

STORM FORECASTS: 2019-28

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

June 2019

12.98
34.34
10.87
7.89
34.57
65.89
32.54
567.98
45.89
90.34
234.43
567.66



What is STORM FORECASTS?

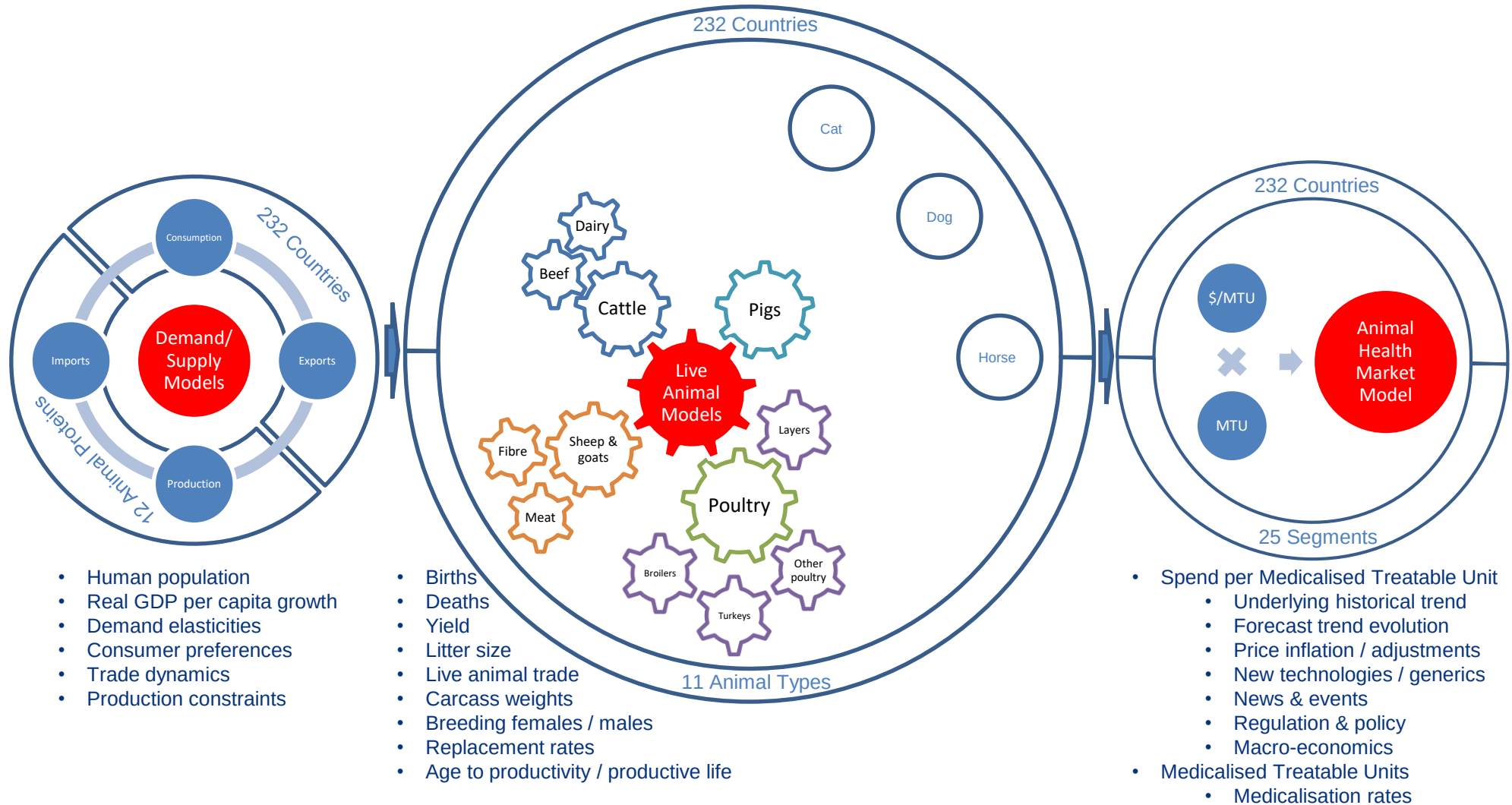
- STORM FORECASTS is the only independent source of **animal health** and **animal agriculture HISTORICAL data** and **FORECASTS** covering **20 years**
- STORM FORECASTS includes **2.7 million** data points of pivotal **animal health market data** and **animal agriculture metrics**, including consumption, production and trade of 12 animal proteins and population metrics for 11 animal types, including cats, dogs and horses
- STORM FORECASTS covers the world market, six regions and the **largest 25 countries** and emerging markets
- 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 **HISTORICAL animal health 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

