Executive Guide

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Introduction to this Executive Guide
Status: Status of global poultry meat, egg production sectors
Forecast: Worldwide poultry meat production, consumption forecasts
Meat production: Record broiler prices reached in some markets
Meat imports/exports: Poultry becomes world's most traded meat
Other poultry: Turkey, duck production concentrated geographically
Egg Production: Majority of eggs worldwide produced by 15 countries
Egg trade: Egg trade in processed products expected to increase
Top companies: Top companies in world poultry, egg markets
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Demand/Population: Poultry meat demand rises as consumer incomes increase 42 Every 1% rise in global GDP is expected to bring a 1% rise in chicken meat consumption.
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Meat consumption/Egg consumption: Poultry challenges pork in worldwide meat consumption
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Feed: Input costs affect noultry feed production 56

The world market is shifting for poultry feeds.



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and number of employees, along with overviews, addresses and website details. Search the database at, www.WATTAgNet.com/worldtoppoultry.html

→Mark Clements' blog, London Calling



Smart to invest in egg industry?

Despite ongoing spats between Europe's egg producers, and a total lack of clarity as to what will happen come January 2012 when the cage ban will come into force (or won't depending on where you are!), egg production still looks like a pretty safe bet. Read more at,

www.wattagnet.com/26634.html

Gary Thornton's blog, All Things Poultry



Has the US poultry industry turned the corner on high feed costs?

Corn futures for delivery in December reached a high near \$7.80 a bushel in late August, while the price September 20 is closer to \$7.05, despite USDA's September 12 downward revision in the corn production forecast. Will the U.S. poultry industry look back a year from now and be able to say this was the downward turning on \$7-a-bushel

corn prices? Read more at, www.wattagnet.com/26192.html

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➡The latest trends in French broiler

production and consumption

Paul Brochard, account manager for France with Cobb, gives an overview of the state of play of the French poultry industry. Watch the video at, www.wattagnet.com/26143.html

→ Yanne Boloh's blog, Feed for thought Is fashion affecting the food chain?

There are two hot topics currently



on the European commission and parliament agenda: medicated feed and the return of animal proteins in formulations for poultry, swine and fish under the curtain of

the feed ban, a heritage from the mad cow years. Read more at www. wattagnet.com/26678.html

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WATT Executive Guide to World Poultry Trends offers all the data you need – at your fingertips



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elcome to this latest edition of the WATT Executive Guide to World Poultry Trends. It is the resource you need to keep track of every major aspect of the poultry business around the world.

The Executive Guide covers both poultry meat and eggs in a global context, from production to trade and consumption.

Here is your unique reference to the current situation for poultry worldwide and to the forecasts from leading analysts about the development of the market over the next five to 10 years.

On the following pages you will find at-a-glance charts on data and trends relating to sectors, countries and world regions. For this latest edition, we have added new sections and extended others to make the coverage even more extensive.

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We have great pleasure in presenting the WATT Executive Guide to World Poultry Trends for 2011-12. We are confident that it will be a valuable aid to your business over the coming year.

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statistics that are available online at the click of a mouse. Many pages offer direct links to online tables of the relevant

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Status of global poultry meat, egg production sectors

Poultry meat reaches a production milestone of 100 million metric tons.

t seems from first estimates that 2011 will prove to have been the year when the world's production of poultry meat

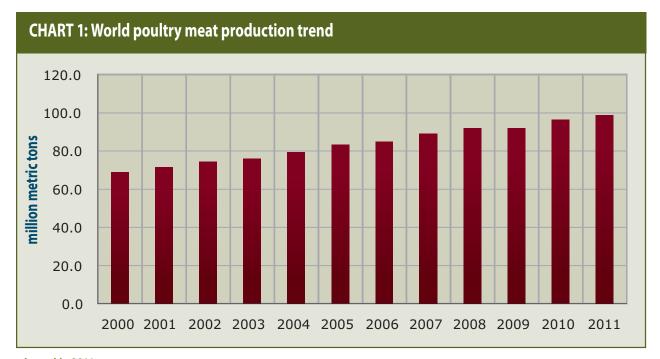
exceeded 100 million metric tons for the first time in history. This landmark certainly possible, according to an early forecast from the Food and Agriculture Organization of the United Nations. There can be no question from the figures available that the global volume in 2011, as expressed in carcase weight equivalent terms, will prove to have been substantially more than 98 million metric tons.

TABLE 1: World production of major meats 2006-2011								
x 1000 metric ton	x 1000 metric tons							
	2006	2007	2008	2009	2010	2011	%change 11/10	
Poultry meat*	69464	73663	77053	77320	81012	83328	2.90%	
Pork	95377	94013	97743	100399	103223	104514	1.30%	
Beef + veal	57751	58618	58600	57356	57323	57358	0.10%	

* broiler + turkey (poultry meat is expressed as ready to cook equivalent weight, pork and beef/veal as carcase weight equivalent) (source: USDA 2011)

- **Download World production of major meats 2006-2011 at** www.wattagnet.com/25538.html
- **Download World poultry meat production trend at** www.wattagnet.com/25520.html
- **Download World egg production trend at** www.wattagnet.com/25539.html
- **Download How countries/regions compared for chicken** meat production, consumption and trade in 2010 at www.wattagnet.com/26260.html

For egg production, a 2011 total of approximately 64 million metric tons looks likely. So, poultry meat output can claim to have expanded globally by about 43% since 2000, while the production of eggs has grown by more than 25% during the same period.



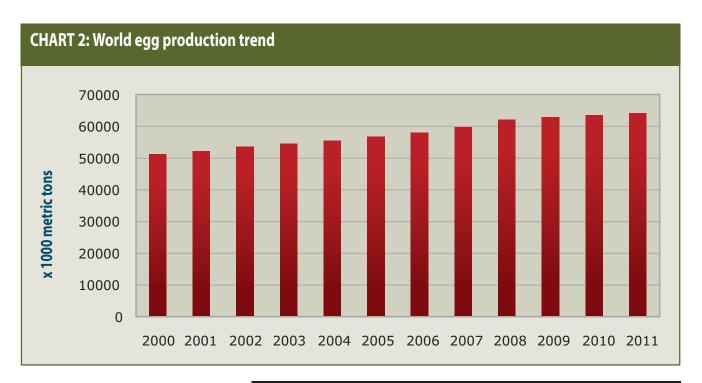
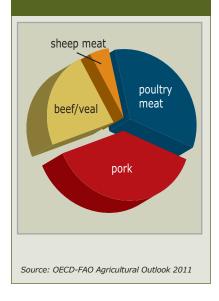


CHART 3: World meat market shares 2008-2010



It is a remarkable achievement in light of recent cost complications caused by the price rise for feed grains. Just as in 2007-2008, a major talking point among poultry producers in 2010-2011 has been the surge in prices of maize (corn) and wheat for use in feeds.

The cause of the return to extreme volatility on the world grain market remains hotly debated, but the activities of commodity speculators apparently added to the pressure from poor harvests due to wildfires,

TABLE 2: How countries/regions compared for chicken meat production, consumption and trade in 2010.

	Production	Consumption	Imports	Exports
USA	22%	18%	1%	35%
China	17%	17%	4%	4%
Brazil	16%	12%	0%	36%
EU-27	12%	12%	8%	11%
Mexico	4%	4%	7%	0%
India	3%	4%		0%
Russia	3%	4%	8%	0%
Argentina	2%	2%	0%	2%
Iran	2%	2%	1%	
South Africa	2%	2%	3%	0%

(source: based on USDA and BMO Capital Markets)

floods and drought. Then there was the continuing impact of grain use for producing biofuel.

