

# VIV ASIA 2017

MARCH 15 - 17, BANGKOK, THAILAND

INTERNATIONAL PLATFORM FROM FEED TO FOOD

Genetics; A Key success factor for successful swine production

**VIV Master Class Vietnam** 

Mr. Abe Huisman, Director R&D, Hypor





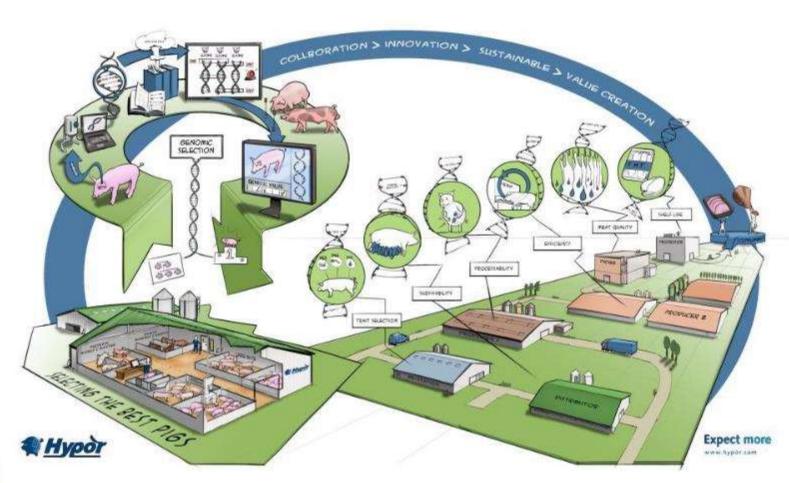
# Genetics; A Key success factor for successful swine production

Abe Huisman
Director R&D, Hypor







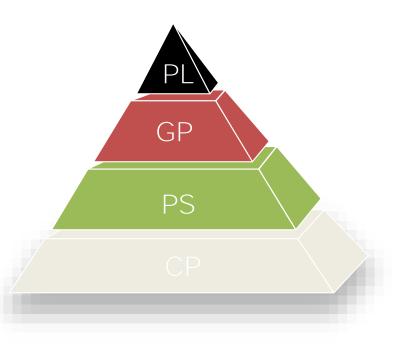


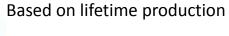


## Multiplication Factors



1	1	1
80	40	15
6.400	1600	263
550.000	128.000	18.375
180.000.000 eggs	1.750.000 kg. turkey	1.727.250 kg. pork









## Genetics Hold The Key



- Increasing offspring and output per animal
- Minimizing losses due to disease or environment
- Maximizing energy utilization in production
- Minimizing impact on environment
- Producing animals in a socially responsible way
- Adding value to food produced





## Developments in breeding goal



#### Phenotyping remains key:

- Advanced/detailed novel phenotypes
- Towards focus at market level (Parent Stock/Final Product)

#### - Tendencies:

- Focus on both optimizing total chain and parts of the chain
- From single trait technical focus to full chain 'Meat per feed'
- Attention for sustainability: Balanced breeding program, new trends in welfare regulations, antibiotics free, ecological footprint



