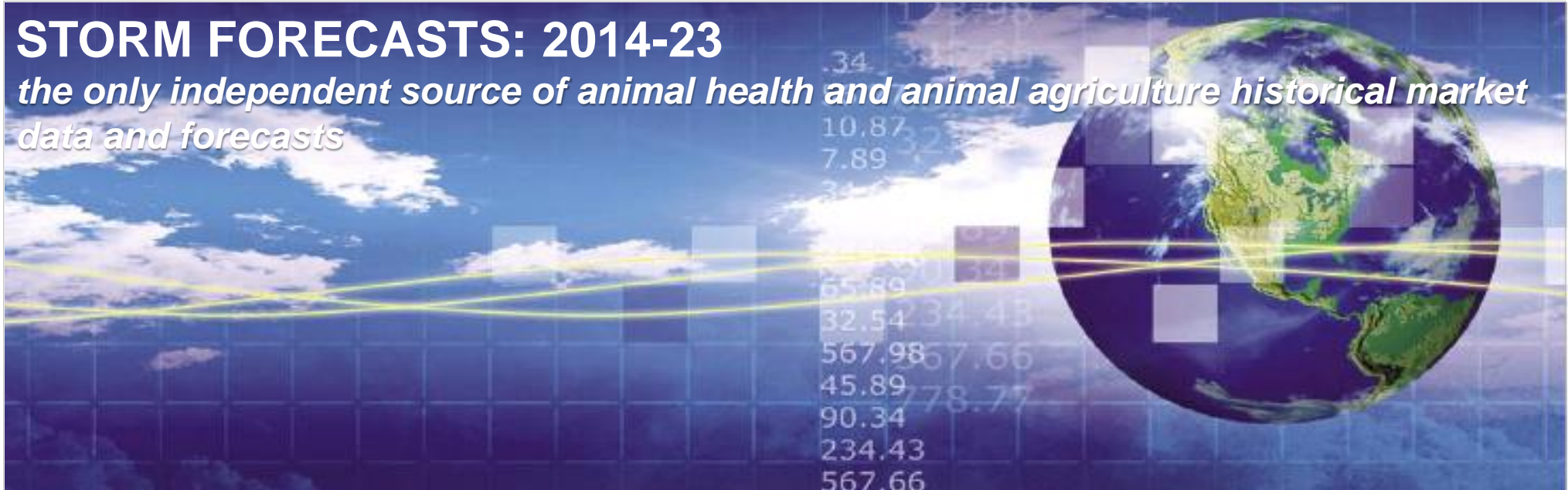


# STORM FORECASTS: 2014-23

*the only independent source of animal health and animal agriculture historical market data and forecasts*



*June 2014*

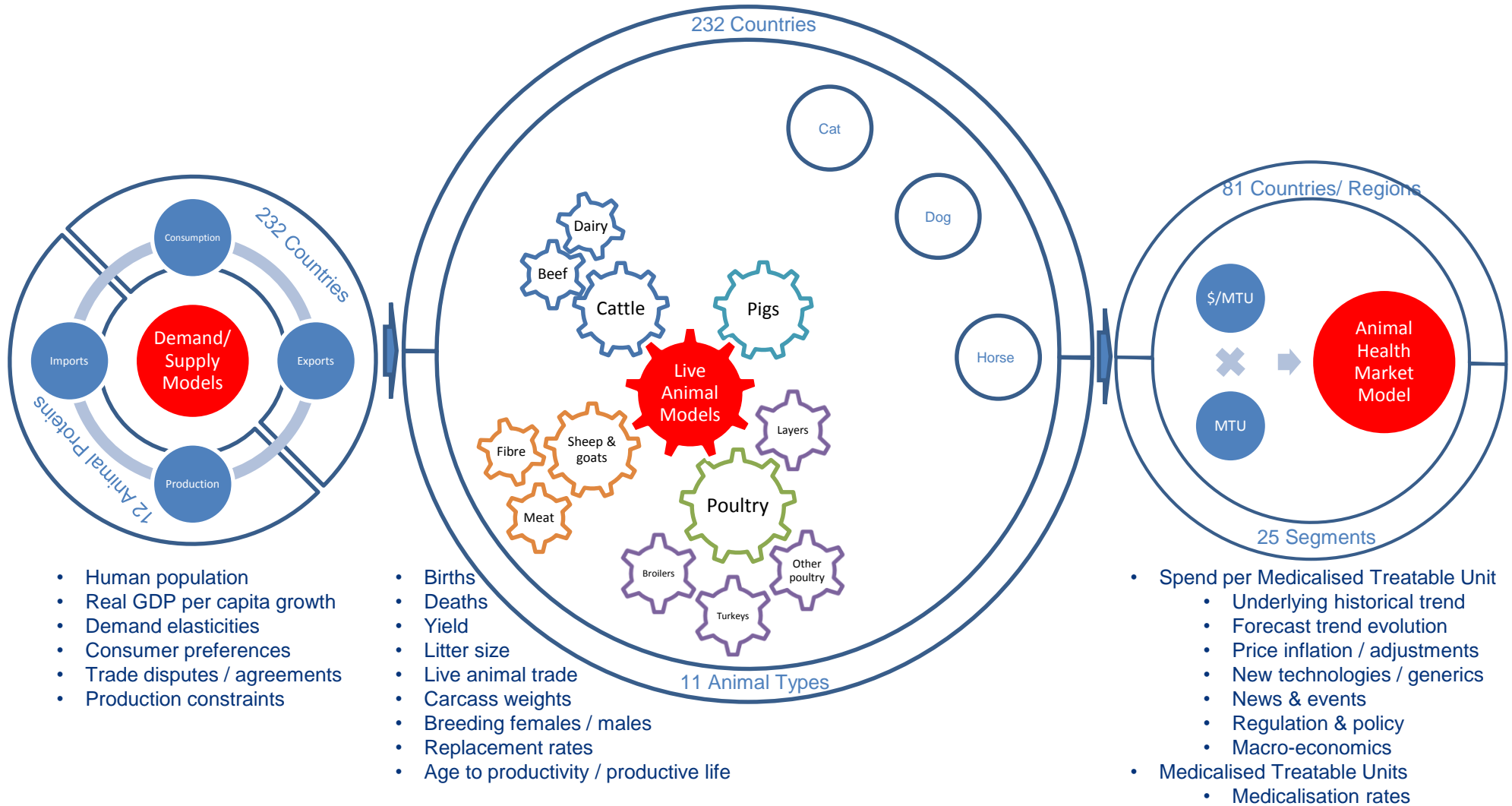
# What is STORM FORECASTS?