Why use STORM FORECASTS?

- STORM FORECASTS delivers objective and independent data that can support better strategic decisions and operational planning
- STORM FORECASTS allows clients to focus resources on strategic analysis and decision making and not data collection and can challenge “*groupthink*”
- STORM FORECASTS contains proprietary animal health and animal agriculture FORECASTS
- STORM FORECASTS contains HISTORICAL (10 years) animal agriculture and macro-economic data in an “off-the-shelf”, easy to use product delivering significant increases in operational efficiency and effectiveness during strategic and operational planning processes
- STORM FORECASTS contains HISTORICAL animal health market data (10 years) and proprietary animal health market FORECASTS (10 years) in Nominal, FX Neutral and Real terms

STORM FORECASTS Methodology: Proprietary Market Models

inter-connected, bottom-up “Demand/Supply” models drive the “Live Animal” models and “Animal Health Market” model



Data Sources

Vetnosis uses best-in-class 3rd 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 rd Party	Vetnosis	3 rd Party	Vetnosis
Macro-economics/FX Rates	✓ (IMF, EIU)	✗	✓	✗
Animal Agriculture	✓ (USDA, Eurostat, FAO)	✓ (where unavailable)	✗	✓
Animal Health	✓ (Trade Associations)	✓ (where unavailable)	✗	✓

