Weeks of age	Cough increased by P. multocida. inf.	Chall.* P. multocida aff. by pneumonia
1 (M, 3)	4-13	No	0.05
2 (V, 3+8; M, 12)	13-16.5	Slight	0.16
3 (M, 12)	13-18	Much	14.49
4 (-M)	16 (1 day)	-	0.27

*18

M. Hyopneumoniae

P. multocida

(Interaction of M. hyopneumoniae and P. multocida)

(Conclusion)

- P. multocida 1
- M. hyopneumoniae P. multocida
가
- 16 M.hyopneumoniae P.
multocida

M. Hyopneumoniae PRRSV

(Interaction of *M. hyopneumoniae* and PRRSV)

(Conclusions)

- PRRS
가
- PRRSV *M.*
hyopneumoniae
가

() (Incubation period)

(Very variable)

- 14
- 4-6 ; 16

(Affected age group)

- ,
- 12 – 20

(Serology)

(Naturally infected animals)

- **(Seroconversion)** 8-9
4-5

(Experimentally infected animals)

- **(Seroconversion)** 8 - 9
2

control

(Control by vaccination)

- **M(Porcilis M)**
 - **(Composition)**
 - **(Vaccination scheme)**
 - **(Efficacy)**

Porcilis[®] M



M. hyo control

**I've never
been better**

For protection against enzootic pneumonia and economic loss

M(Porcilis M)

(Composition)

- **Mycoplasma hyopneumoniae**
- **Al(OH)₃**

(Dose and vaccination schedule)

- **1 ml**
 - **(Early vaccination) : 5-7 1 , 23-28 2**
 - **(Late vaccination) : 1 , 3 2**
- **2 ml : 5 , 2**

(piglets)

1 ml / dose

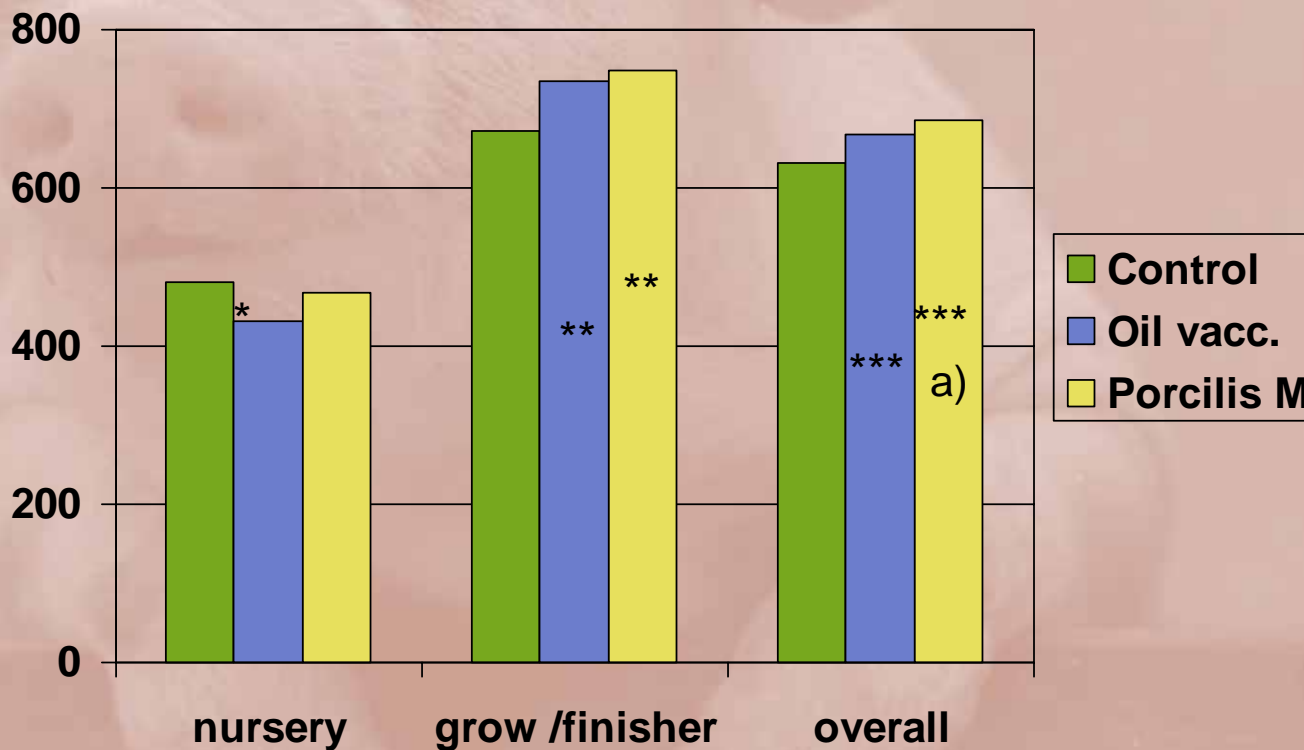
(Field trial - Miller study 1998)