- STORM FORECASTS is the only independent source of **animal health** and **animal agriculture HISTORICAL data** and **FORECASTS** for the 20 year period **2003-2023**
- STORM FORECASTS includes **2.7 million** data points of pivotal **animal health market data** and **animal agriculture metrics**, including consumption, production and trade of 12 animal proteins and population metrics for 11 animal types, including cats, dogs and horses
- STORM FORECASTS covers **81** country markets, sub-regions, regions and the world
- STORM FORECASTS covers **all** Species sectors
  - Cattle [beef & dairy], Sheep & goats, Pigs, Poultry [layer chickens, broiler chickens, turkeys, other poultry] and Companion Animals [dogs, cats, horses]
- STORM FORECASTS covers **all** Product Groups
  - Medicinal Feed Additives, Biologicals, Anti-infectives, Parasiticides and Other Pharmaceuticals
- STORM FORECASTS includes **animal health HISTORICAL market data and FORECASTS**
  - in Local currency and US dollar terms by Product Group-Species sector e.g. France Cattle Biologicals
  - in Nominal, Fx Neutral\* and Real\* terms by Product Group-Species sector
- STORM FORECASTS “must-have” data is delivered in an easy to use Excel® format

# Why use **STORM FORECASTS?**

- STORM FORECASTS is the only independent source of **animal health** and **animal agriculture HISTORICAL data** and **FORECASTS** for the 20 year period **2003-2023**
- STORM FORECASTS delivers objective and independent data that can support better strategic decisions and internal planning
- STORM FORECASTS allows clients to focus resources on strategic analysis and decision making and not data collection
- STORM FORECASTS contains proprietary animal health and animal agriculture FORECASTS
- STORM FORECASTS contains HISTORICAL (2003-2013) animal agriculture and macro-economic data in an “off-the-shelf” product delivering significant increases in operational efficiency and effectiveness during strategic and operational planning processes
- STORM FORECASTS contains HISTORICAL animal health market data (2003-13) and proprietary animal health market FORECASTS (2014-2023) in Nominal, Fx Neutral and Real terms

# STORM FORECASTS Methodology: Proprietary Market Models



- Human population
- Real GDP per capita growth
- Demand elasticities
- Consumer preferences
- Trade disputes / agreements
- Production constraints

- Births
- Deaths
- Yield
- Litter size
- Live animal trade
- Carcass weights
- Breeding females / males
- Replacement rates
- Age to productivity / productive life

- Spend per Medicalised Treatable Unit
  - Underlying historical trend
  - Forecast trend evolution
  - Price inflation / adjustments
  - New technologies / generics
  - News & events
  - Regulation & policy
  - Macro-economics
- Medicalised Treatable Units
  - Medicalisation rates

# Data Sources

*Vetnosis uses best-in-class third party historical data for macro-economics/Fx rates, animal agriculture and animal health. Vetnosis creates proprietary forecasts for animal agriculture metrics and animal health market data.*