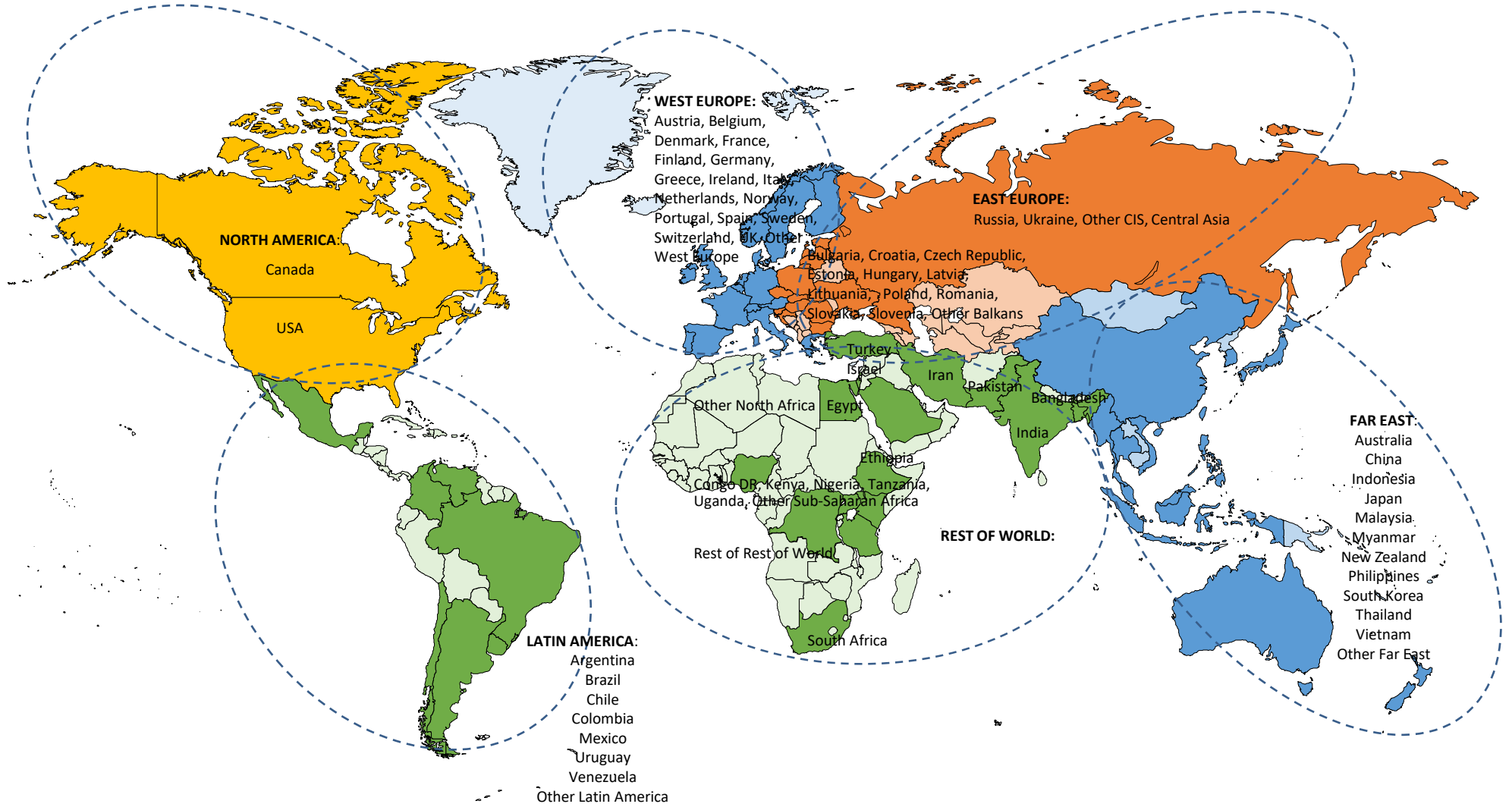
✓ = Vetnosis proprietary data

Scope of Animal Proteins and Animal Types and Animal Health Market Segmentation

Animal Proteins and Animal Types		Animal Health Market Segmentation e.g. Cattle-Biologicals	
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		