(Design)

- 192 , 3 :
 1. control group
 2. Oil adjuvanted vaccine, 2 ml
 3. Porcilis M, 1ml
- 3
- :
 - (Weaning)
 - / (At transfer to grower / finisher)
 - (Prior to shipment for slaughter)

(Results)

(Average Daily Weight Gain (g))



* Significant difference to controls and Porcilis M ($p < 0.001$)

** Significant difference to controls ($p < 0.001$)

a) Significant difference to oil vaccine ($p < 0.05$)

(Results)

175

(Mean final weights at 175 days of age)

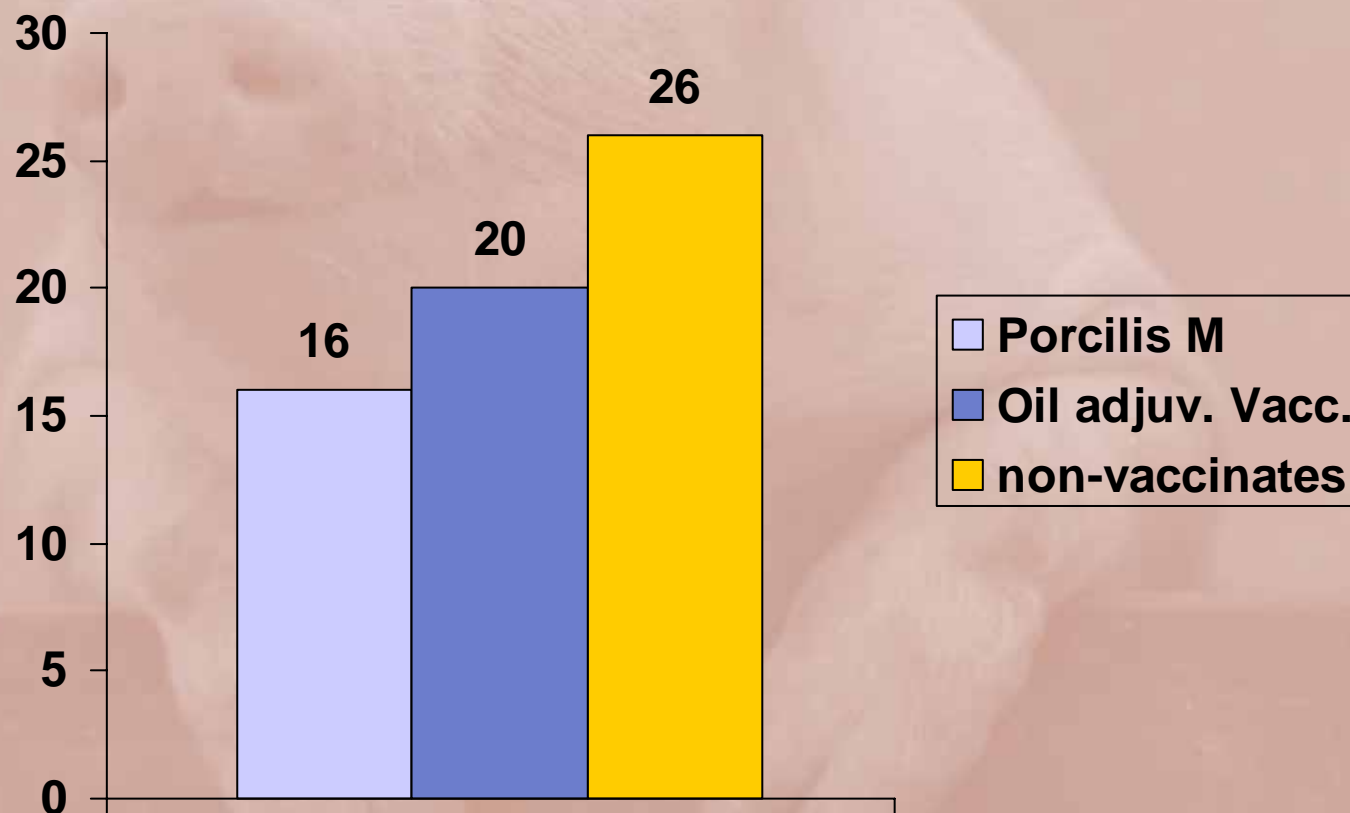


* Significant difference to controls
($p < 0.001$)

** Significant difference to oil vaccine
($p = 0.013$)

(Results)

(% of lung lesions at slaughter)



(Field trial 1998)

(Conclusion)

- **가 (Vaccination with both vaccines resulted in better growth and heavier market weight)**
- **M 가 ((Slightly) better performances in the Porcilis M group)**
- **(Vaccination reduced lung lesions)**
- **M (Pigs vaccinated with Porcilis M did not show any set back in the nursery following vaccination)**

(Field trial - Miller study 2000)

(Design)

- 192 , 3 :
 1. control
 2. Oil adjuvanted bacterin vaccine
 3. Porcilis M
- 3 & 6
- (Parameters recorded)
 - (Cough index)
 - (Growth)
 - (Feed efficiency)
 - (Slaughter weight)
 - (Lung lesions)