	Historical		Forecasts	
	3 <sup>rd</sup> Party	Vetnosis	3 <sup>rd</sup> Party	Vetnosis
Macro-economics/Fx Rates	✓ (IMF, EIU)	✗	✓	✗
Animal Agriculture	✓ (USDA, Eurostat, FAO)	✓ (where unavailable)	✗	✓
Animal Health	✓ (Trade Associations)	✓ (where unavailable)	✗	✓

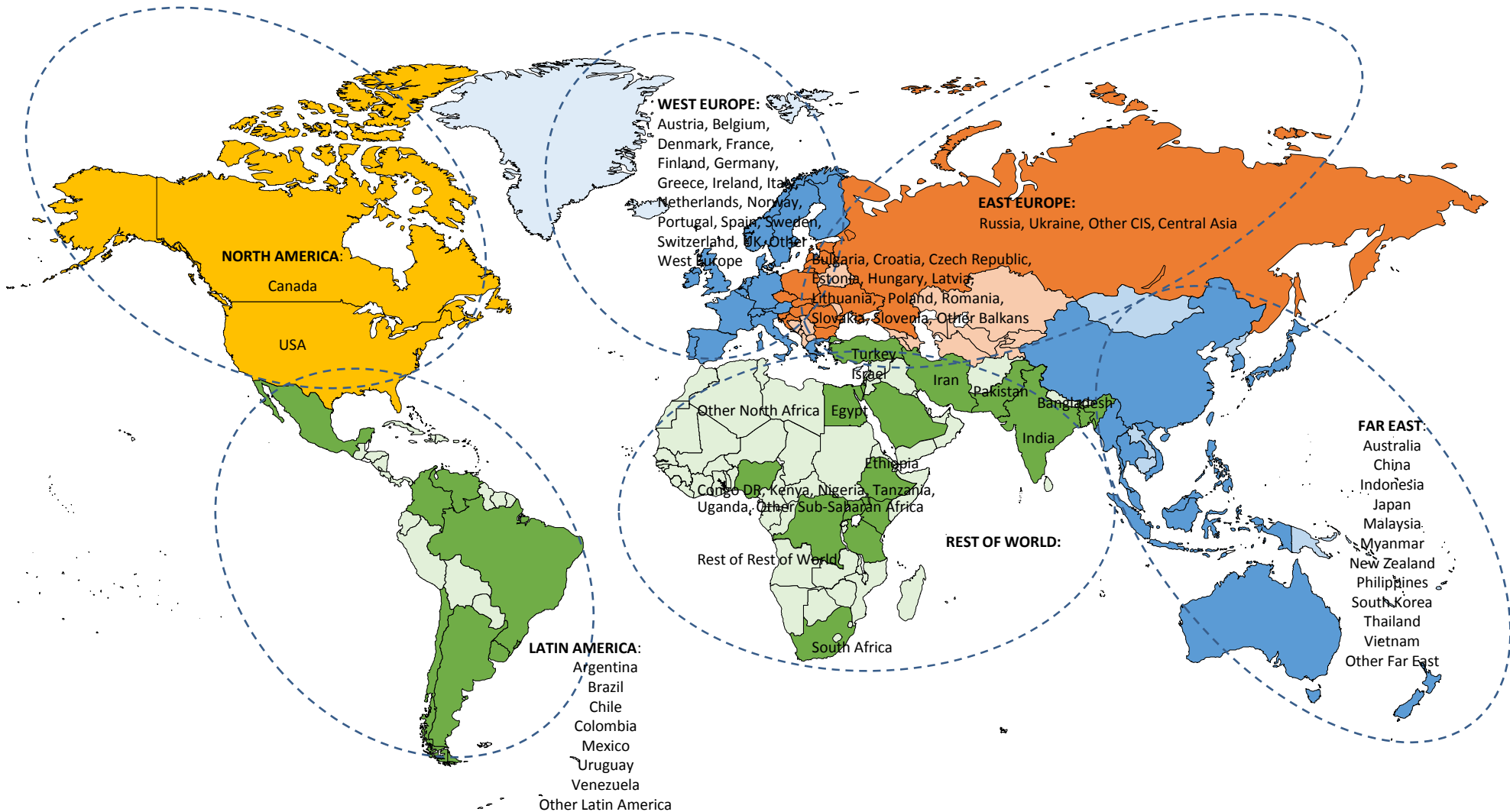
✓ = Vetnosis proprietary data

# STORM FORECASTS Scope

Animal Proteins & Animal Types		Animal Health	
Animal Proteins (12)	Animal Types (11)	Species (5)	Product Groups (5)
Bovine meat	Cattle & buffalo	Cattle	Medicinal Feed Additives
Sheep & goat meat	Sheep & goats	Sheep & Goats	Biologicals
Pig meat	Pigs	Pigs	Anti-infectives
Eggs	Layer chickens	Poultry	Parasiticides
Broiler meat	Broiler chickens	Companion Animal/Other	Other Pharmaceuticals
Turkey meat	Turkeys		
Other poultry meat	Other poultry e.g. ducks		
Fluid milk	Dairy cattle & buffalo		
Butter	n/a		
Cheese	n/a		
Other dairy	n/a		
Other meat	n/a e.g. camels, game		
n/a	Cats		
n/a	Dogs		
n/a	Horses		