Turning point

In July 2011, the National Chicken Council in the USA noted what it called a turning point in agricultural evolution - predictions from the U.S. Department of Agriculture that, for the first time, the year would see more American corn going into ethanol than into feeds for livestock. But the same month brought remarks to an agricultural symposium in Kansas City, Mo., that corn ethanol had probably reached the end of its growth phase for the foreseeable future in the U.S.,

because its Congress would no longer support the US\$6 billion per year subsidising of biofuel or proposals to extend ethanol blending in motor fuels beyond current levels.

On a wider scale, 2011 appears significant for much more than taking world poultry meat production past a landmark tonnage and registering a key moment in the food versus fuel controversy. The latest global estimates also accord it a claim to fame in terms of human demographics - as the year in which we can finally say that more than half of the people in the world now live in towns and cities rather than in rural areas.

The urbanisation of the population

TABLE 3: Value of US poultry meat and egg production 2009-2010.						
x US\$1000	Broilers	Other chickens	Turkeys	Eggs	Total	
2009	21822804	65115	3573392	6166038	31627349	
2010	23696132	71958	4371400	6517823	34657313	
(source: ERS-USDA 2011)						

been an especially phenomenon and is joining with regionally strong income growth to drive extra meat consumption across Asia. For China, the data showed the urban share of the total population rising from 35% in 2000 to a current proportion of 47%. It also indicated that although China's consumption of broiler meat was on course to reach a record 10 kilograms per person/year in 2011, the amount eaten per person in towns and cities would be almost double the rural rate.

As the U.S. Foreign Agricultural Service noted, the strength of demand for meat in China enabled local producers to raise prices and therefore to offset higher feed costs. In fact, the month of June in

2011 brought both the highest-yet price of US\$7.99 for maize on the Chicago Board of Trade and a new record in China for broiler prices. On calculations from the Chinese national statistics bureau, the country's June 2011 poultry meat price was 32% more than in 2010 while egg prices were up by 23%.

Projections for the annual increase in China's production of broiler meat in 2011 were soon upgraded from 4% to 5% alongside expectations of more exports to other Asian countries. According to analysts with the FAO, more poultry meat generally would flow into the importing countries of Asia to answer their extra consumption because of their improving economic outlook. This would contribute to a

2.4% growth in the world meat trade in 2011.

On analysis by the FAO, a combination of tight pork and beef supplies and increased demand has been driving chicken output in most major producing countries of the world. However, limitations on market growth have remained, in the form of costly feed grains and an uncertainty in the ability of some heavily indebted, developed-world nations to recover economically as quickly or firmly as had been expected.

One particularly strong growth area is the poultry business in Brazil, where production has expanded due not only to higher export sales, but also to rising personal incomes and reduced competition from expensive beef. As recently as 2006, beef accounted for 47% of the average Brazilian meat intake, with poultry at 39% and pork at 14%. Projections for 2011 by Companhia Nacional de Abastecimento have suggested a big change, making poultry meat now first nationally with 46%, ahead of beef's 39% and a 15% share for pork.



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Worldwide poultry meat production, consumption forecasts

Meat and egg markets are expected to grow as world population nears 7.5 billion in 2020.

isions of the year 2020 from various sources suggest that the world production of poultry meat will approach 122.5 million metric tons and that 72 million metric tons of eggs will be produced globally by then. The potential market size by that time is indicated by a projected growth of the global human population from 6 billion in 1999 and approximately 7 billion in 2011, to a total of 7.5 billion people in 2020.

With the projected increases in per-person consumption of poultry meat and eggs over the next decades (chart 1), the global market's composition is forecast to change so that chicken rivals pork as the world's most popular meat (charts 2 and 3).

Most of the extra demand for meat will be in the Asia-Pacific region (chart 4), with large increases for a number of Asian countries (chart 5).

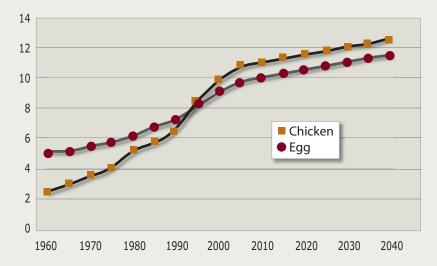
Exports from Americas

In preparing the latest annual "Agricultural Outlook" publication on global prospects for the agriculture and food sectors, covering years 2011 to 2020, the Organisation for Economic Co-operation and Development, and the Food and Agriculture Organization of the United Nations worked on the basis of a series of assumptions. These included that world economies would recovering continue crisis, population growth would continue to slow and energy

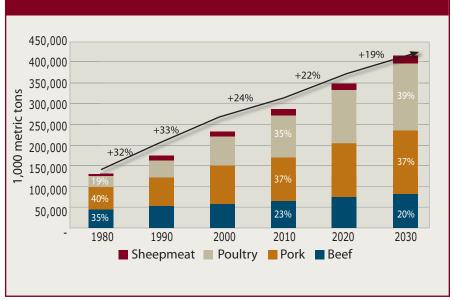
The groups also recognised that many of the drivers of high

prices would trend upwards.

CHART 1: Projected rises in world consumption of chicken and eggs (kilograms per person/year) 14







and volatile commodity prices weather, yields, cereals stocks and energy prices - may themselves be more volatile in the future. So while being cautiously optimistic that commodity prices would fall

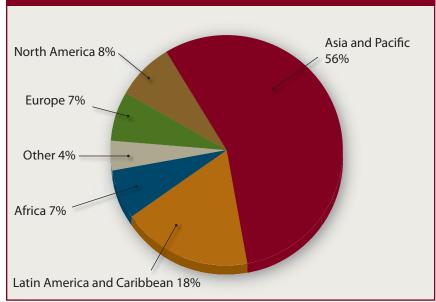
from the peaks of 2010 to 2011, the authors maintained the previously expressed view that agricultural commodity prices were likely to remain on a higher level during the next decade.

CHART 3: Meat market shares 2020 Sheepmeat Poultry Beef/ Veal Pork

TABLE 1: Meat growth projections to 2020						
		2008-2010	2020	(incre	ease)	
		x 1000 me	etric tons		%	
Poultry meat	Developed	39923	47459	7536	18.88%	
	Developing	55096	74952	19856	36.04%	
Pork	Developed	41216	44457	3241	7.86%	
	Developing	65072	82842	17770	27.31%	
Beef/veal	Developed	29893	31864	1971	6.59%	
	Developing	35565	42263	6698	18.83%	
Sheep meat	Developed	3085	3245	160	5.19%	
	Developing	9747	12429	2682	27.52%	
All meats	Developed	114116	127023	12907	11.31%	
	Developing	165480	212486	47006	28.41%	
World total	All	279596	339509	59913	39.72%	

Volumes shown in ready-to-cook weight for poultry meat, but in carcase weight equivalent for pork, beef and sheep meat

CHART 4: Increase in total meat demand by region 2008-10 to 2020



Slower rise for population

Nevertheless, agricultural production and trade will continue to grow, the authors concluded, led by emerging economies where economic growth has resumed and appears to be resisting higher prices. All eyes at present are on the so-called BRIC countries of Brazil, Russia, India and China. After rising by almost 7.5% in 2011, the BRIC countries' average annual economic growth, as measured by gross domestic product per

person, has been projected to slow to 5.7% in 2015 and 4.75% in 2020, though still above the rates of other members of the developing countries group.