M

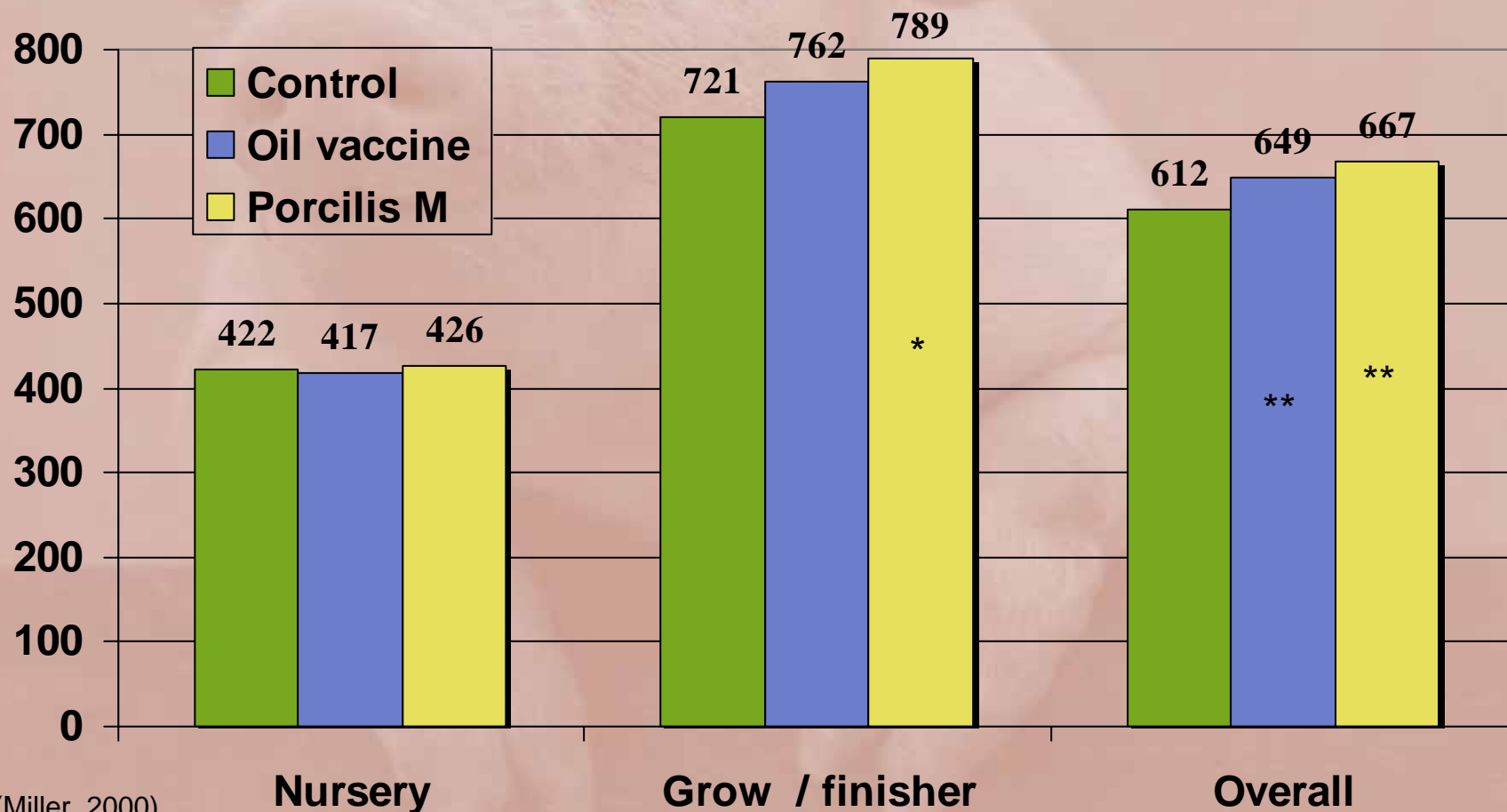
(Field trial with Porcilis M)

(Design)

- (Individual weight recorded at) :
 - (Weaning) – 0
 - / (At transfer to grow/finisher) – 49
 - 1 (Day before 1st marketing) – 151
 - (At final marketing) – 172

