

Porcine circovirus disease control in an Asian context

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Asia is a land as dynamic as it is diverse and is seeing extensive growth, both in its people and pig population. With five of the top 10 producers belonging to the region and, similarly, half of the 10 top importers, Asia remains both a pig and pork haven.

The style of growing pigs in Asia has a lot to do with the manifestation of porcine circovirus disease (PCVD). Single-site, multi-age, and multiple diseases all form one ideal recipe for infection with porcine circovirus type 2 (PCV2) and a number of triggering factors which lead to PCVD.

Additionally, and unlike other continents, Asia is still challenged by some of the most dangerous pathogens which are either already eradicated in other regions or diseases you can exclusively find in Asia.

This article discusses PCVD in Asia and shows ways to efficiently control the disease.

Vaccination against PCVD

Porcine circovirus disease (PCVD) has had a massive negative economic impact on the global pig industry for years. In particular, the high mortality rates, wasting and

Country	Introduction of piglet vaccination against PCV2	Vaccination rate (% of the total pig population vaccinated against PCV2)
USA	2006	>95
Canada	2006	>80
Mexico	2007	>80
Germany	2008	>65
UK	2008	70

Table 1. PCV2 vaccination rate in North American and European markets (Hardge and Koerk, 2009).

increased frequencies of co-infections with other pathogens can virtually ruin a pig farm. However, this situation has changed dramatically due to the development of vaccines first introduced in North America, Europe and now in the process of introduction in a number of Asian countries.

In most developed markets, PCV2 piglet vaccination has quickly developed into a standard vaccination. Today, the percentage of pigs vaccinated with a PCV2 vaccine in the USA, Canada and Mexico, where vaccination has been introduced first, is well

above 80% (Table 1). The same development seems to happen in major pig producing markets in Europe.

Obviously soon after its introduction veterinarians and producers can see the benefits of PCV2 piglet vaccination on their farms and can integrate the vaccine into their routine health management plans. There were very few visionary people seeing this development coming a few years ago.

Is Asia different?

One might expect secret control recipes from lands far, far away or rituals and rare 'potions' that one can only find in mystic Asia. In Asia, there are a lot of plant based medicines that cater for almost everything. From simple fever, to diarrhoea and even

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"There also is the plight that comes from natural disasters; these natural disasters could be alleviated or dealt with; we only need some time to do it."

His Majesty Bhumibol Adulyadej, Thailand

Table 2. Effects of PCV2 vaccination with Ingelvac CircoFLEX on mortality and weight gain on Asian farms.

Country	Post-wean mortality (%)		Parameters		Weight (kg)		Difference
	Vaccinated	Non-vaccinated	Reduction	Vaccinated	Non-vaccinated		
Japan	6.1	8.8	30.68	96.90	92.9	4	
	8.0	11.8	32.20				
	1.0	30.0	96.67				
Korea	8.0	48.0	83.33	86.40	70.1	16.3	
	6.0	24.0	75.00				
	8.0	22.0	63.64				
Thailand	4.2	4.0	0	100.10	93.9	6.2	
	1.7	4.5	62.20				
Philippines	3.5	15.3	77.12	85.80	80.0	5.8	
Average	5.4	19.0	71.59	95.24	87.51	7.73	