The annual growth rate of world population, the averaging 1.2% in the past decade, is expected to drop to 1.05% between 2011 and 2020. The slowdown applies across all regions, said the OECD-FAO report, although more in developed rather than developing countries. Meanwhile,

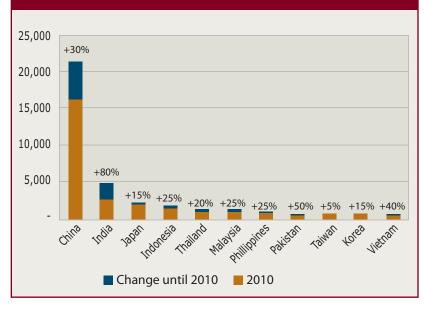
phenomenon of greater urbanisation will continue to reshape consumption patterns toward higher value processed products and convenience foods.

Firm demand, particularly from developing countries in Asia and Latin America, is forecast to boost the meat market in the decade ahead. FAO says world meat production will grow at an average rate of 1.8% per year until 2020, adding some 60 million metric tons in the process, and that 78% of the projected growth in meat supplies will involve production primarily of poultry and pig meat in the developing countries.

But the trade in poultry meat between countries will grow relatively slowly, at around 2% per year, rather than the 4.7% per year growth rate of exports seen in the past decade. The expectation is that the USA and Brazil will strengthen their dominance of world trade over the period so that, by 2020, the two countries account for nearly half of the additional export supply in world markets.

According to a European Commission report on prospects for agricultural markets, EU-27 poultry meat production could grow to 12.47 million metric tons in 2020, from under 12 million tons in 2011 and around 12.2 million tons in 2015. The uptake of poultry meat by European Union consumers seems set to





grow from the current 23.4 kilograms per person per year, to 27.7 kg in 2020, with the EU zone as a net importer by 2016.

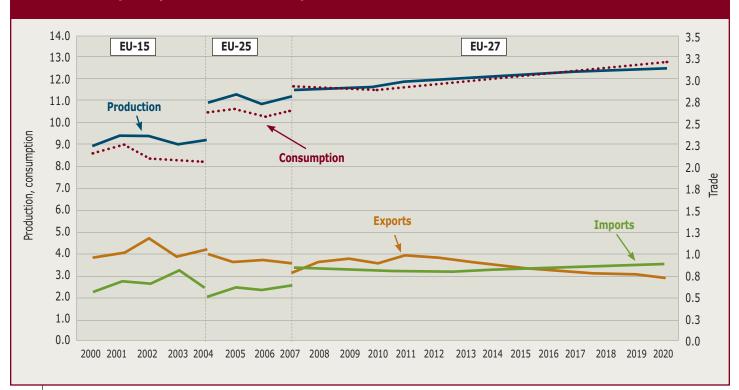
Europe's prospects for

exporting poultry meat during this period are likely to be constrained both by its relatively high production costs and by strengthening assumed of the Euro currency, so that total exports fall back to below 740,000 metric tons from a 2011 level of about 966,000 tons. By contrast, American analysts have projected that a relative weakness of the U.S. dollar in currency exchange rates will make U.S. exports more competitive.

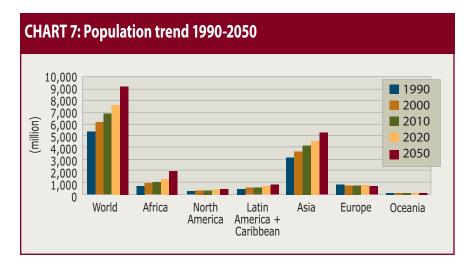
Within the USA, analysts forecast increased retail prices for meat over the next two years or so, but with added costs of production keeping producer margins tight. They also see the next few years as the time of opportunity for chicken to win U.S. market share against pork and beef by being more available and lower priced. Potentially, domestic chicken production could grow by more than 1.6% over the next decade.

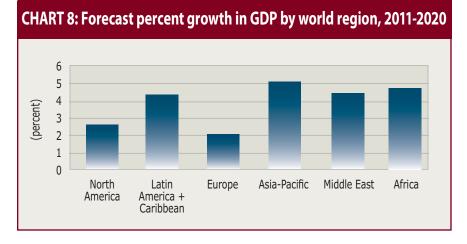
On current assessments, the global demand for eggs could reach 71 million metric tons per year by 2015. The largest increases in egg production between 2011 and 2015 are

CHART 6: EU-27 poultry meat market developments (million metric tons) 2000-2020



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likely to occur in Brazil, Turkey, India and China. But a longerterm view also points to China and India having the greatest demand for more eggs because of more mouths to feed. By 2050, these two countries are expected to hold a combined one-third of the global human population.

Egg forecasts of the percentage growth in production weight, comparing 2015 with 2011, range between only 0.6% in the European Union and 0.3% in Japan, to 9% to 10% in China and Indonesia, 14% in India and Turkey, and 17% in Brazil.

Already representing the fastest regional growth rate in egg production since 2000, Asia has also been identified as the driver of further increases in the global average number of eggs consumed per person annually. The current average is about 175 eggs per person, but may exceed 200 within the next eight to nine years.

Currently, less than 2% of eggs are traded internationally compared to 60% of beef. However, demand from developing countries is expected to drive the total egg market to a 20% expansion over the next 10 years, bringing with it an increase in the trading of egg products.

Positive growth outlook for India's broiler industry

Expectations that the broiler industry in India will expand by 10% annually for at least the next 10 years have been quoted by Poultry Federation of India treasurer, Ricky Thaper. Although chicken production has risen to 2.3 million metric tons per year, the current level of broiler meat consumption in India is only 2.4 kilograms per person per year.

Record broiler prices reached in some markets

Broiler prices reached new highs in 2011, despite high feed costs and challenges with disease.

ecord highs for broiler prices were reached in several parts of the world in the middle of 2011, bringing producers some relief from the escalation of their production costs due to more expensive feed grains. The strength of demand linked to its competitive retail price has helped world production of poultry meat move to 100 million metric tons for the first time as an annual total volume in carcase weight equivalent terms.

remarkable rise volumes over the years is shown in chart 1, which identifies the year in which each new landmark of producing another million metric tons was reached. Recorded world production did not pass 50 million tons per year until 1994, yet it was already at 80 million tons in 2005 before adding another 20 million tons in the last six years.

Between 2009 and 2010 the global growth in poultry meat output was up to 4%. A rise of 2% from 2010 to 2011 therefore

Ouick fact

The European Association of Poultry Processors and Poultry Trade, AVEC, reported estimates that poultry meat production in the EU-27 countries involved 31,816 enterprises in 2010 with a turnover of €107 billion (US\$154.6 billion) in producing 11 million metric tons. Staff numbers were just over 673,000.

> looks small by comparison, said market analysts, but it was still higher than the growth rates being achieved by other meats.

> Disease problems as well as high feed costs have limited the increases possible for the chicken sector internationally.