(Results)

(Average Daily Weight Gain (g))



(Miller, 2000)

* Significant difference to controls $p < 0.05$

** Significant difference to controls $p = 0.01$

(Results)

(Market)



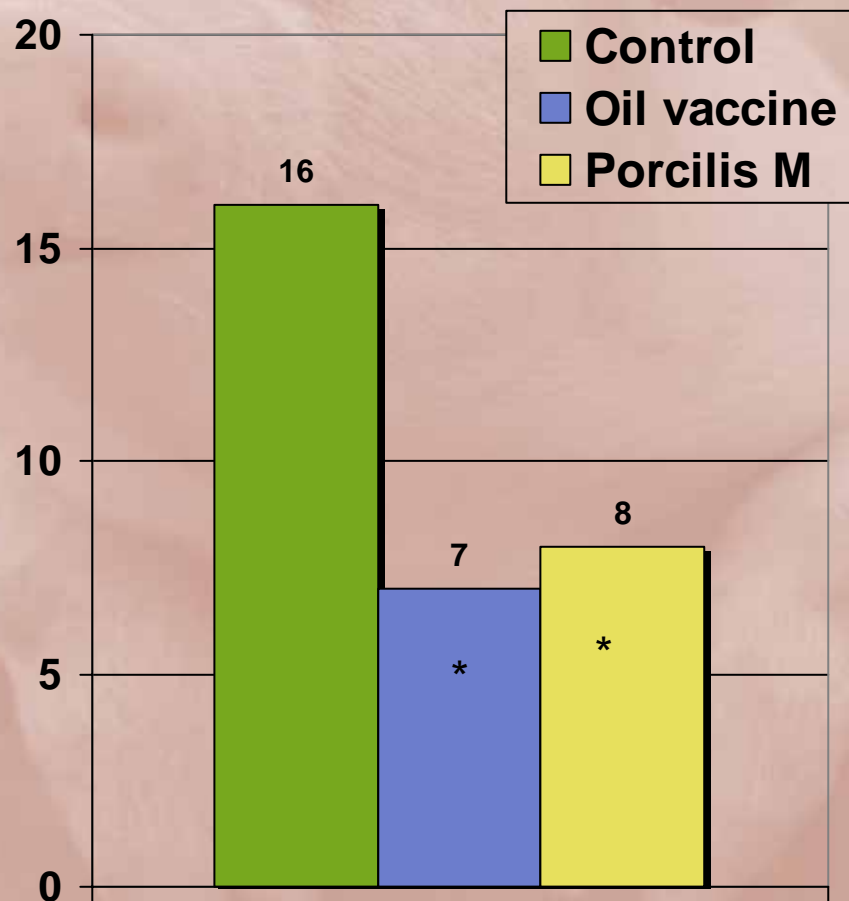
(Miller, 2000)