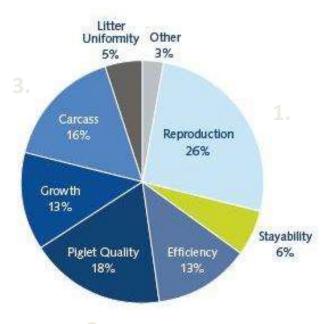


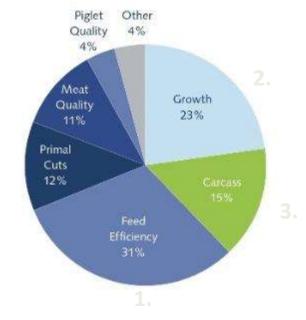


#### **Hypor Magnus Line Selection Index**

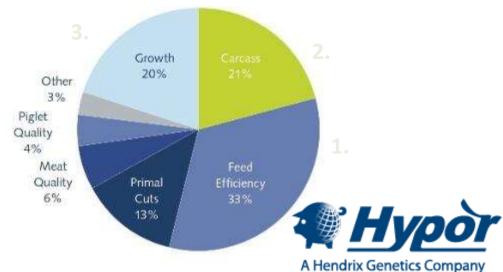


#### **Hypor Dam Line Selection Index**





#### **Hypor Maxter Line Selection Index**





### The Basics



Genetic improvement over time

Accuracy of selection

Fraction selected

r . i . o

Genetic variability

Δg =

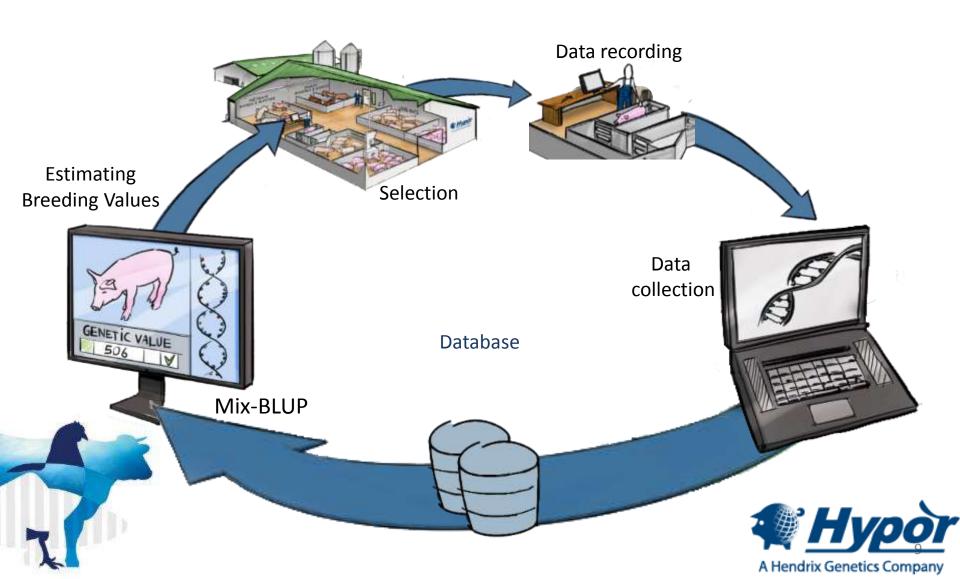
Generation interval





## Breeding Value Estimation (1)





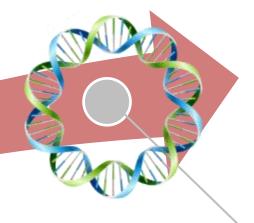
### Revolution in Genetics



<1960 Phenotypic selection 80's – 90's BLUP – Animal Model



60's- 70's Calculated Selection Index



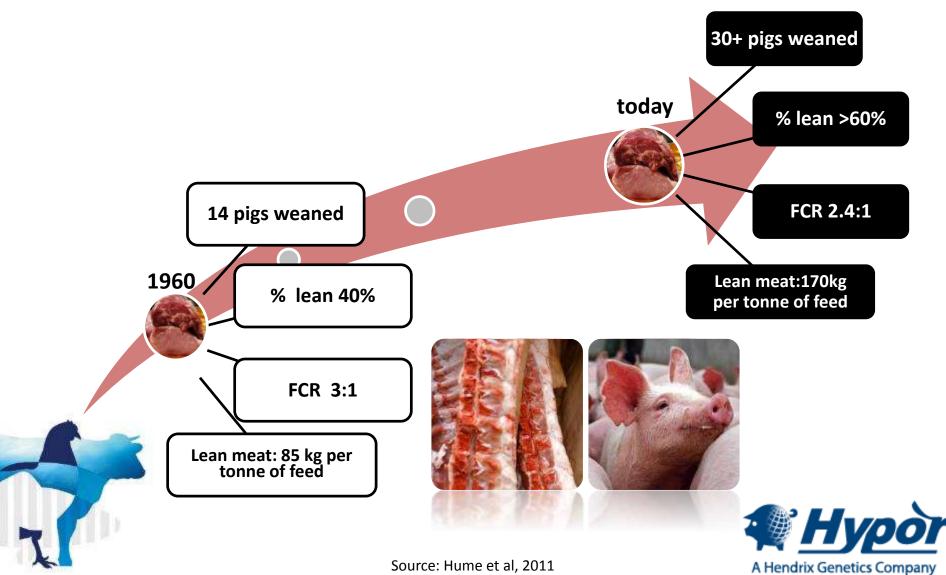
> 2000 Genomic Selection Disease resistance Behavior