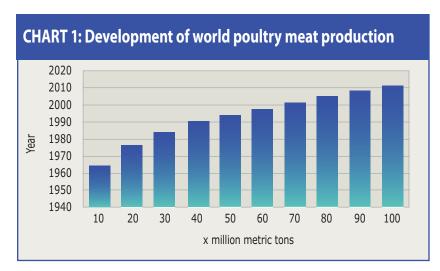
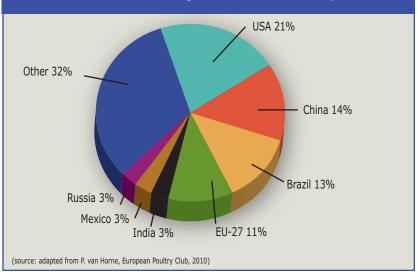


TABLE 1: World poultry meat production by region (million metric tons)						
	2000	2005	2008	2009	2010	2011
Asia-Pacific	23.3	27.3	31	32.3	35.7	36.5
North America	17.5	19.8	21.1	20.2	20.8	21.1
Latin America	12.5	16.1	20	20	21.1	21.7
Europe	11.9	13.1	14.3	15.6	16.4	16.9
Africa	3	3.6	3.8	3.9	4	4
World	68.2	79.9	90.2	94	98	100.2





Health issues were especially evident in Asia from early 2011 as H5N1 avian influenza struck poultry flocks in a number

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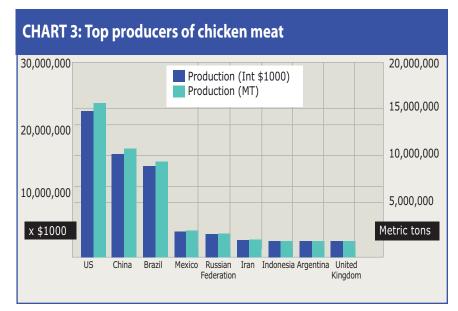
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the effect of growing fewer on production likely to be offset by higher marketing weights. For the USA in July 2011, the average weight at slaughter for broiler chickens was 6% more than in mid-2010.

While North American production of poultry meat seemed to rise by less than 1.5% between 2010 and 2011 (see table 1), increases of 2.8% and 2.2% were expected for Latin America and the Asia-Pacific zone, respectively.

The price of chicken in Europe has fluctuated less than pork and beef in a period

of Asian markets. But a U.S. Department of Agriculture report noted that the countries in line for production gains in 2011 include Iran, India and Turkey, where the number of poultry farms has doubled since 2010.

Effect of feed costs

The four main producers of chicken meat are the USA, China, Brazil and Europe's EU-27, as chart 2 confirms. These countries represent a combined market share of almost 60%. Chart 3, adapted from an analysis by the Food and Agriculture Organization of the United Nations, underlines the gap in output between the top three and the rest of the European Union member countries.

The extent to which feed costs moved ahead of broiler prices in the USA in the 2010 to 2011 period is demonstrated by USDA data as in chart 4. By July 2011, the combined effects of expensive feed and a relatively slow meat market brought the U.S. ratio of broiler price to feed price down to only 2.9:1. By that time the price of chicken breast meat stood 27% lower than a year earlier while the feed cost was up by 77%.

CHART 4: US broiler feed costs and market prices 2010-2011



TABLE 2: European Union broiler balance 2000-2010

x 1000	metric	tons
--------	--------	------

	2000	2005	2009	2010	2011
Production	7,970	8,169	8,756	8,920	8,903
Consumption	7,416	8,082	8,692	8,760	8,741
Net trade	554	87	64	160	161
	F	arm prices (I	Euros per 100) kilograms)	
All poultry	143	149	170	171	182
All poultry	143	149	170	171	182

(source: FAPRI-ISU 2011)

Margins for American chicken producers were said to be the lowest ever, leading to a cutback in chick placing on broiler grow-out sites. As on previous occasions, however,

of overall food price inflation (chart 5). But the output growth possible in the European Union remains a matter of conjecture. In its publication, "Prospects for agricultural





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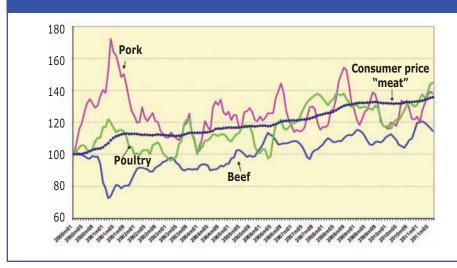
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CHART 5: EU-27 price trend for poultry meat compared with pork and beef



- **Download Poultry meat production by region 2000-2011 at**
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- **Download World poultry meat production trend at**
- **Download World production of major meats 2006-2011 at**
- Download Broiler meat production by country at www.wattagnet.com/26308.html

markets and income in the EU 2010-2020," the European Commission's directorategeneral for agriculture and rural development suggested that the amount of poultry meat produced in the EU-27 could increase to 11.9 million metric tons in 2011 and almost 12 million tons in 2012, after reaching 11.6 million tons in 2010. This would include about 9 million metric tons of broiler meat, mostly for domestic consumption (table 2).

Impact of welfare rules

One aspect that is sure to

be influential is the extent to which European producers react to new community rules on bird welfare. Since July 2010, producers have needed to limit the stocking density of their meat chickens to no more than 33 kilograms per square metre unless under special circumstances - in which case the permitted maximum could increase to 39 kg/m^2 .

A study of Europe's poultry and egg sectors, undertaken by consultants on behalf of the European Parliament, reported an estimate, based on economic calculations made Belgium, the U.K. and the Netherlands, lowering stocking density to meet the directive's requirements could potentially increase production costs at farm level by 1% to 1.5%. The study also pointed out that stricter bird density rules already applied in Sweden and Denmark as well as in voluntary schemes in the U.K. and Germany.

Along with currency exchangerates, production costs inevitably affect the ability to compete internationally. report said that although the European Union remained self-sufficient in poultry meat, this disguised the fact that demand for breast fillets was higher than low-value cuts. Such cuts are therefore exported while breast meat is imported, primarily from Brazil.

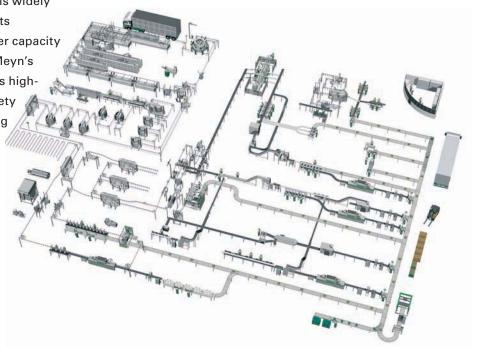
Individual EU-27 member states differ rates their self-sufficiency, from Netherlands (186%),

Belgium / Luxembourg (180%) and Denmark (141%), down to Germany, the U.K. and Spain (94% to 97%), Ireland (90%), the Czech Republic (80%), Austria and Greece (73% to 74%), and Latvia (52%).

A government aim to achieve self-sufficiency is boosting poultry meat production in Russia. On the world scene, the chicken sectors of Brazil and the USA have been supported by strong export sales, while the relatively low price of poultry against other meats has meant an opportunity for extra output in China.

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Poultry becomes world's most traded meat

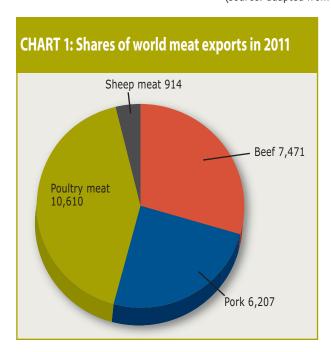
Brazil overtakes the USA as the biggest trader in the world market.

oultry meat is now traded between countries more than any other meat (chart 1). The main regions of the world for poultry meat exports and imports are shown in charts 2 and 3, respectively.

