

A swinevet's life in Germany

DVHS 2010



Dr. Stephan Galland





Place of practice



Vet-Team Lohne



Districts (16)
States

Dr. Stephan Galland





VET-Team Lohne



15 veterinarians
(5 owners)

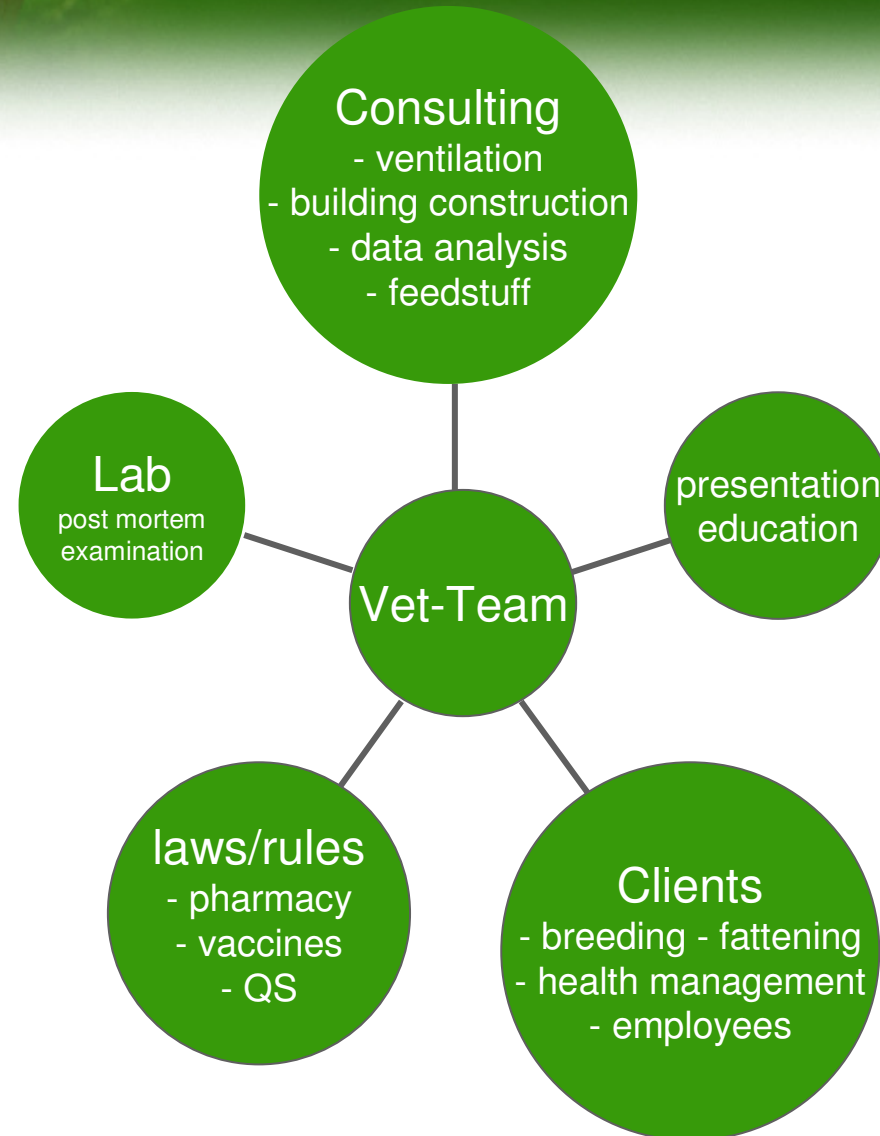
Specialized in pigs (breeding – fattening)

Dr. Stephan Galland





Fields of activity





Content:

- 1. development swine industry
- 2. paper work (regulations)
- 3. FLU / PRRS



Pig stocks in Germany between 1992 and 2009 (Mill.)