## Genetic Progress in Pigs

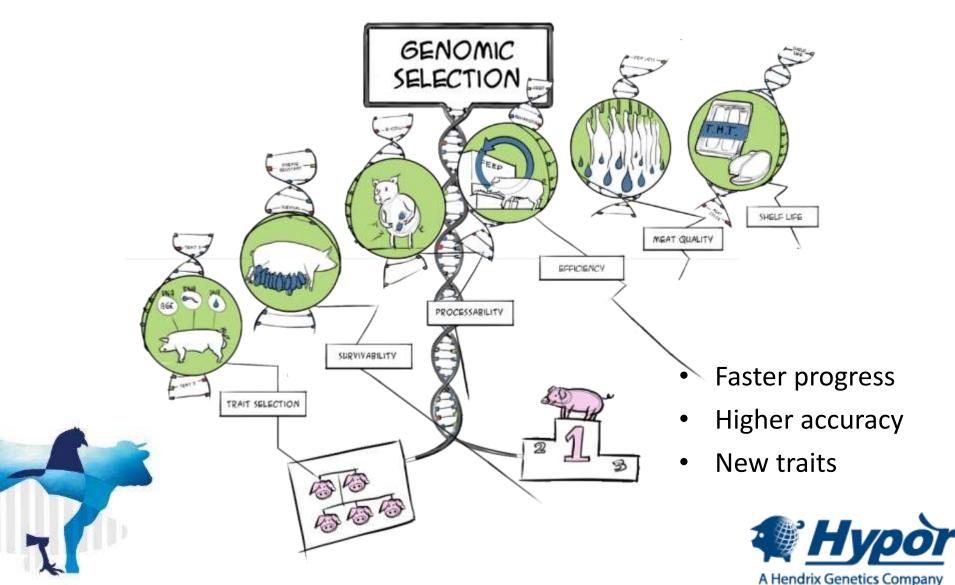




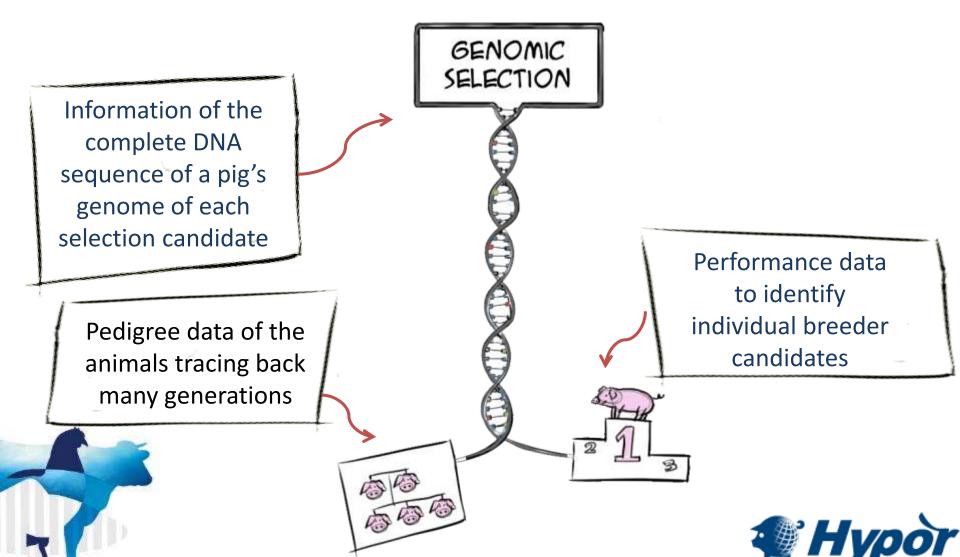
Source: Hume et al, 2011

## Advantages of Genomic Selection



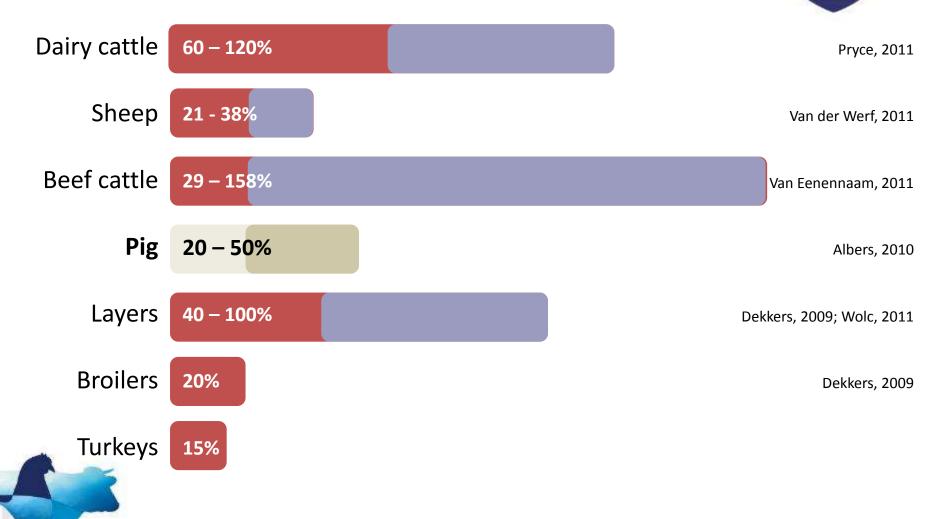


# Genomic Breeding based on:



A Hendrix Genetics Company

# Predicted additional genetic progress







#### **Individual piglet weights**



#### Identification







**Individual birth weights** 







**Individual 14 day weights** 









# Developments in measurement techniques carcass and feed efficiency



Approx. 100.000 animals ultrasound tested every year



Approx. 10.000 animals with individual feed tested records every year





Approx. 15.000 carcasses evaluated annually through Autofom



## Technical Results Hypor Libra



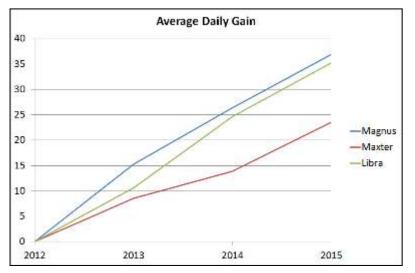