Which country is the world's largest exporter of poultry meat? This question was easy

TABLE 1: Trade in broiler and turkey meats by USA and other major trading countries					
x 1000 metric tons ready-to-cook weight	2008	2009	2010	2011	
Production	77053	77320	81012	83328	
Imports	8285	8016	8348	8328	
Exports	9069	8750	9337	9453	
US exports	3464	3335	3319	3220	
US market share (%)	38%	38%	36%	34%	

(source: adapted from FAS-USDA reports)

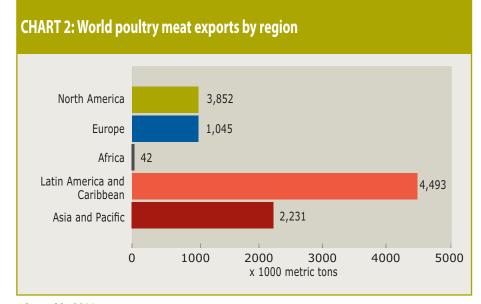


to answer in the past because U.S. exports dominated international trade. However, there are now two contenders for the title. Brazil has joined the USA as a major source of chicken for importing markets.

Reports from the U.S. Department of Agriculture Foreign Agricultural Service have focused on broiler meat exports by major exporting countries, which are expected to total nearly 8.9 million metric tons in 2011. This would be a 1.4% increase over the

Russia near self-sufficiency in poultry meat

About 3.5 million metric tons of poultry meat has been consumed in Russia in 2011, on figures from the Russian Poultry Breeders Union, with production increasing to 3.15 million tons. About 2.85 million tons was produced in 2010, when consumption stayed at 3.45 million tons.



8.79 million tons exported by these countries in 2010.

For 2010, the USA could claim a contribution of about 3 million metric tons, but Brazil's exports have been assessed at up to 3.6 million tons with a value of \$6.3 billion.

Brazil produced 12.3 million metric tons of poultry meat and exported nearly one-third of it to more than 150 countries in 2010. Figures proposed for 2011 are a production volume of 12.9 million tons, with record exports of 3.8 million tons or

approximately 30% again.

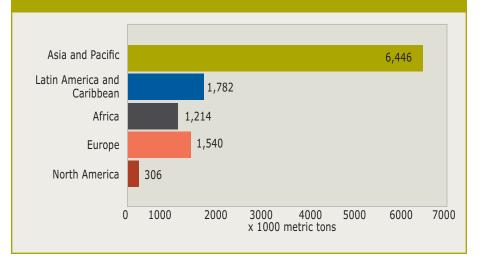
Brazilian poultry association Brasileira de Avicultura, UBABEF, reported that the value of national poultry meat exports passed \$4 billion in the first six months of 2011 as the volume reached 2 million metric tons. As for all exporters, a key issue that remains is whether currency exchange rates will affect the competitiveness of the country against its main rivals - principally, the USA and European Union member states.

Market access

Tradina volumes internationally have been recently adjusted to account for lower import quotas in Russia - previously, the world's largest importer of poultry meat. At 375,000 metric tons, the Russian quota ceiling in 2011 was down by more than 40% from the 2010 level.

Reduced market access in China has also been a factor, but increased demand from other parts of Asia, such as Japan, the Korean Republic and Vietnam,

CHART 3: World poultry meat imports by region



helped the export potential from the EU-27 and Thailand. In 2011, imports into Japan may exceed 1 million metric tons for the first time.

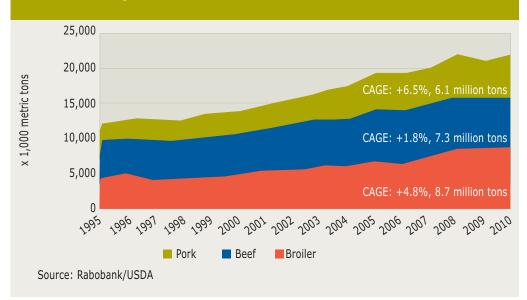
The expectation for China's broiler meat imports in 2011 was that imports would decline 20% to 230,000 metric tons,

while exports would rise 8% to 410,000 metric tons, from an annual production of about 13.2 million metric tons.

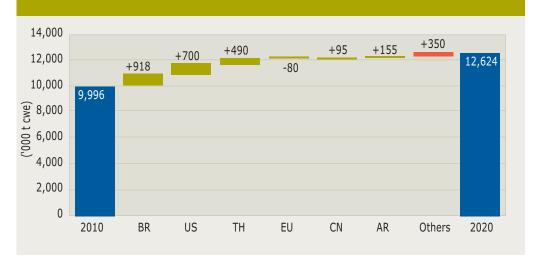
In Europe, the position of the EU-27 as a net importer of poultry meat increases against a background of extra domestic consumption, as well as a poor



CHART 4: Trend in global trade of main meats 1995-2010







ability to compete against imports due to relatively production high In Asia, costs. lower domestic production and a shift in consumer preferences from fish to poultry are promoting extra Japanese imports. Whereas, Korea, increased imports reflect a strong consumer demand combined with a tariff-free auota raised to 50,000 metric tons, which runs from May December 2011.

Preliminary estimates are that the world total for poultry meat exports by all countries will reach 11.7 million metric tons 2011. This would be a rise of 1.4% year-on-year, compare with an annual growth of 4% in 2010. The emerging winners undoubtedly Brazil and Thailand. Thai Increased exports of cooked

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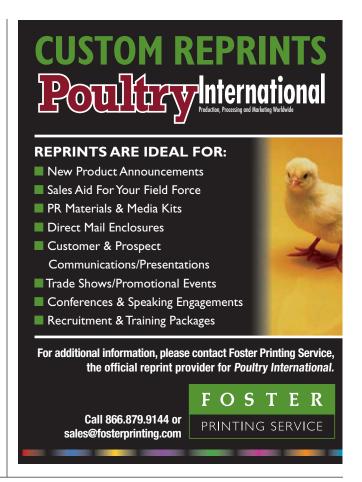
poultry meat to Europe and Japan fit alongside expectations that the Brazilian poultry industry may soon be the source of one-third of all chicken exports worldwide.

A reminder that the international trade in broiler meat has grown faster than for other meats was presented to the 2011 World Poultry Conference by Nan-Dirk Mulder of Rabobank International (chart 4). By 2020, he declared, trading in poultry meat could reach 17% of global production.

Richard Brown of food market consultancy GIRA shared chart 5 from an analysis of poultry prospects, suggesting that Brazil, the USA and Thailand will increase their share of the world poultry meat trade during the present decade. Export growth will be driven by competitive advantages, from low-cost feed in Brazil and economies of scale in U.S. production, to the availability of lower labour rates in Thailand.

Customers of the main exporting countries will continue to vary, with the USA and the EU-27 as the main losers from Russia's reducing role as a major importer.

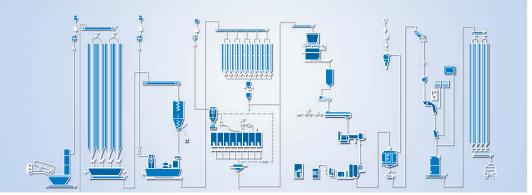
The Middle East-North Africa region may become an even more important destination for chicken imports by 2020, already the world's largest regional meat importer and accounting for approximately one-fifth of the world's total volume of poultry meat imported in 2010.



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Turkey, duck production concentrated geographically

Sources of poultry meat that aren't chicken tend to be concentrated in particular geographic markets.

n the world stage chicken production represents some 87% of all poultry meat, compared with nearly 6% for turkey meat, 4% for duck meat and less than 3% for the combined category of geese with guinea fowl (see chart 1).

Production trends for the "other poultry meats" (that is, not chicken) are demonstrated by chart 2. From this, the most obvious growth area over the past 10 years was in producing meat from ducks.

Although other types of poultry meat are minorities in global volume compared with chicken, in one respect they stand out. For each of the other poultry meats, production is far more concentrated geographically than for the chicken sector.

The accompanying table 1 names the top five producing countries according to poultry meat type. The first point to note is how the lineup differs for every species.