Year	Pigs	Hogs (> 50 kg)	Sows
1992	26,486	9,806	2,987
1994	24,674	9,487	2,612
1996	24,250	9,276	2,545
1999	26,101	10,199	2,681
2001	25,784	10,097	2,607
2003	26,334	10,482	2,584
2007	27,125	10,958	2,502
2009	26,887	11,457	2,340
Diff. 92-09	+ 1.5 %	+ 16.8 %	- 21.7 %



Pig farms and average number of animals per farm in Germany between 1992 and 2009

Year	Pigs		Hogs (> 50 kg)		Sows	
	Farms	per farm	Farms	per farm	Farms	per farm
1992	293,946	90	225,329	44	98,049	30
1994	239,470	103	187,475	51	77,068	34
1996	205,548	118	159,362	58	64,569	39
1999	141,448	185	103,677	98	54,130	50
2001	115,537	223	85,808	118	44,186	59
2003	103,404	255	77,671	135	38,777	67
2007	80,453	337	62,195	176	28,706	87
2009	67,600	398	55,000	208	22,800	103
Diff. 92-09	- 77 %	+ 342 %	- 76 %	+ 372 %	- 77 %	+ 243 %



Structural deficits of the German pig production:

average size of pig herds in selected states of
Germany (2007):

State	average number of ... per farm		
	pigs	sows	hogs
Bayern	167	45	71
Nordrhein-Westfalen	494	103	278
Niedersachsen	573	106	328
Brandenburg	775	255	382
Sachsen-Anhalt	1,076	412	423
Meckl.-Vorpommern	1,056	288	604
Germany	337	87	176



Large pig farms in selected states of Germany (2007, in %)

State	farms (400 - 999 pigs)	pigs (400 - 999 pigs)	farms (> 1,000 pigs)	pigs (> 1,000 pigs)
Bayern	10.7	40.3	3.3	27.5
Hessen	4.1	26.7	2.1	32.5
Baden-Württemberg	16.2	37.3	4.8	38.3
Nordrhein-Westfalen	26.9	36.2	17.1	49.7
Niedersachsen	25.9	29.8	19.0	58.0
Schleswig-Holstein	29.2	26.9	26.1	66.3
Brandenburg	3.2	2.9	16.1	94.9
Sachsen-Anhalt	4.2	2.8	17.8	95.0
Meckl.-Vorpommern	5.6	3.5	21.8	95.0
Germany	15.1	29.4	9.7	54.9
Denmark			52.4	91.8