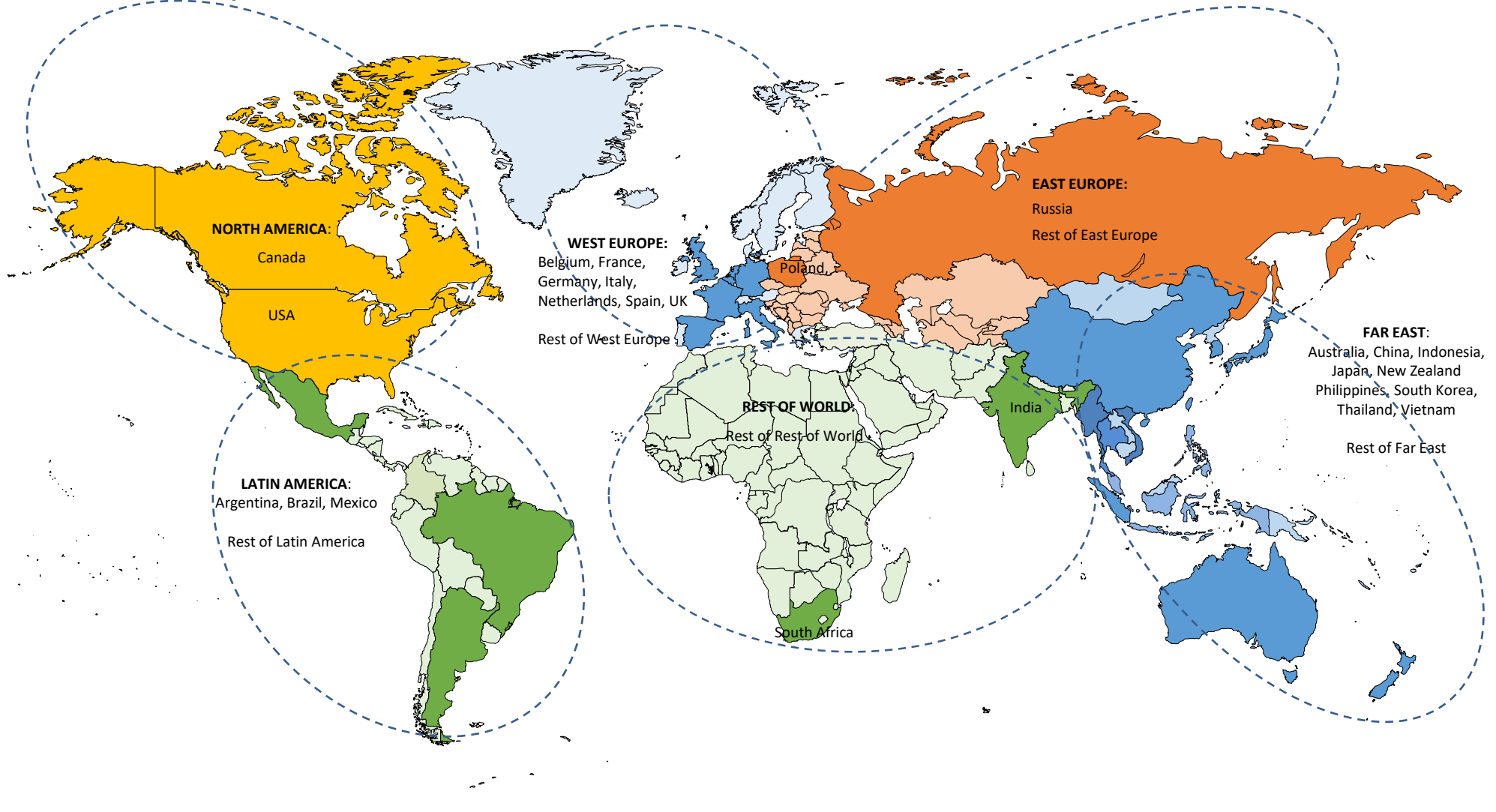
Global Scope: Animal Agriculture Historical Data & Forecasts

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



Global Scope: Animal Health Historical Data & Forecasts

25 largest country markets, 5 sub-regions, 6 regions and world in local currency and US dollars;
and in Nominal, FX Neutral* and Real* terms



*forecasts only

STORM FORECASTS: 2019-28

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 (2008-28) for 81 countries/regions

Release Date: 21st June 2019

Macro-economics Data



33,048 data points

Region	Country/Region	Blank	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Rest of World	Egypt		Human population	Millions	IMF	2024	96.980	99.211	101.493	103.827	106.215	108.658	110.350	112.029	113.697	115.355	117.012
Rest of World	Egypt		Nominal GDP	Billions USD	IMF	2024	249.559	299.589	331.360	345.230	360.552	377.043	402.647	...	...	...	...
Rest of World	Egypt		Real GDP Growth (Local Currency)	%	IMF	2024	5.3	5.5	5.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Rest of World	Egypt		Real GDP per head Growth (Local Currency)	%	IMF	2024	2.9	3.1	3.5	3.6	3.6	3.6	2.7	2.7	2.7	2.7	2.7
Rest of World	Egypt		GDP (based on PPP) per head	'000 USD per head	IMF	2024	13.366	14.028	14.824	15.679	16.584	17.539	18.381	...	...	...	...
Rest of World	Egypt		Inflation	%	IMF	2024	20.9	14.5	12.3	8.1	7.2	6.9	6.9	6.9	6.9	6.9	6.9
Rest of World	Egypt		USD exchange rate	Local currency per USD	Pac. Exch/EIU	2028	18.097	17.230	17.070	16.900	16.720	16.480	17.580	18.870	20.300	21.860	23.490
Rest of World	Egypt		Unemployment	%	IMF	2024	10.9	9.6	8.3	7.6	7.0	6.4	5.7	...	...	...	...