* Significant difference to controls $p < 0.05$

** Significant difference to controls $p < 0.01$

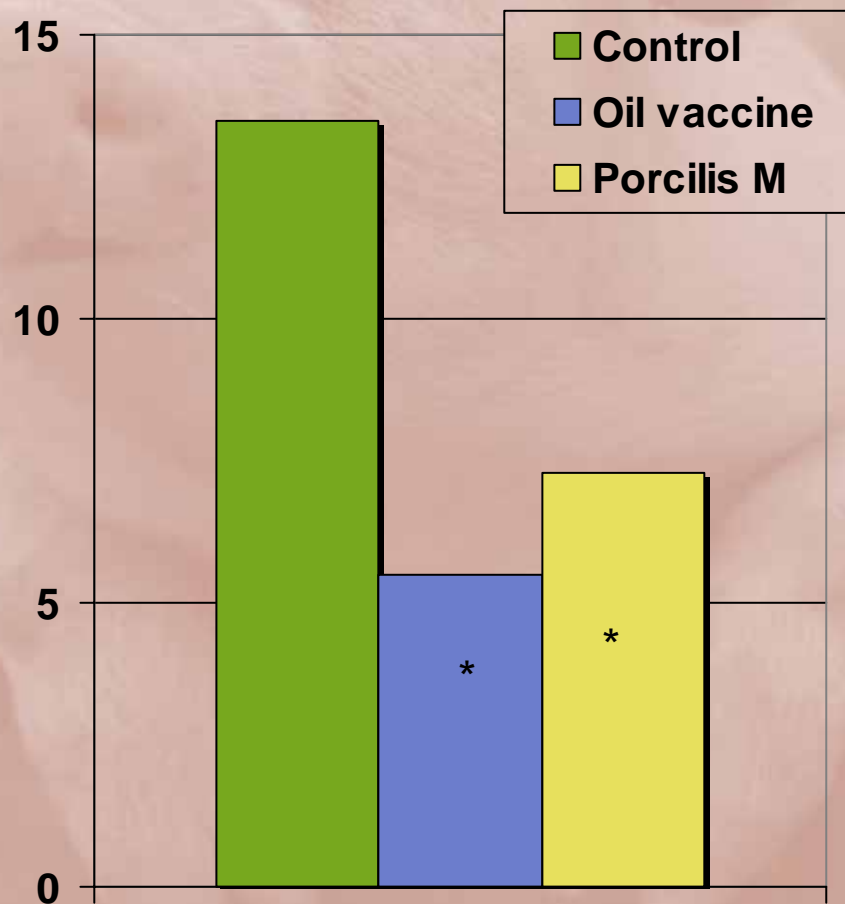
(Results)

(Cough index)