Although the USA is the biggest in both chicken and turkey, for example, China claims the top spot in the duck and goose categories. Regionally, the Americas

score in chicken while Western Europe is the major player on the turkey scene, the Middle East and Eastern Europe rank as top suppliers in geese production, and Asia is predominant in duck meat production.

Market shares

But larger differences in geographicconcentrationare underlined by calculations for this Executive Guide. These indicate that the top five countries in turkey meat produce 78% of world output. The market share of the top five in duck meat is 82.5%. In the production of meat from geese and guinea fowl, the five largest producers account for 98% of all supplies.

By contrast, we calculate that the top five countries in the chicken business currently represent no more than 53% of the total volume produced worldwide.

The USA is by far the largest national producer of turkey meat. The next in size would be the combined European community of

CHART 1: World poultry meat production by species Goose and guinea Duck meat fowl meat 3% 4% Turkey meat 6% Chicken meat 87%

TABLE 1: Top five countries by type of poultry meat					
Turkey meat	Duck meat	Goose + guinea fowl	Chicken		
USA	China	China	USA		
Germany	France	Egypt	China		
Brazil	Malaysia	Hungary	Brazil		
France	Myanmar	Poland	Mexico		
Italy	Vietnam	Italy	Russia		

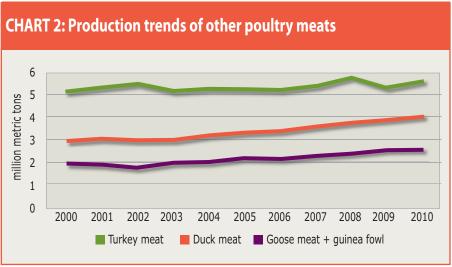


CHART 3: Turkey meat production trend, USA



the EU-27, where the annual output of approximately 1.8 million metric tons compares with a U.S. total of more than 2.5 million tons.

Chart 3 graphs the trend in U.S. turkey meat production by weight since 2000 while chart 4 has the comparable trends for the four other main contenders

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on a smaller scale. More details for the USA are given in chart 5, which follows the development of U.S. production according to the number of turkeys produced annually and the total value of that output per year.

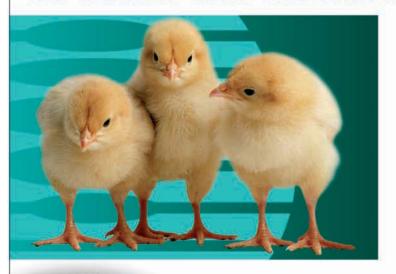
Annual production in the USA peaked at 2.8 million metric tons as recently as 2008, although the

most turkeys produced in a year was 292.9 million in 1995. Currently the volume is around 244 million birds per year, the majority of which are produced by relatively few companies. Table 2 lists the companies producing most U.S. turkey meat in 2010 and 2011.

In 2010, U.S. wholesale turkey prices were at their third largest premium to chicken prices since 1986. An analysis by the Economic Research Service concluded that the three-region wholesale price for whole birds in October 2010

had been 65.8% higher than the average that applied in the period of 1998 to 2000. On that same reckoning, however, feed prices for turkey producers were 77% above the 1998 to 2000 average by December 2010, and kept rising afterward to reach levels approximately 130% higher by the period of May to

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The region for ducks

Chart 6 shows the rising pattern of duck meat production when viewed globally. Asia is the main world region for producing duck meat, having a market share of close to 84%. China is the region's largest

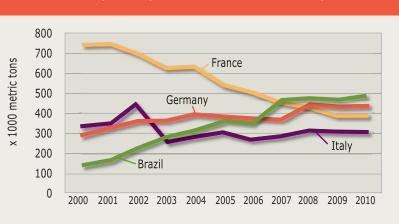
producer, as might be expected, but it has also contributed most to the striking growth in regional duck meat production since 2000.

While Asia's overall growth rate in this respect has been 43.5%, which represented 1 million metric tons of additional volume, the contribution from

China alone was about 840,000 tons for a national increase of 44.5%.

The number produced for meat globally was about 800 million in 1990, rising to 2 billion in 2000 and nearly 2.7 billion in 2010, compared with current totals of 660 million for turkeys and 625 million for geese and quinea fowl.





- **Download World poultry meat production by species at** www.wattagnet.com/26305.html
- **Download Duck meat production by country at** www.wattagnet.com/26328.html
- www.wattagnet.com/26332.html

CHART 5: US turkeys produced per year and value



TABLE 2: Top turkey meat producing companies in USA

x million pounds live weight

Rank	Company	2010	2011
1	Butterball	1,300.00	1,300.00
2	Jennie-O Turkey Store	1,286.00	1,290.00
3	Cargill Value Added Meats	1,095.00	1,095.00
4	Farbest Foods	374	360
5	Sara Lee	330	370
6	Kraft Foods/Oscar Meyer	290	280
7	Perdue	271	271
8	Foster Farms	256.6	279.5
9	House of Raeford Farms	247.5	259
10	Virginia Poultry Growers Co-operative	224	245
11	Dakota Provisions	200	205
12	Cooper Farms	195	205
13	Hain Pure Protein Corp.	182	182
14	Michigan Turkey Producers	170	180
15	West Liberty Foods	164.5	220
16	Turkey Valley Farms	132	150
17	Zacky Farms	131.3	132.4
18	Prestage Foods	131	140
19	Norbest (Western Sales)	102.8	102.8
20	Northern Pride Turkey	40	40

(source: WATT PoultryUSA 2011)



Majority of eggs worldwide produced by 15 countries

Global production is at more than 1.1 billion eggs per year.

ust 15 countries have provided 70% of the world's eggs in 2011. The top 10 countries (see table 1) supplied nearly 65% between them and the five largest on the world scene were responsible for around 55% of all production.

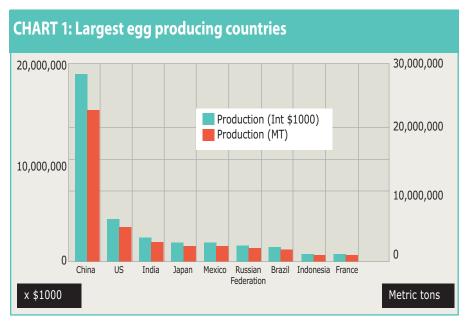
Chart 1 demonstrates the big difference in volumes between the two giants of the sector -

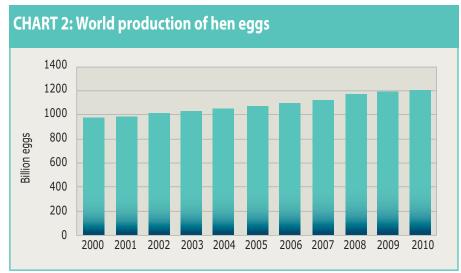
from 6.4 billion laying hens. The world market remains divided approximately 50/50 between white and brown eggs.

The weight of eggs produced annually worldwide now exceeds 64 million metric tons. At an average weight per egg of 60 grams, it would take 16,666

> eggs to supply one metric ton. Egg supplies are often quoted in quantities of 12 or dozens, so we can also say that every metric ton 1,389 represents some dozen eggs.

of series reports Professor compiled by Hans-Wilhelm Windhorst for the International Egg Commission highlights the extraordinary changes in the pattern of world egg production over the past two decades. While the global output of eggs came close to doubling in volume during this period, big differences in development arose between the world regions.





China and the USA - and the other members of the top 10. Chart 2 shows the development of world egg production according to number of eggs per year.