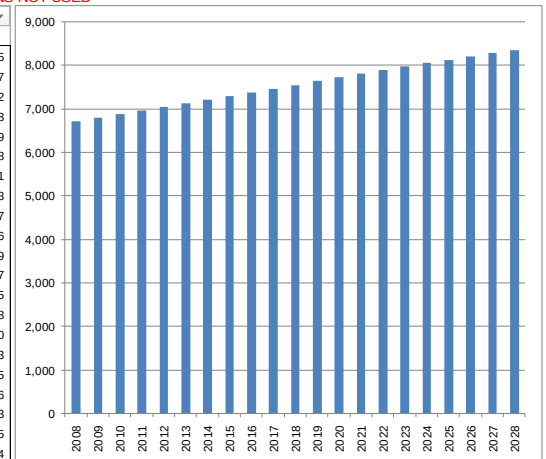
- Human population
- Nominal GDP (US\$ bn)
- Real GDP Growth (Local Currency)
- Real GDP per head Growth (Local Currency)
- GDP (based on PPP) per head
- Inflation
- USD exchange rate
- Unemployment

Release Date: 21st June 2019

Macro-economics Charts



Metric	Human population
Country/Region	World
Unit	Millions
WARNING - ENSURE 'ALL' OR MULTIPLE SELECTIONS NOT USED	
Data	Millions
2008	6,709.65
2009	6,790.07
2010	6,870.42
2011	6,953.38
2012	7,037.09
2013	7,120.68
2014	7,205.21
2015	7,290.13
2016	7,376.17
2017	7,464.66
2018	7,549.59
2019	7,633.77
2020	7,718.75
2021	7,804.88
2022	7,891.20
2023	7,975.33
2024	8,051.45
2025	8,126.56
2026	8,200.63
2027	8,273.65
2028	8,345.64



Consumption

Consumption metrics (2008-28) for 12 animal proteins in 81 countries/regions modelled for fundamental demand drivers

Release Date: 21st June 2019

Consumption Data



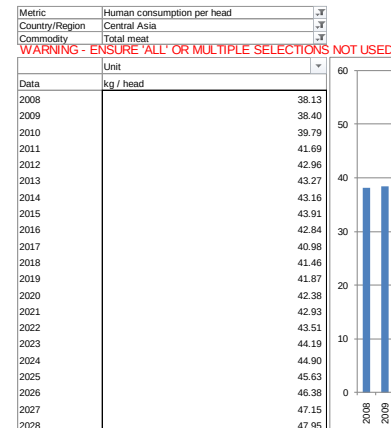
231,336 data points

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Pig meat	Total consumption	'000s MT	Eurostat	2018	413	415	416	417	417	417	417	417	417	416	416
		Pig meat	Human consumption	'000s MT	Eurostat	2018	413	415	416	417	417	417	417	417	417	416	416
		Pig meat	Human consumption per head	kg / head	Eurostat	2018	42.270	42.639	42.910	43.121	43.277	43.433	43.590	43.748	43.906	44.065	44.224
		Pig meat	Self-sufficiency	%	...	...	105.6	107.7	107.9	107.7	108.2	108.8	109.5	110.1	110.7	111.4	112.0

- 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

Release Date: 21st June 2019

Consumption Charts



Production

Production metrics (2008-28) for 12 animal proteins in 81 countries/regions modelled for fundamental supply drivers and trade