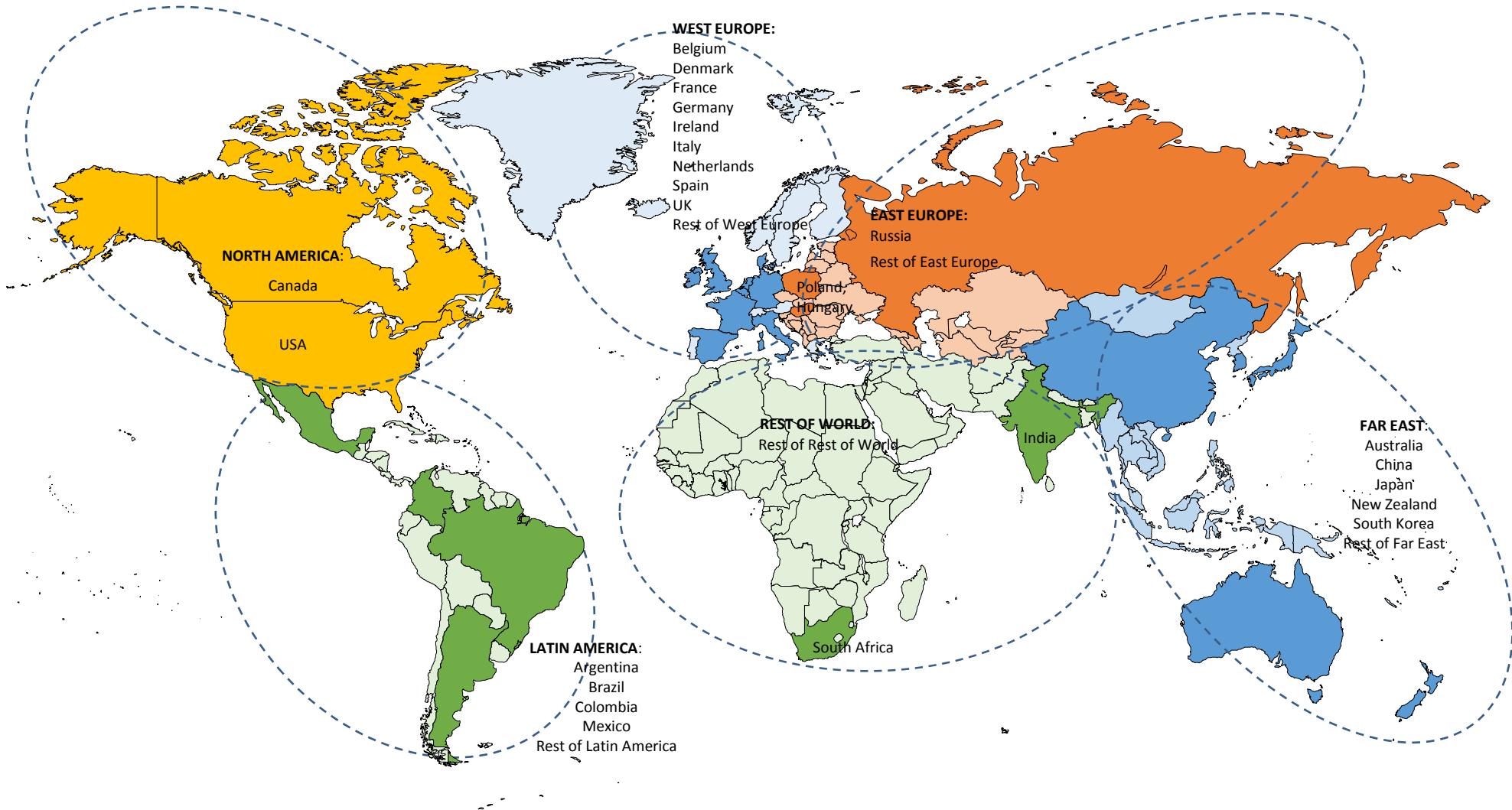
# Global scope: Animal Agriculture Historical Data & Forecasts