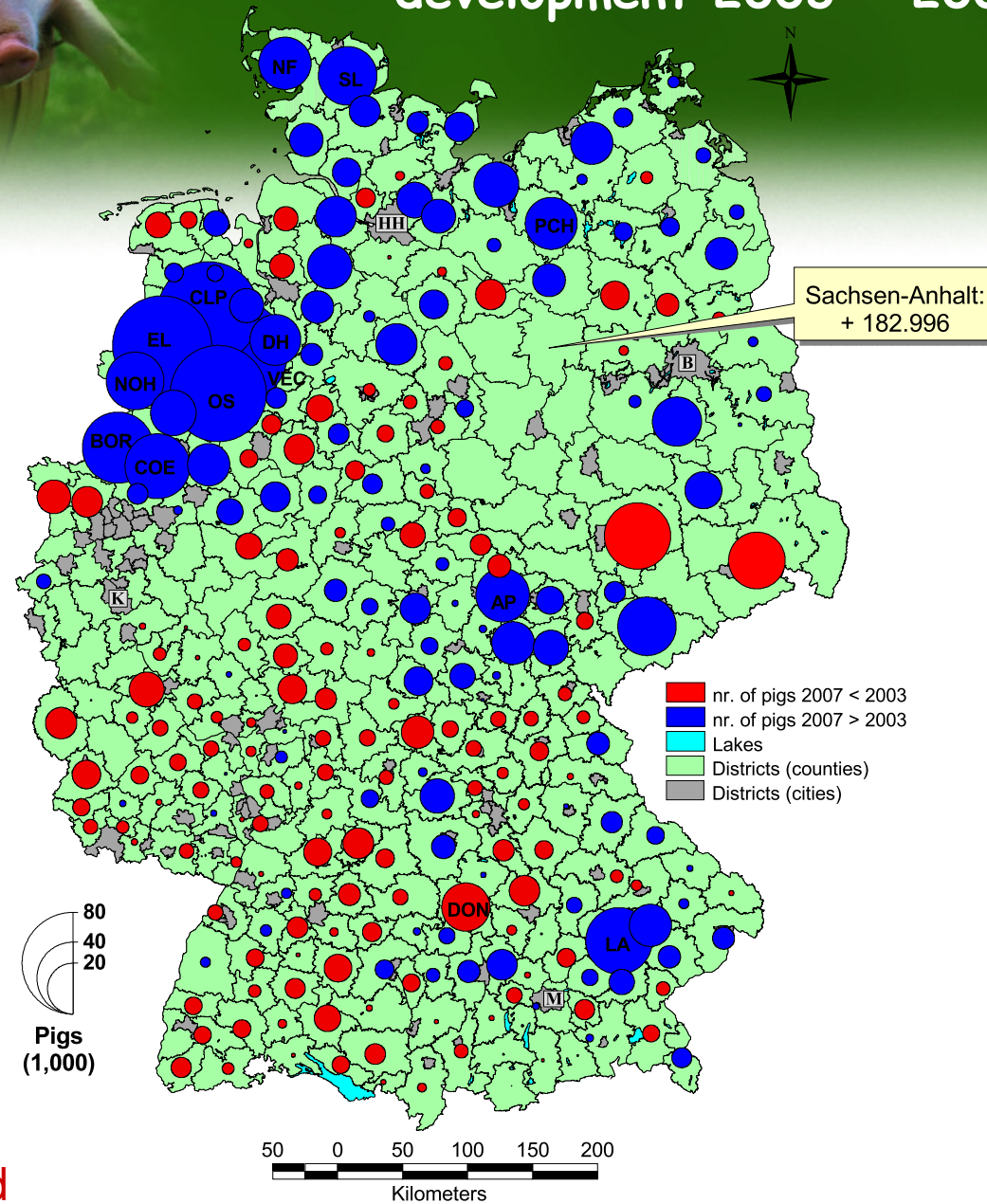


The ten leading districts in the German pig production (2007)

District	pigs (1,000)	average herd size	pigs in farms > 1000
Emsland (NDS)	1,289	631	54.1 %
Cloppenburg (NDS)	1,155	902	68.0 %
Vechta (NDS)	972	1,094	72.9 %
Osnabrück (NDS)	936	598	56.0 %
Steinfurt (NRW)	918	547	50.2 %
Coesfeld (NRW)	831	695	57.3 %
Borken (NRW)	830	543	-----
Warendorf (NRW)	816	618	55.6 %
Diepholz (NDS)	592	617	57.9 %
Schwäbisch Hall (BW)	478	383	43.2 %