Release Date: 21st June 2019

Production Data



206,550 data points

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Broiler meat	Production	'000s MT	Eurostat	2018	2,080	2,052	2,070	2,101	2,132	2,164	2,191	2,218	2,246	2,273	2,314
		Broiler meat	Total slaughtered	'000s head	Eurostat	2018	1,152,391	1,127,344	1,128,171	1,135,746	1,142,890	1,150,478	1,155,351	1,160,018	1,164,798	1,169,599	1,180,678
		Broiler meat	Carcass weight	kg / head	Eurostat	2018	1,805	1,820	1,835	1,850	1,865	1,881	1,896	1,912	1,928	1,944	1,960
		Broiler meat	Production % for export	%	Eurostat	2018	58.4	56.9	56.6	56.6	56.5	56.5	56.5	56.5	56.5	56.4	56.7

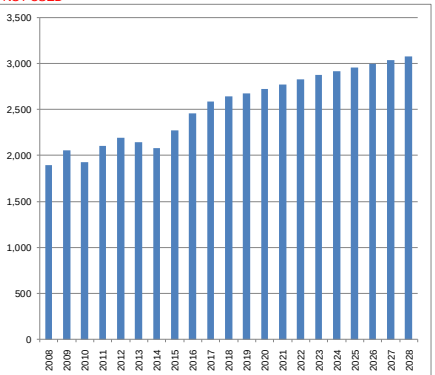
- Production
- Total slaughtered
- Carcass weight
- Production % for export

Release Date: 21st June 2019

Production Charts



Metric	Total slaughtered
Country/Region	Kenya
Commodity	Bovine meat
WARNING - ENSURE 'ALL' OR MULTIPLE SELECTIONS NOT USED	
Unit	'000s head
Data	
2008	1,891.90
2009	2,057.00
2010	1,923.50
2011	2,104.00
2012	2,194.20
2013	2,147.30
2014	2,076.71
2015	2,274.50
2016	2,460.20
2017	2,590.00
2018	2,639.17
2019	2,678.32
2020	2,721.03
2021	2,771.24
2022	2,825.73
2023	2,875.03
2024	2,914.83
2025	2,955.25
2026	2,996.33
2027	3,038.09
2028	3,080.52



Commodity Balance Sheet

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

STORM FORECASTS: 2019-28

Release Date: 21st June 2019

Commodity Balance Sheet Data



694,008 data points

Region	Country/Region	Commodity	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Cheese	Production	'000s MT	Eurostat	2018	103	105	106	107	109	110	111	112	113	114	115
		Cheese	Total consumption	'000s MT	Eurostat	2018	105	107	108	109	110	111	112	113	115	116	117
		Cheese	Human consumption	'000s MT	Eurostat	2018	105	107	108	109	110	111	112	113	115	116	117
		Cheese	Other uses and processing	'000s MT	Eurostat	2018	0	0	0	0	0	0	0	0	0	0	0
		Cheese	Initial stocks	'000s MT	Eurostat	2018	9	9	9	9	9	9	9	9	9	9	9
		Cheese	End stocks	'000s MT	Eurostat	2018	9	9	9	9	9	9	9	9	9	9	9
		Cheese	Exports	'000s MT	Eurostat	2018	20	21	21	21	21	22	22	22	22	23	23
		Cheese	Imports	'000s MT	Eurostat	2018	22	22	23	23	23	23	23	24	24	24	24
		Cheese	Total demand	'000s MT	Eurostat	2018	125	127	129	130	132	133	134	136	137	138	140
		Cheese	Total supply	'000s MT	Eurostat	2018	125	127	129	130	132	133	134	136	137	138	140
		Cheese	Change in Stocks	'000s MT	Eurostat	2018	0	0	0	0	0	0	0	0	0	0	0
		Cheese	Balance	'000s MT	Eurostat	2018	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