64 named country markets, 10 sub-regions, 6 regions and world



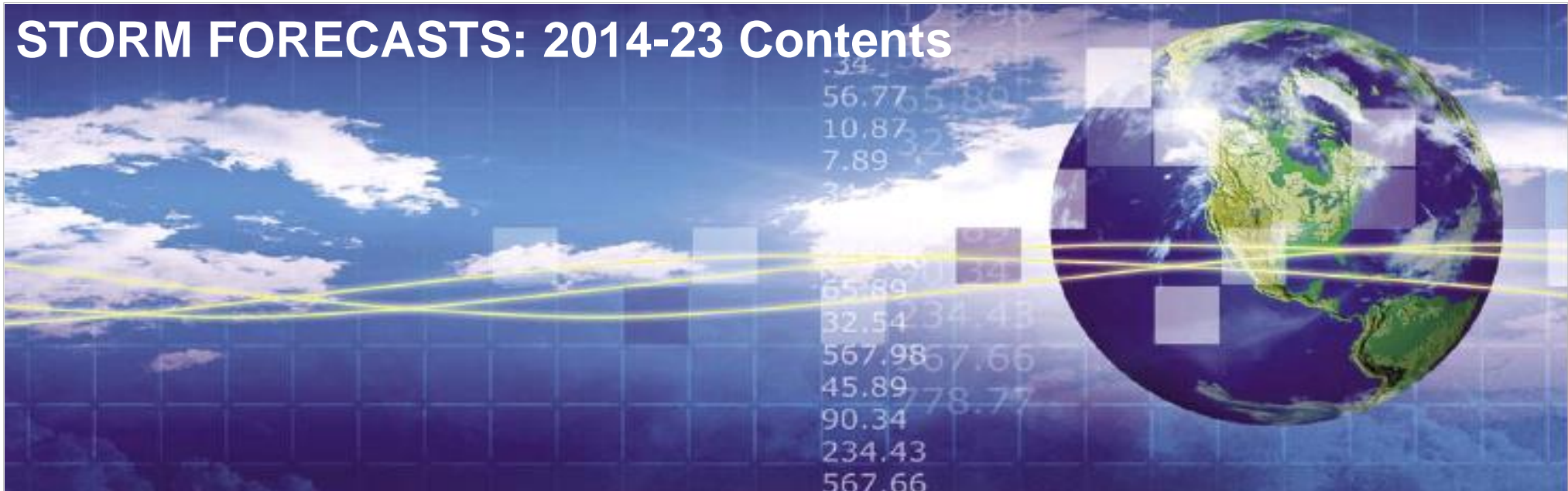
# Global scope: Animal Health Historical Data & Forecasts

25 named country markets, 5 sub-regions, 6 regions and world in local currency and US dollars





# STORM FORECASTS: 2014-23 Contents



- Macro-economics
- Consumption
- Production
- Commodity Balance Sheet
- Animal Balance Sheet
- Inventory Structure
- Treatable Units
- Animal Health Market

# Macro-economics

## Key macro-economics data and charts (2003-2023) for 81 countries/regions



### Macro-economics Data



33,048 data points

Release Date: 27<sup>th</sup> June 2014

Region	Country/Region	Metric	Unit	Source(s)	Last Actual	Forecast Data										
						2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Human population	Millions	IMF	2019	84.150	85.833	87.550	89.301	91.087	92.908	94.767	96.662	98.596	100.568	102.579
		Nominal GDP	Billions USD	IMF	2019	271.427	286.112	328.184	367.081	409.225	459.758	530.990	...	...	...	...
		Real GDP Growth (Local Currency)	%	IMF	2019	2.1	2.3	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		Real GDP per head Growth (Local Currency)	%	IMF	2019	0.1	0.3	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0
		GDP (based on PPP) per head	'000 USD per head	IMF	2019	6.579	6.696	6.954	7.231	7.517	7.820	8.139	...	...	...	...
		Inflation	%	IMF	2019	6.9	10.7	11.2	11.7	12.0	12.2	12.2	12.2	12.2	12.2	12.2
		USD exchange rate	Local currency per USD	Pac. Exch/EU	2023	6.875	...	...	...	...	...	...	...	...	...	
		Unemployment	%	IMF	2019	13.0	13.0	13.1	13.2	13.4	13.6	13.7	13.7	13.7	13.7	13.7

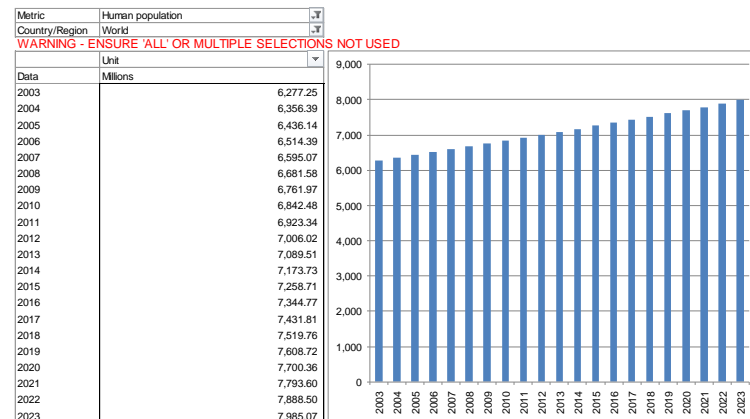
- Human population
- Nominal GDP (US\$ bn)
- Real GDP Growth (Local Currency)
- Real GDP per head Growth (Local Currency)
- GDP (based on PPP) per head
- Inflation
- USD exchange rate
- Unemployment