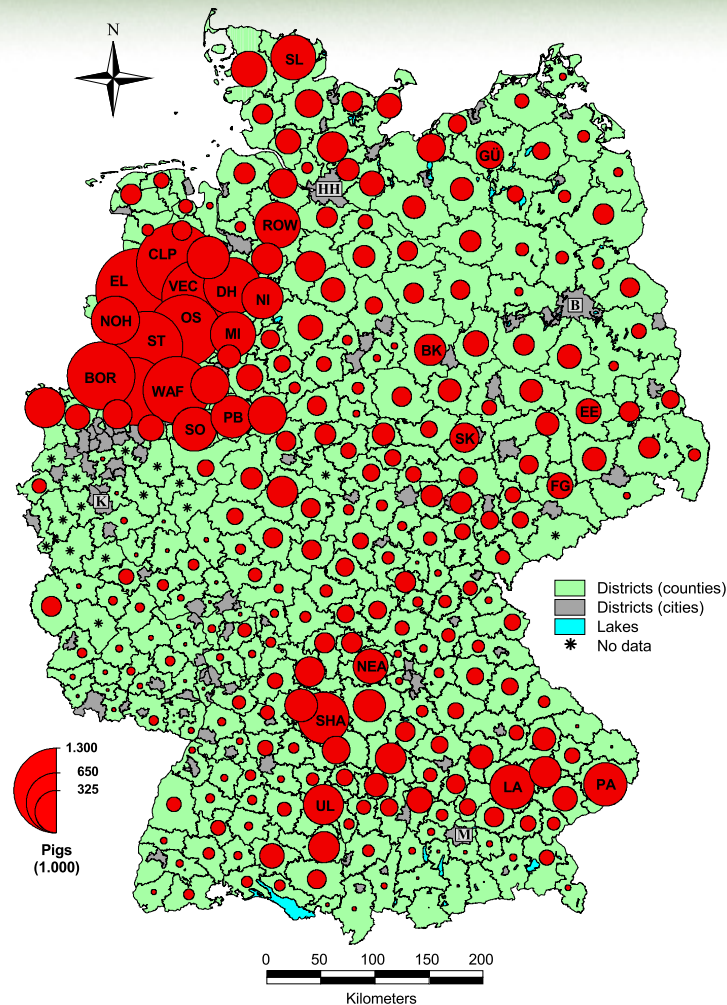


Pig stocks in the districts of Germany - development 2003 - 2007



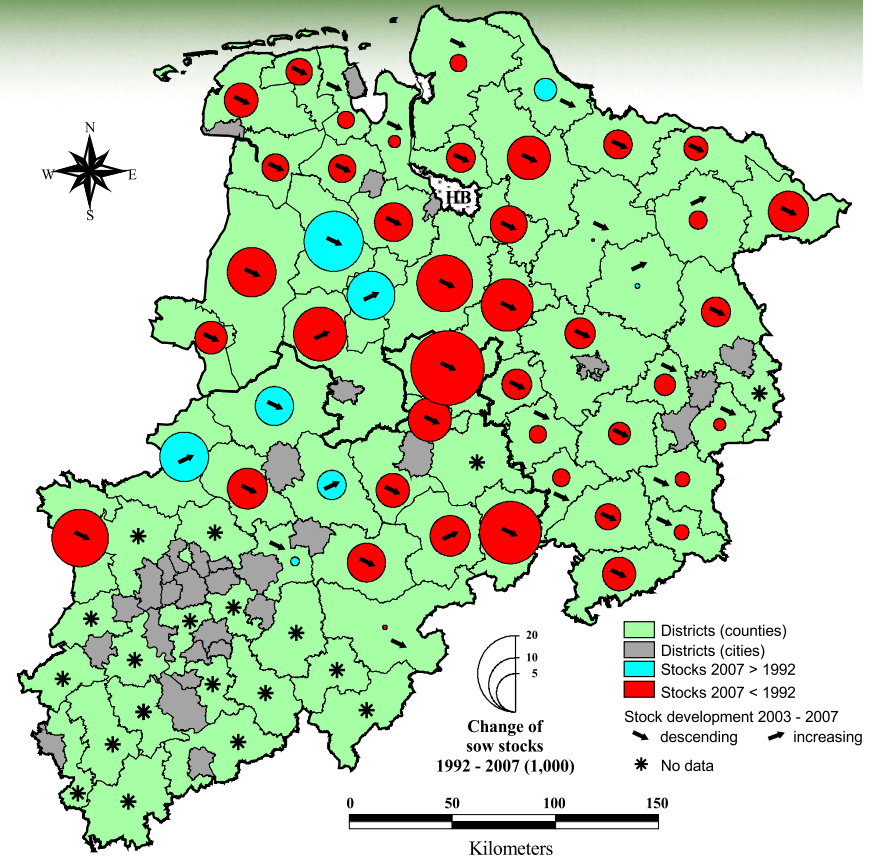
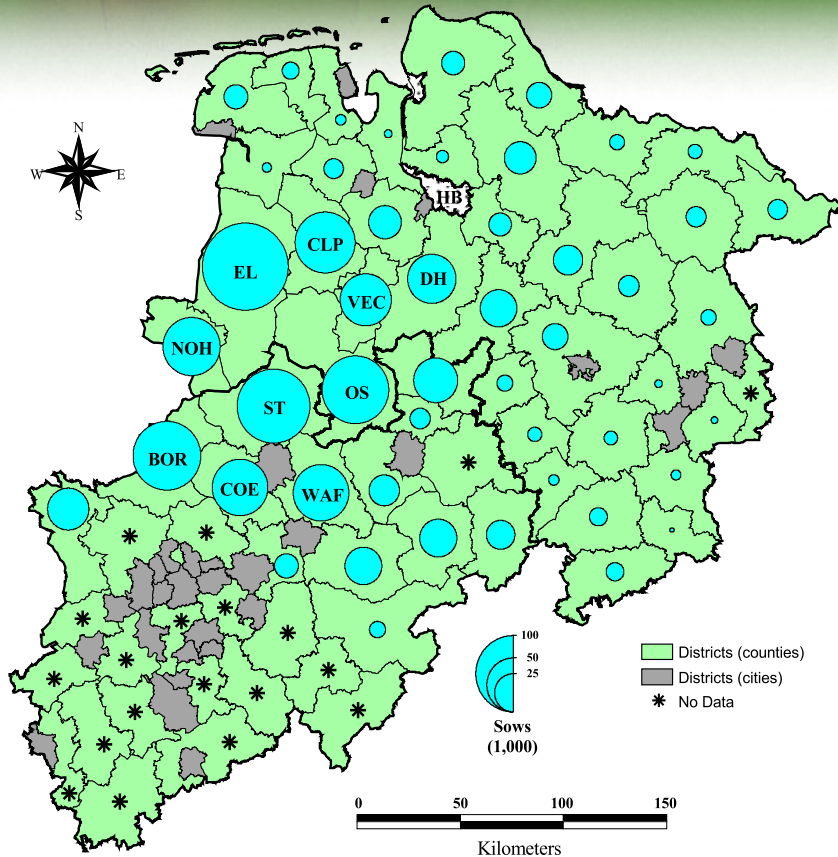