Release Date: 21st June 2019

Animal Balance Sheet Data



495,720 data points

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Cattle	Inventory	'000s head	Eurostat	2018	885	872	869	864	857	851	843	836	829	822	815
		Cattle	Deaths	'000s head	Eurostat	2018	149	147	146	145	144	142	141	139	138	137	135
		Cattle	Total slaughtered	'000s head	Eurostat	2018	112	110	110	109	108	107	106	105	104	103	102
		Cattle	Breeding animals culled	'000s head	Vetnosis	...	88	87	86	85	85	84	83	82	81	80	79
		Cattle	Non-breeding animals slaughtered	'000s head	Eurostat	2018	24	24	24	24	24	24	24	23	23	23	23
		Cattle	Total mortality	'000s head	Eurostat	2018	37	36	36	36	35	35	34	34	34	33	33
		Cattle	Breeding animals mortality	'000s head	Vetnosis	...	21	20	20	20	20	20	19	19	19	19	18
		Cattle	Non-breeding animals mortality	'000s head	Vetnosis	...	16	16	16	16	15	15	15	15	15	15	15
		Cattle	Births	'000s head	Eurostat	2018	322	318	316	313	310	307	303	300	297	293	290
		Cattle	Exports - live animals	'000s head	Eurostat	2018	220	217	218	218	217	216	216	215	214	213	212
		Cattle	Imports - live animals	'000s head	Eurostat	2018	60	59	59	59	59	59	59	59	58	58	58

- 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

Release Date: 21st June 2019

Inventory Structure



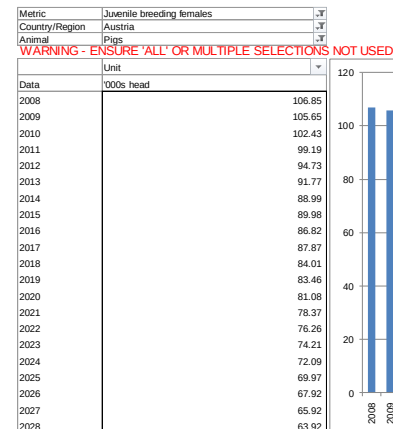
289,170 data points

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Pigs	Inventory	'000s head	Eurostat	2018	2,777	2,817	2,796	2,760	2,743	2,727	2,707	2,684	2,662	2,640	2,616
		Pigs	Total breeding animals	'000s head	...	...	318	316	307	296	288	280	272	264	256	248	241
		Pigs	Adult breeding females	'000s head	Eurostat	2018	229	227	221	213	208	202	196	190	185	179	174
		Pigs	Juvenile breeding females	'000s head	Vetnosis	...	84	83	81	78	76	74	72	70	68	66	64
		Pigs	Adult breeding males	'000s head	Vetnosis	...	4	4	4	3	3	3	3	3	2	2	2
		Pigs	Juvenile breeding males	'000s head	Vetnosis	...	1	1	1	1	1	1	1	1	1	1	1
		Pigs	Other inventory	'000s head	Vetnosis	...	2,458	2,501	2,489	2,464	2,455	2,447	2,435	2,420	2,406	2,392	2,375