### Macro-economics Charts



Release Date: 27<sup>th</sup> June 2014



# Consumption

**Consumption metrics (2003-2023) for 12 animal proteins in 81 countries/regions modelled for fundamental demand drivers**



Consumption Data



231,336 data points

Release Date: 27<sup>th</sup> June 2014

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Pig meat	Total consumption	'000s MT	Eurostat	2013	369	371	374	377	380	381	383	384	385	385	385
		Pig meat	Human consumption	'000s MT	Eurostat	2013	369	371	374	377	380	381	383	384	385	385	385
		Pig meat	Human consumption per head	kg / head	Eurostat	2013	37.301	37.648	38.021	38.432	38.735	39.003	39.233	39.426	39.580	39.695	39.811
		Pig meat	Self-sufficiency	%	...	...	90.5	90.8	90.9	91.1	91.4	91.8	92.1	92.5	92.9	93.4	93.8

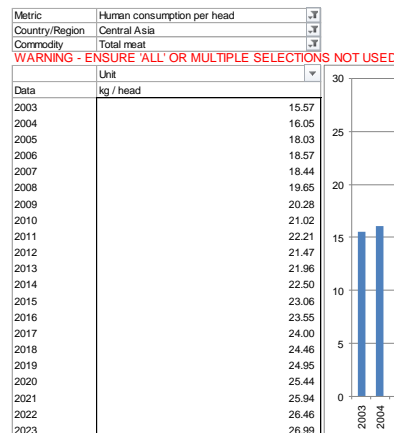
- Total consumption
  - Human consumption + Other uses
- Human consumption
  - Human consumption per head
  - Human population
- Human consumption per head
  - Real GDP per head
  - Demand elasticities
  - Consumer preference trends
- Self-sufficiency



Consumption Charts



Release Date: 27<sup>th</sup> June 2014



# Production

*Production metrics (2003-2023) for 12 animal proteins in 81 countries/regions modelled for fundamental supply drivers and trade*



Production Data



206,550 data points

Release Date: 27<sup>th</sup> June 2014

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	2013	Forecast Data										
								2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
		Broiler meat	Production	'000s MT	Eurostat	2013	1,362	1,396	1,423	1,451	1,482	1,513	1,546	1,580	1,615	1,652	1,690	
		Broiler meat	Total slaughtered	'000s head	Eurostat	2013	784,906	804,662	820,258	836,573	853,920	872,075	890,871	910,565	930,974	952,076	973,897	
		Broiler meat	Carcass w eight	kg / head	Eurostat	2013	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
		Broiler meat	Production % for export	%	Eurostat	2013	41.5	41.8	41.8	41.8	41.8	41.8	41.8	41.9	41.9	42.0	42.1	

- Production
- Total slaughtered
- Carcass weight
- Production % for export

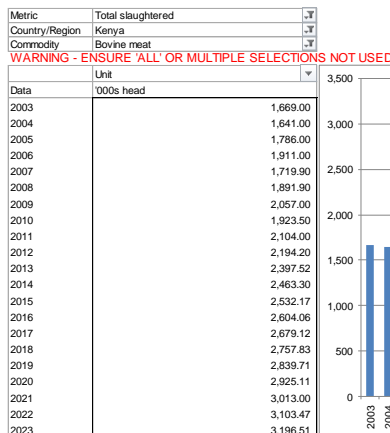
STORM FORECASTS: 2014-23



Production Charts



Release Date: 27<sup>th</sup> June 2014



# Commodity Balance Sheet

*Consumption, Production, Imports and Exports balance sheets for 12 animal proteins in 81 countries/regions*



Commodity Balance Sheet Data



694,008 data points

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Cheese	Production	'000s MT	Eurostat	2013	190	192	194	196	198	201	203	205	207	209	212
		Cheese	Total consumption	'000s MT	Eurostat	2013	171	172	173	174	175	176	177	178	179	180	181
		Cheese	Human consumption	'000s MT	Eurostat	2013	171	172	173	174	175	176	177	178	179	180	181
		Cheese	Other uses and processing	'000s MT	Eurostat	2013	0	0	0	0	0	0	0	0	0	0	0
		Cheese	Initial stocks	'000s MT	Eurostat	2013	0	0	0	0	0	0	0	0	0	0	0
		Cheese	End stocks	'000s MT	Eurostat	2013	14	0	0	0	0	0	0	0	0	0	0
		Cheese	Exports	'000s MT	Eurostat	2013	108	110	111	113	114	116	118	120	121	123	125
		Cheese	Imports	'000s MT	Eurostat	2013	89	90	90	91	91	92	92	93	93	94	94
		Cheese	Total demand	'000s MT	Eurostat	2013	279	282	284	287	290	292	295	298	300	303	306
		Cheese	Total supply	'000s MT	Eurostat	2013	279	282	284	287	290	292	295	298	300	303	306
		Cheese	Change in Stocks	'000s MT	Eurostat	2013	0	0	0	0	0	0	0	0	0	0	0
		Cheese	Balance	'000s MT	Eurostat	2013	0	0	0	0	0	0	0	0	0	0	0