Livestock (pigs overall) in the districts of Germany (2007)





Sow stocks in NDS and NRW (2007) and their development since 1992



**Sow stocks 2007: Niedersachsen
Nordrhein-Westfalen
Germany**

**627,202
516,699
2,502,423**

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2. regulations for vets

- Pharmacy
(prescription-only medicine)
- Vaccines
(prescription and dokumentation)
- QS
(Quality and Safety)





prescription after a farm visit

Veterinarian:

- antibiotics, hormone, vitamins
- name of the product
- indication
- number and weight of pigs
- location of pigs
- dose
- art of treatment (oral, i.m. ect.)
- duration of treatment
- withdrawal period
- charge number of the product
- time of prescription:
 - antibiotics: one week
 - other: four weeks



Farmer:

- dokumentation treatment
- slaughter 7 more days after end of withdrawal period



pharma market in Germany (2009)

total: 666 Mill. Euro

- antiparasitika	114 mill €	- 1%
- NSAID	32 mill €	+ 7%
- biologika	180 mill €	+ 15%
swine	75 mill €	+ 31%
- antibiotics	185 mill €	- 4%
injektion	76 mill €	- 2%
water	37 mill €	+ 5%
feed	23 mill €	- 19%
		(2008)



Use of vaccines

- announcement at veterinary district office
- detailed vaccine plan for each vaccine
- prescription (max. 4 weeks)
 - name of product and number of charge
 - number of animals
 - control of vaccination-success
- deposite for 3 years
- use of not licened vaccines with exemption permit is possible (e.g.: FLU3, PCV2)