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

Release Date: 21st June 2019

Inventory Structure Charts



Treatable Units

Release Date: 21st June 2019

Treatable Units Data



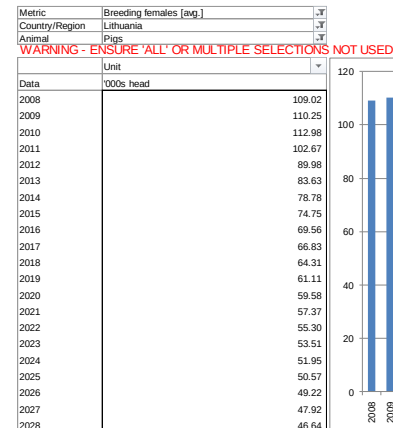
367,659 data points

Region	Country/Region	Animal	Metric	Unit	Source(s)	Last Actual	Forecast Data										
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Cattle	Total breeding animals [avg.]	'000s head	Vetnosis	...	7,210	7,233	7,227	7,213	7,176	7,133	7,083	7,030	6,980	6,931	6,882
		Cattle	Breeding females [avg.]	'000s head	Vetnosis	...	7,089	7,112	7,106	7,092	7,056	7,013	6,964	6,913	6,863	6,815	6,767
		Cattle	Breeding males [avg.]	'000s head	Vetnosis	...	121	121	121	121	120	120	119	118	117	116	115
		Cattle	Total slaughtered	'000s head	Vetnosis	...	2,300	2,150	2,186	2,210	2,232	2,252	2,270	2,288	2,307	2,327	2,346
		Cattle	Non-breeding animals [avg.]	'000s head	Vetnosis	...	4,412	4,317	4,415	4,484	4,538	4,587	4,631	4,674	4,718	4,764	4,810
		Cattle	Treatable units	'000s head	Vetnosis	...	11,622	11,550	11,642	11,697	11,714	11,720	11,714	11,704	11,698	11,695	11,692
		Cattle	Medicalisation rate	%	Vetnosis	...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		Cattle	Medicalised treatable units	'000s head	Vetnosis	...	11,622	11,550	11,642	11,697	11,714	11,720	11,714	11,704	11,698	11,695	11,692

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

Release Date: 21st June 2019

Treatable Units Charts



Animal Health Market: Nominal, FX Neutral and Real terms

Release Date: 21st June 2019

Animal Health Market -
Nominal Terms



344,160 data points

Region	Country/Region	Species	Product Group	Metric	Unit	Forecast Data										
						2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		Cattle	Medicinal Feed Additives	Sales per MTU Local Currency - NOMINAL	EUR	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07
		Cattle	Biologicals	Sales per MTU Local Currency - NOMINAL	EUR	3.49	3.59	3.66	3.75	3.84	3.93	4.03	4.13	4.24	4.35	4.46
		Cattle	Anti-infectives	Sales per MTU Local Currency - NOMINAL	EUR	2.27	2.27	2.27	2.26	2.26	2.26	2.26	2.26	2.26	2.26	2.26
		Cattle	Parasiticides	Sales per MTU Local Currency - NOMINAL	EUR	1.42	1.46	1.48	1.50	1.53	1.56	1.60	1.63	1.66	1.70	1.73
		Cattle	Other Pharmaceuticals	Sales per MTU Local Currency - NOMINAL	EUR	3.09	3.18	3.25	3.32	3.40	3.48	3.57	3.66	3.75	3.85	3.95
		Cattle	ALL PRODUCT GROUPS	Sales per MTU Local Currency - NOMINAL	EUR	10.33	10.55	10.71	10.89	11.09	11.29	11.51	11.74	11.97	12.21	12.46

- Animal Health market (ex-manufacturer net sales) for the Top 25 country markets, 5 sub-regions, 6 regions and world from 2008-28 by 25 Species-Product Group market segments e.g. Cattle-Biologicals
- 10-year HISTORICAL market data in Nominal Local currency and US Dollars
- 10-year FORECASTS in Nominal, FX Neutral and Real terms in Local Currency and US Dollars

Deliverable

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



Release Date: 21st June 2019

Control Panel

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

Country Key

Glossary

For further information contact:

Tim Evans
Managing Director
+44 (0)131 357 0345 ext. 2
tim.evans@vetnosis.com

Vetnosis Limited

Edinburgh Quay
133 Fountainbridge
Edinburgh EH3 9BA
United Kingdom

Contact Details

O: +44 (0)131 357 0345
E: info@vetnosis.com

Registered Office: Edinburgh Quay, 133 Fountainbridge, Edinburgh, EH3 9BA, United Kingdom **Registered Number:** SC335371 (Scotland)