- Production
- Total consumption
  - Human consumption
  - Other uses and processing
- Initial stocks
- End stocks
- Exports
- Imports

# Animal Balance Sheet

Animal balance sheets for 9 animal types in 81 countries/regions

STORM FORECASTS: 2014-23

*vetnosis*

Animal Balance Sheet Data



495,720 data points

Release Date: 27<sup>th</sup> June 2014

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Cattle	Inventory	'000s head	Eurostat	2013	772	771	768	762	759	755	751	747	742	738	734
		Cattle	Deaths	'000s head	...	...	118	118	118	118	117	117	117	116	116	115	115
		Cattle	Total slaughtered	'000s head	...	...	88	87	87	87	86	86	86	86	85	85	85
		Cattle	Breeding animals culled	'000s head	Vetnosis	...	74	74	74	74	74	74	73	73	73	73	73
		Cattle	Non-breeding animals slaughtered	'000s head	Eurostat	2013	13	13	13	13	13	13	12	12	12	12	12
		Cattle	Total mortality	'000s head	Vetnosis	...	31	31	31	31	31	31	31	31	30	30	30
		Cattle	Breeding animals mortality	'000s head	Vetnosis	...	17	17	17	17	17	17	17	17	17	17	17
		Cattle	Non-breeding animals mortality	'000s head	Vetnosis	...	14	14	14	14	14	13	13	13	13	13	13
		Cattle	Births	'000s head	Vetnosis	...	272	272	272	271	270	270	269	268	268	267	266
		Cattle	Exports - live animals	'000s head	Eurostat	2013	220	219	217	214	212	209	207	205	202	199	197
		Cattle	Imports - live animals	'000s head	Eurostat	2013	60	60	59	58	58	57	57	56	55	54	54

- Inventory
- Deaths
  - Total slaughtered
  - Total mortality
- Births
- Exports – live animals
- Imports – live animals

# Inventory Structure

*Herd/flock structure segmented into Breeding animals and Other inventory for 8 production animal types and also dog, cat and horse populations in 81 countries/regions*



## Inventory Structure



289,170 data points

Release Date: 27<sup>th</sup> June 2014

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Pigs	Inventory	'000s head	Eurostat	2013	2,896	2,918	2,935	2,959	2,982	3,005	3,029	3,052	3,075	3,098	3,122
		Pigs	Total breeding animals	'000s head	...	...	348	344	339	335	332	328	324	320	316	313	309
		Pigs	Adult breeding females	'000s head	Eurostat	2013	250	247	244	241	238	236	233	230	227	225	222
		Pigs	Juvenile breeding females	'000s head	Vetnosis	...	92	91	90	89	88	87	86	85	84	83	82
		Pigs	Adult breeding males	'000s head	Vetnosis	...	5	4	4	4	4	4	4	4	4	4	4
		Pigs	Juvenile breeding males	'000s head	Vetnosis	...	2	2	2	1	1	1	1	1	1	1	1
		Pigs	Other inventory	'000s head	Vetnosis	...	2,548	2,574	2,596	2,623	2,650	2,678	2,705	2,732	2,759	2,786	2,813

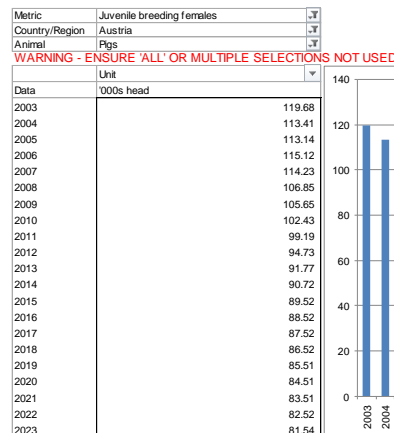
- Inventory
- Total breeding animals
  - Adult breeding females
  - Juvenile breeding females
  - Adult breeding males
  - Juvenile breeding males
- Other inventory