#### North West Europe

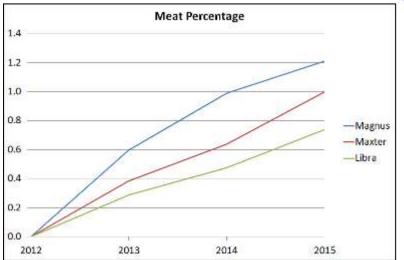
	Top 20%	
	2010	2014
Live born/litter	13.3	14.4
Weaned per litter	12.0	12.7
Weaned/present sow/year	30.1	31.9

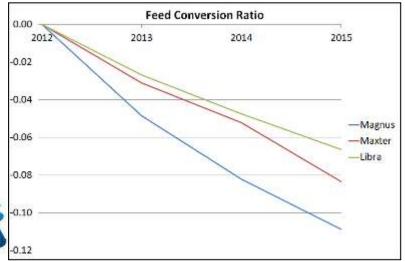


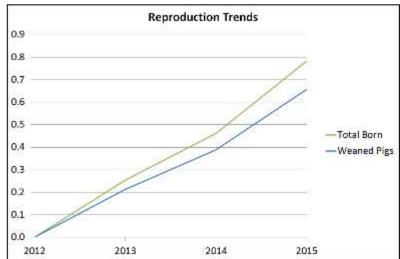


### Genetic trends









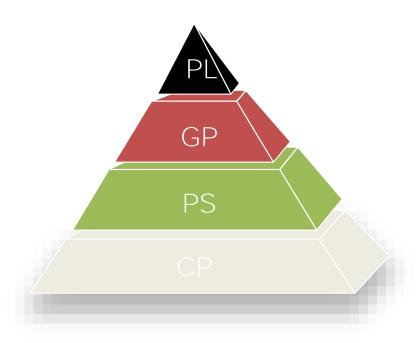


#### YES, Genetics is a Key success factor!!



A Hendrix Genetics Company

	10 YEARS AGO	TODAY
Pure line <b>9</b>	1	1
	14	15
	224	263
	14,112	18,375
	1,199,520 kg pork	1,727,250 kg pork



Based on lifetime production



- ➤\$3 per pig/year or \$ 0.033/kg pork
- An annual cost saving of at least \$ 90.000 on a 1200 sow unit
- ➤ A Return on Investment of 33% assuming an investment in genetics of \$ 1,-/pig or \$ 30.000 on the 1200 sow system. NOT MANY INVESTMENTS HAVE THIS KIND OF RETURN!!!



## Thank you