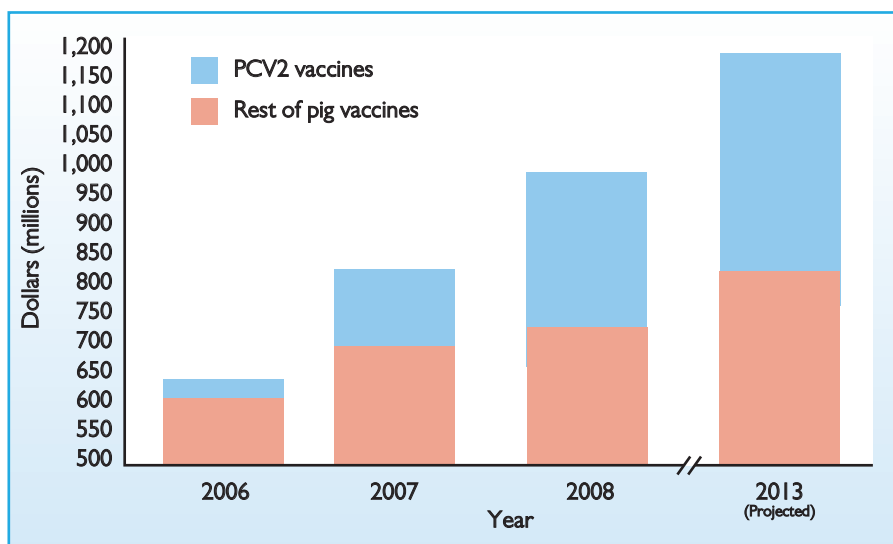


Fig. 1. Development of the pig vaccine market with a special focus on the strong growth of PCV2 vaccines.

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herbs with claims of anti-viral properties. There are, of course, also more western type treatments like antibiotic therapies, chemical disinfectants and vaccination.

Although standard best practices apply including good biosecurity, vehicle disinfection, strategic medication and all the other programs, in Asia there is one major hurdle which cannot be found anywhere else – people.

As a centre for a population boom until the 22nd Century, Asia will continue to have a congestion of people moving from one place to the other and uncontrollable migration near and towards provincial areas where swine farms have been for several decades.

Land space could soon be a major concern. Imagine a scene where proper management practices are being carried out, but only a short distance away, housing and residential areas are creeping in close to the pig farms. What can one do?

“Despise the enemy strategically, but take him seriously tactically.”
Chairman Mao Tse-Tung

One universal truth about pig farming is that pigs are the same wherever you are. Their management requirements are the same and their nutritional requirements are almost similar, so why should disease prevention be different? Practical experiences in various farms and disease situations are summarised in Table 2.

Despite slight inter-country differences in weather, management and housing, the benefits of vaccination, whatever the condition in Asia, is tangible. It is now well established in numerous studies and field trials that vaccination of piglets in Asia around weaning can reduce mortality by more than 90%, increase weight gain considerably, reduce the number of lightweight pigs and improve the general health situation on pig farms.

As in North America and Europe producers in Japan, Korea, Thailand and the Philippines do see the benefit that PCV2 piglet vaccination can deliver to their farms. Most of the current benefits of vaccination

“A journey of a thousand miles began with a single step.”
Tao Te Ching

Country	Introduction of vaccination against PCV2	Vaccination rate (% of the total pig population vaccinated against PCV2)
Korea	2007	73
Japan	2008	65
Thailand	2008	40
Philippines	2008	35

Table 3. PCV2 vaccination rate in pig markets in Asia.

are seen in both mortalities and weight gain.

Today the percentage of pigs vaccinated against PCV2 is already between 35 and 85%. This is an extraordinarily fast uptake in the market and is easy to conclude that vaccination will be the way of 'PCV2 control' in Asia in the future.

Primarily driven by farm consolidation where vaccination awareness is high, pig vaccines are expected to be the fastest growing sector over the next five years with varying dynamics by region.

"For them to perceive the advantage of defeating the enemy, they must also have their rewards."

General Sun Tzu

In addition, due to the introduction of new vaccines, the number of vaccinations around weaning has increased steadily in recent years.

This trend triggers the need for one shot vaccines and vaccine combinations (combo vaccines) which both reduce the stress and labour needed to get your pigs protected.

Conclusion

In the diverse and dynamic world of Asia, universal disease control and performance improvement is difficult, but not impossible. Despite its inherent uniqueness, pig production and disease control remain the same everywhere.

Among this is the manifestation and havoc that PCV2 and its PCVD complex is causing. Despite the control obstacles being faced and other disease challenges unique only in

the region, the formula for PCV2 control still holds true.

Based on the well established economic returns due to PCV2 piglet vaccination in Asia, vaccination is and continues to be the

major means of controlling PCVD. It is concluded that the percentage of pigs vaccinated against PCV2 in Asia will grow fast.

Asia, being the centre of population explosion and development in the years to come, vaccination, or rather convenient vaccination will be a benchmark in the farmer's wish list aside from efficacy. ■

"No matter how deep a study you make, what you really have to rely on is your own intuition and when it comes down to it, you really don't know what's going to happen until you do it."

Konosuke Matsushita, Business Tycoon

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