## Inventory Structure Charts



Release Date: 27<sup>th</sup> June 2014



# Treatable Units



Release Date: 27<sup>th</sup> June 2014

## Treatable Units Data



367,659 data points

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Cattle	Total breeding animals [avg.]	'000s head	Vetnosis	...	17,143	18,207	18,714	19,245	19,799	20,379	20,985	21,616	22,269	22,942	23,635
		Cattle	Breeding females [avg.]	'000s head	Vetnosis	...	16,856	17,902	18,401	18,923	19,467	20,037	20,633	21,253	21,896	22,558	23,239
		Cattle	Breeding males [avg.]	'000s head	Vetnosis	...	287	305	314	323	332	342	352	362	373	385	396
		Cattle	Total slaughtered	'000s head	Vetnosis	...	2,398	2,463	2,532	2,604	2,679	2,758	2,840	2,925	3,013	3,103	3,197
		Cattle	Non-breeding animals [avg.]	'000s head	Vetnosis	...	3,068	3,383	3,485	3,591	3,701	3,817	3,938	4,065	4,196	4,331	4,471
		Cattle	Treatable units	'000s head	Vetnosis	...	20,211	21,590	22,199	22,836	23,501	24,196	24,923	25,680	26,465	27,273	28,106
		Cattle	Medicalisation rate	%	Vetnosis	...	29.8	30.6	31.4	32.2	33.0	33.8	34.7	35.6	36.5	37.0	37.2
		Cattle	Medicalised treatable units	'000s head	Vetnosis	...	6,027	6,601	6,961	7,344	7,752	8,186	8,651	9,144	9,664	10,091	10,455

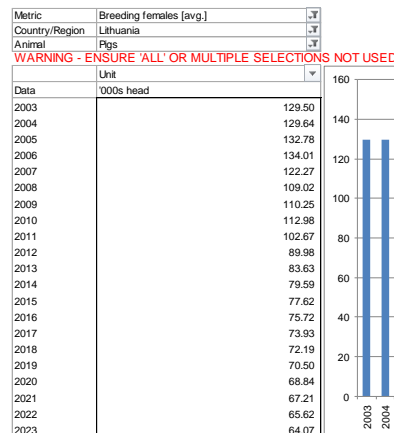
- Total breeding animals
  - Breeding females
  - Breeding males
- Total slaughtered
- Non-breeding animals
- Treatable units
- Medicalisation rate
- Medicalised treatable units

STORM FORECASTS: 2014-23



Release Date: 27<sup>th</sup> June 2014

## Treatable Units Charts





# Animal Health Market: Nominal, Fx Neutral and Real terms

STORM FORECASTS: 2014-23


**Animal Health Market -  
Nominal Terms**
Release Date: 27<sup>th</sup> June 2014

344,160 data points

Region	Country/Region	Species	Product Group	Metric	Unit	Forecast Data										
						2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Cattle	Medicinal Feed Additives	Sales per MTU USD - NOMINAL	USD	0.94	0.95	1.01	1.07	1.13	1.19	1.26	1.33	1.40	1.48	1.56
		Cattle	Biologicals	Sales per MTU USD - NOMINAL	USD	2.87	2.97	3.19	3.41	3.64	3.88	4.14	4.41	4.70	5.01	5.34
		Cattle	Anti-infectives	Sales per MTU USD - NOMINAL	USD	0.31	0.32	0.33	0.35	0.36	0.38	0.40	0.42	0.44	0.46	0.48
		Cattle	Parasiticides	Sales per MTU USD - NOMINAL	USD	0.22	0.22	0.24	0.25	0.26	0.27	0.28	0.30	0.31	0.32	0.34
		Cattle	Other Pharmaceuticals	Sales per MTU USD - NOMINAL	USD	0.32	0.32	0.34	0.36	0.37	0.39	0.41	0.43	0.46	0.48	0.50
		Cattle	ALL PRODUCT GROUPS	Sales per MTU USD - NOMINAL	USD	4.66	4.79	5.10	5.43	5.77	6.12	6.49	6.89	7.31	7.75	8.23

- Animal Health market (ex-manufacturer net sales) for 25 country markets, 5 sub-regions, 6 regions and world from 2003-2023 by 25 Species-Product Group market segments e.g. Cattle-Biologicals
- HISTORICAL market data in Nominal Local currency and US dollar terms
- FORECASTS in Nominal and Real terms in both Local currency and US dollar terms
- FORECASTS in Fx Neutral terms in US dollars

# Deliverable

*access through an easy to use Excel format containing 2.7 million data points*

STORM FORECASTS: 2014-23



Release Date: 27<sup>th</sup> June 2014

### Control Panel

<b>Macro-economics</b>	<b>Macro-economics</b>	DATA	CHART
<b>Animal Agriculture</b>	<b>Consumption</b>	DATA	CHART
	<b>Production</b>	DATA	CHART
	<b>Commodity Balance Sheet</b>	DATA	TABLE
	<b>Animal Balance Sheet</b>	DATA	TABLE
	<b>Inventory Structure</b>	DATA	CHART
	<b>Treatable Units</b>	DATA	CHART
<b>Animal Health</b>	<b>Nominal</b>	DATA	CHART
	<b>Fx Neutral</b>	DATA	CHART
	<b>Real</b>	DATA	CHART

Country Key

Glossary

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