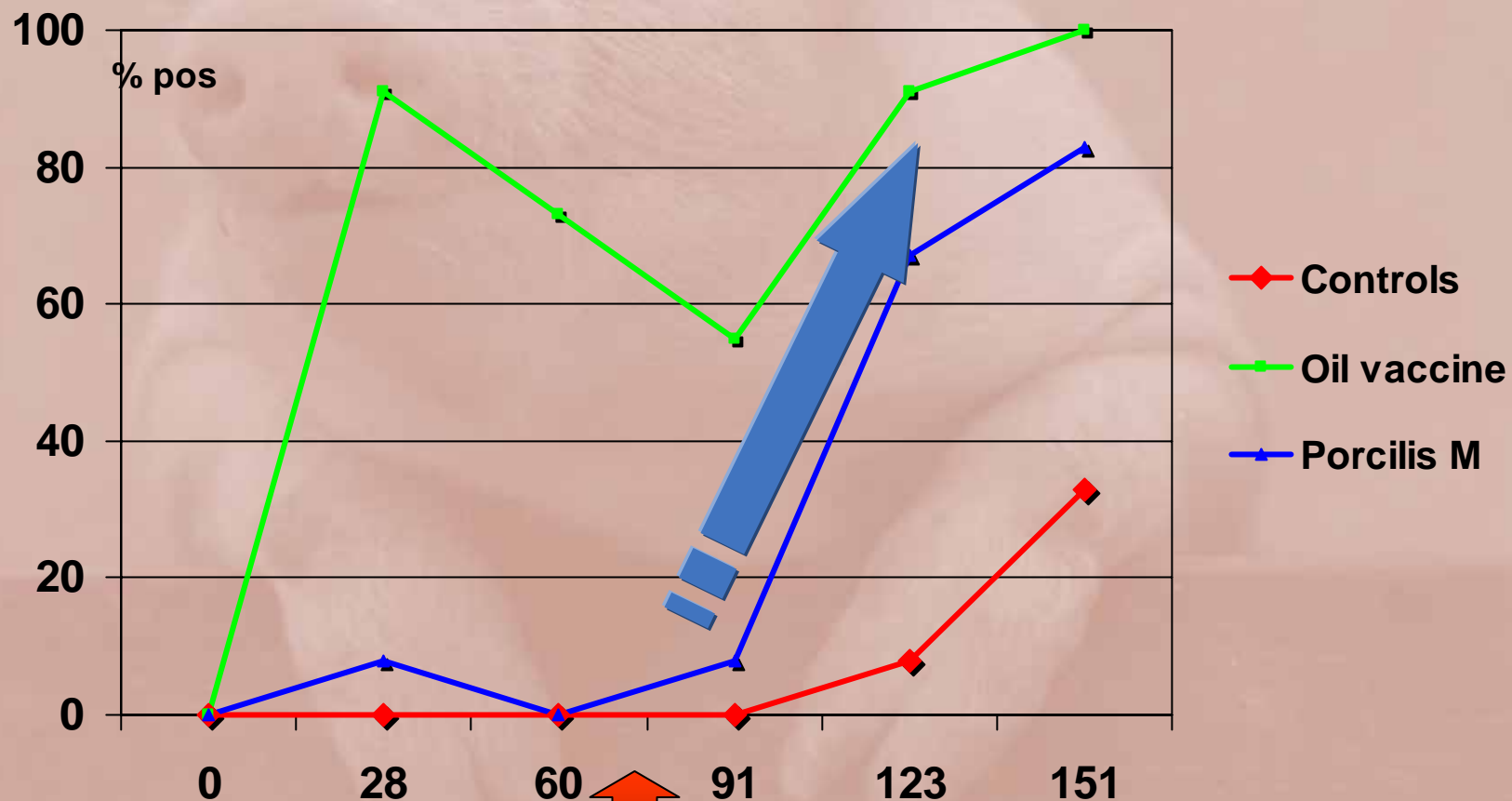
(Results)

: (Result : % lung lesion involvement)



가 (Antibody kinetic)

ELISA %(% ELISA antibody positive)



(Field trial)

(Effects of the vaccination)

- (Porcilis M) 가가
- 가, 가
- 가
- 가
- (Porcilis M)

(Conclusions)

(Respiratory disease)

-
-
-

(Prevention)

-
-
-