QS (quality and safety)

QS is the alliance for tested quality assurance at all stages of food production





Guidelines for agriculture

- **animal welfare**
 - space for each animal
 - materials to work at
 - lighting
 - place for sick animals
 - climatic conditions
- **veterinary care**
 - contract with a vet practice
 - protocols
 - documentation of treatment with drugs
 - programm of hygiene (desinfection)
 - description of treatment for deseases (new 2010)



3. main health problems

- exemplary cases
- 5 farms with comparable problems
- same vaccine programmes



clinical symptoms piglets



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clinical symptoms sows





main health problems

- nursery ~ 12 days after weaning:
 - dry cough, diarrhoea
 - fever ~ 40°C
 - no improvement of health
 - stunting of piglets (up to ~15%)
 - increasing losses (up to ~10%)
 - therapy without success



main health problems

- Sows:
 - abortions
 - cough
 - piglets start coughing
 - no significant losses during suckling
 - return to oestrus (rate increase)
- females and males same symptoms



Serologic results

	ELISA PRRS X3 IDEXX	ELISA CIRCO IGG	ELISA CIRCO IGM	ELISA APP	INFLUENZA H1N1 N1N2 H3N2	PCR INF.-A	PCR PCV2	PCR PRRS (EU/US)
1 week	Pos 0,32 Neg Neg Neg Pos 1,12 Neg	Pos Neg Pos Neg Pos Pos	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80	Negativ	Negativ	Negativ
5 week	Neg Neg Pos 3,56 Pos 2,84 Neg Pos 0,98	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80	Negativ	Negativ	Positiv EU
9 week	Pos 3,43 Neg Neg Pos 1,09 Pos 3,21 Pos 0,29	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80 ≤ 1:80	Negativ	Negativ	Negative



Serologic results

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1 week	Pos 0,52 Pos 0,76 Pos 1,55 Pos 1,76 Pos 0,58 Pos 0,95	Pos Pos Pos Pos Neg Pos	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	< 1:80 < 1:80 < 1:80 < 1:80 < 1:80 < 1:80	Negativ	Negativ	Negativ
5 week	Pos 2,12 Pos 2,18 Pos 3,46 Pos 2,68 Pos 2,10 Pos 1,65	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	< 1:80 < 1:80 < 1:80 < 1:80 < 1:80 < 1:80	Negativ	Negativ	Positiv US
9 week	Pos 3,32 Pos 2,57 Pos 3,17 Pos 2,55 Pos 3,47 Pos 3,98	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	Neg Neg Neg Neg Neg Neg	< 1:80 < 1:80 < 1:80 < 1:80 < 1:80 < 1:80	Negativ	Negativ	Positiv US/EU



pathologic leasons (piglets)

- heart:
 - severe fibrinous and epi- and pericarditis
- lung:
 - catarrhal bronchopneumonia
 - up to 40% of the lung tissue could be affected
 - severe hyperplasie of the lunglymphnotes
 - moderate interstitial pneumonia (histol.)
- other organs:
 - no abnormality detected



Further results

- lung:
 - M. hyorhinis
 - M. hyopneumoniae
 - PRRS-US/EU
 - P. multocida, Strep. suis, B. bronchioseptica; HPS
 - InfluenzaA (H1N1, H3N2; H1N2)
- abortion material:
 - PRRS-US/EU
- Sequence-comparison field - vaccine strain (blood/lung): between 88 and 99%



next steps - conclusion

- Change of vaccine program (piglets):
 - M. hyopneumoniae (almost: two-shot)
 - PRRS-US / PRRS-EU
 - PCV2
- Change vaccine program (Sows):
 - PRRS-US / PRRS-EU
- Correlation between PRRS and Influenza
- find the origin (the biggest player)
- (Post weaning catabolic syndrom?)

The end:

That was the swinevet's life in Germany !

Thank you very much for paying attention !



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