In round terms, the current level of global production is about 1,182 billion eggs per year

Growth zone in Asia

The data quoted by Professor Windhorst refer to the years from 1990 to 2008. The data show world egg production grew by more than 72% in that time. But a large part of this was due to the huge, almost 159% rise recorded in Asia.

It is true that Africa's volume increased by more than 58% and in the Americas, egg production rose by some 54%. By contrast, the contribution from Oceania rose only by 1.2% and egg production in Europe actually decreased - by more than 14%.

These changes have dramatically altered the

regional shares of global production. Based on Professor Windhorst's figures, Asia now accounts for around 59% of the eggs produced worldwide and the Americas contribute more than 20%, with 4% coming from Africa and less than 0.5% from Oceania. But Europe's share has fallen by almost half since 1990, down to 16.5%.

TABLE 1: World's top 10 egg producing countries							
	Laying hens (x 1000 birds)	Eggs produced per year (x 1000)	Production weight (metric tons)				
China	2536603	472672850	23633659				
USA	339526	90408000	5349100				
India	242000	57800000	3200000				
Mexico	188000	46700000	2360300				
Japan	139910	41750000	2505000				
Russia	14473 9	39187500	2194500				
Brazil	276005	38437700	1921890				
Indonesia	238527	23550000	1059270				
Ukraine	110000	15747500	913400				
France	51480	15305000	918300				

TABLE 2: Changes in lineup of world's top egg producers							
Ranking	1990	2000	2010				
1	China	China	China				
2	USSR	USA	USA				
3	USA	Japan	India				
4	Japan	India	Japan				
5	Brazil	Russia	Mexico				
6	India	Mexico	Russia				
7	Mexico	Brazil	Indonesia				
8	Germany	France	France				
9	France	Germany	Ukraine				
10	Spain	Turkey	Turkey				
11	Italy	Italy	Spain				
12	Netherlands	Netherlands	Iran				
13	UK	Spain	Italy				
14	Thailand	Indonesia	Germany				
15	Poland	Iran	Netherlands				

China's egg production operations may move south

Historically, the main part of China's production of hen's eggs has been located in the north part of the country. That may be about to change, said speakers at the China Layer Industry Development Conference held in Qingdao (reported www.chagri.com). Expert opinion is that a reducing gap in costs between the regions will bring a new round of development opportunities for the southern layer industry.

Equally revealing are the IEC's calculations of the global market shares represented by the largest producing countries in each region. For Asia this means China, India and Japan, having a combined share of more than 46%, although nearly 38% of that contribution originates from China alone. The



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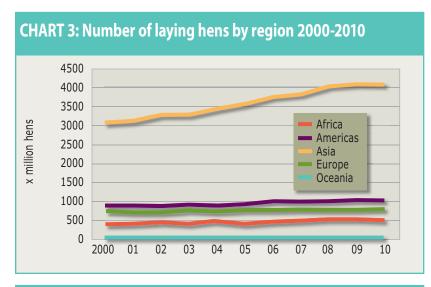
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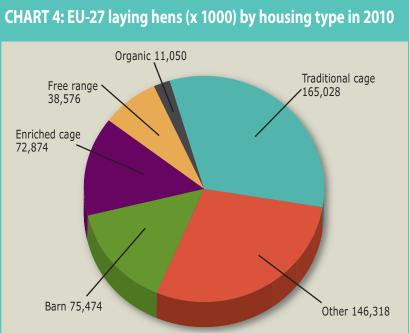


TABLE 3: USA production, trade and utilisation of eggs						
	2008	2009	2010	2011		
	x million dozen eggs					
Production	7501	7534	7595	7660		
Imports	14.6	11	12.7	12		
Total supply	7526.7	7562.2	7625.7	7691.3		
Exports	206.3	242.2	261.6	247		
Hatching use	996.3	955.1	980.9	980		
Total consumption	6306.9	6346.9	6363.9	6446.3		
	x number of eggs					
Eggs consumed per person/year	248.3	247.7	246.3	247.4		

three main players in the Americas, being the USA, Brazil and Mexico, account for about 16% of eggs globally. In Europe, the top three of Russia, France and the Ukraine supply about 6.5%, while the African trio of Nigeria, South Africa and Egypt deliver more than 2%. Oceania's largest are Australia and New Zealand, representing less than 0.5% of world egg production between them.

Further evidence of the structural change in world egg production appears in table 2, which compares the lists of the top hen-egg producing countries by volume in 1990, 2000 and 2010. The global volume of eggs produced went from little more than 35 million metric tons in 1990, to slightly more than 55 million tons in 2000 to an estimated 69 million tons in 2010, adding more than 1 billion hens to world layer numbers since 2000.

Focus on Europe

According to the analysis by Professor Windhorst, the volume decrease in Europe between 1990 and 2008 was from 11.6 million metric tons to less than 10 million tons. Most of the initial reduction occurred in Eastern Europe as these countries adjusted to their new political situation, though they have generally increased their production volume since 1996. Western Europe has been producing fewer eggs since 2001 and a decrease has also occurred in some parts of Southern Europe since 2004.

Comparing 2008 volumes with those of 1990, Northern Europe increased by 4.7% and Southern Europe was up by 2.6%. Reductions in the other European countries ranged from 25.4% down in the East to 7.7% lower in the West.

Today, European Union-27 egg production is approximately 6.7 million metric tons per year. The community's largest egg producers are France, Spain, Italy, Germany and Poland, representing an annual output of 3.86 million tons or 58% of the EU total.

The debate in Europe is how much change will occur in the EU production structure as a result of the ruling that laying hens cannot be kept in conventional or traditional cage housing after January 1, 2012. The only cages

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permitted will be of an enriched type with more floor area and bigger group sizes.

From 2010 data on 363 million hens, around 165 million, or 45.5%, were kept in traditional cages at that time and only 73 million, or 20%, in enriched cage systems. A

representative body for egg packers in Europe, EUWEP, forecast that the proportion of enriched cages would grow to 33% by the start of 2012. But, about 30% of the EU laying flock would still be traditionally caged and therefore non-compliant at that time, according to the forecast.

Individual member states were recognised as differing significantly in this respect. Germany had already prohibited traditional cages for layers since 2010, allowing only Kleingruppenhaltung colony cages. Similar bans were in place in Austria, Belgium, Luxembourg, the Netherlands and Sweden. Compliance by the start of the new EU rule was also predicted for egg production systems used in Denmark, Finland and the U.K.

According to cost reports by Dr. Peter van Horne of Wageningen Univerity in the Netherlands, the change from

conventional to enriched housing would involve an 8% increase in the production cost of eggs. Alternative non-cage methods have been estimated to represent cost increases ranging from 22% for barns or aviaries to 25% for freerange.

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Egg trade in processed products expected to increase

The majority of trade volume for eggs is currently in shell eggs, but trade in processed egg products is forecast for future éxport growth.

ggs are difficult foods to trade internationally unless in a processed form. Even now, therefore, less than 3% of eggs produced worldwide are traded between countries.

At present this means approximately 2 million

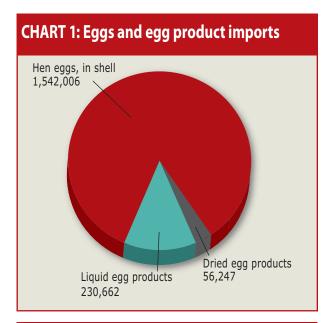


CHART 2: Largest importers of shell eggs				
Austria Poland Denmark Italy Canada UAE Switzerland Belgium UK Singapore Iraq China-Hong Kong France Netherlands Germany 0 100,000 200,000 300,000 400,000 metric tons				

metric tons of eggs traded out of the production of 64 million tons. As chart 1 shows, the largest part of the total traded volume involves shell eggs. But this is confidently expected to undergo a rapid change as more countries develop a market for processed egg products.

This is forecast as one of several important changes in sight for the world egg sector over the next 10 years. With demand driven by developing countries, the

TABLE 1: Top 15 countries for egg trade volumes				
EXPORT	IMPORT			
Netherlands	Germany			
China	France			
Spain	Netherlands			
Poland	UK			
Malaysia	China			
Germany	Belgium			
Turkey	Denmark			
USA	Switzerland			
Belgium	Japan			
India	Austria			
France	UAE			
Belarus	Czech Republic			
Thailand	Italy			
Colombia	Canada			
Lithuania	Kuwait			

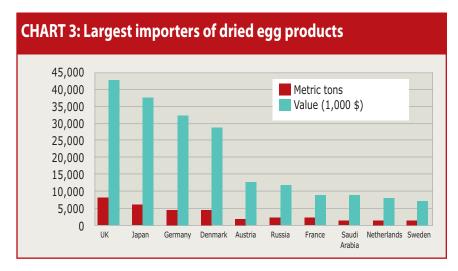
global market for eggs in 2020 is predicted to be one-fifth larger than in 2011. For some countries, such as China, the growth rate in this period could be as high as 40%.

Chart 2 illustrates that several of the largest importers of shell eggs are found in Europe. Members of the European Union rank again among the main import markets for dried egg products (chart 3).

From chart 4, the Netherlands has a long history as by far the greatest exporter of eggs each year, with Asia and Europe as the nearest contenders.

In general the EU-27 is considered to be selfsufficient for its egg supplies. However, a number of its member states are net importers, including Germany and the U.K. as well as France, Sweden, Austria and Portugal. Of these, Germany and Austria are attributed the lowest levels of selfsufficiency, at about 70% and 75% respectively.

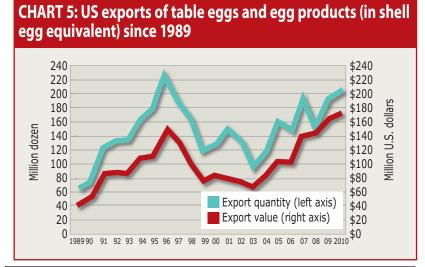
- **Download Egg exports by country** 2000-2008 at www.wattagnet. com/26337.html
- **Download Eggs in shell imports** by country at www.wattagnet. com/26341.html



In the USA, exports of table eggs and egg products are returning to levels not seen since the middle of the 1990s (chart 5). Reports from the USA Poultry & Egg Export Council and the American Egg Board said 3.1% of national egg production had been exported in 2010. About three-quarters of U.S. exports of table eggs go to China-Hong Kong, the United Arab Emirates and Canada, whereas Japan is the single largest customer for processed egg products. ■

CHART 4: Largest egg exporters Slovakia | Lebanon Ukraine I Russia | Italy Lithuania Colombia Thailand Belarus France India Belgium USA Turkey Germany Malaysia Poland Spain China Netherlands 100,000 200,000 300,000 400,000 500,000 metric tons

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Top companies in world poultry, egg markets

A look at the biggest chicken and egg producers from around the world.

orldwide, the poultry meat business

remains relatively fragmented. In a few exceptions - such as the USA and Thailand the market share held by the three largest production companies is already in the range of 55% to 60%. In Brazil and Russia, the top three poultry producers reportedly share just over one-quarter of the market nationally.

However, in the European Union, the level of consolidation is still under 15% and is no more than 6% in China.

Nan-Dirk Mulder of Rabobank International provided the accompanying two charts for this edition of the Executive

Rank	Company	Number of slaughter plants	Chickens processed per year (x million birds)	Production (x 1000 metric tons RTC)	
1	Tyson Foods	34	37.4	73.1	
2	Pilgrim's	30	32.24	57.42	
3	Perdue Farms	10	12.04	24.33	
4	Sanderson Farms	8	7.79	22.41	
5	Koch Foods	6	9.5	15.96	
6	Wayne Farms	8	5.56	15.77	
7	Mountaire Farms	3	5.07	15.2	
8	House of Raeford Farms	5	3.8	10.62	
9	Foster Farms	5	5.7	9.06	
10	Peco Foods	4	3.39	8.61	
(source: adapted from WATT PoultryUSA 2011)					

Guide, from his presentation at the 2011 World Poultry Conference. Chart 1 compares the consolidation rate of the top three producers per country in 2010 with national poultry meat prospects to 2020.

Chart 2 uses publically available data to give a rating of the largest chicken-producing companies on the world scene, illustrating that the main players originate predominately from the USA and Brazil - the only European company is Doux at number 10 for annual volume of meat produced.

The latest annual survey of American broiler producing/ processing companies conducted by WATT PoultryUSA highlighted the trend of consolidation in the U.S. industry as in chart 3. Its data for 2010 revealed that, out of almost 33,000 metric tons ready-tocook of broiler meat produced per week, the three largest companies accounted for about 46.4% and the top-10 combined share was nearly 74.7%. Table 1 lists the 10 largest companies for broiler production in

For a glance at big names in a variety of countries worldwide, the accompanying section contains notes about a selection of individual companies from the Top Companies database of WATTAgNet, which can be found at www.wattagnet.com/ worldtoppoultry.html.

CHART 1: Market share of the three largest players per country in 2010 with projected market growth to 2020



Top poultry company names at a glance

Visit www.wattagnet.com/worldtoppoultry. html for more information about big operators in the world of commercial poultry production, processing and marketing. The following abstracts illustrate how companies range in activities and background as well as size.

Australia: Baiada Poultry includes Bartter Pty Ltd as a subsidiary. In addition to broiler and breeder sites, hatcheries and feed mills, Baiada operates processing plants at four locations.

Brazil: Brasil Foods, BRF, produces 1.7 billion broilers a year, making it one of the largest poultry producers in the world. BRF also produces 36 million turkeys annually.

Bangladesh: Kazi Farms Group is the largest poultry player nationally with market shares of 25% for day-old chicks and 20% for broiler feed.

Canada: Exceldor Cooperative Avicole, Lévis, Quebec, specialises in the processing and marketing of fresh chicken. Olymel from Quebec is Canada's largest poultry processor.

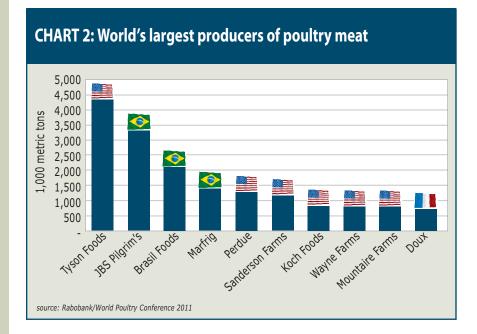
Chile: Agrosuper is the largest poultry producer nationally and regionally, with its Super Pollo brand for chicken as well as activities in turkey production and processing.

China: DaChan Food is China's largest chicken meat processor, selling mainly around Beijing, Shanghai and Dalian. It is also the largest chicken meat supplier to international fast-food chains such as Kentucky Fried Chicken. Dalian Hanwei Group is the number one egg producer in China, selling its products under the name Gegeda eggs. Anhui Taiyang Poultry Co. (formerly Parkview Group) is among the largest Chinese duck breeders and is currently undertaking further expansion of parent sites. Yuhe from Shandong province is the largest supplier of day-old broiler chicks. Shandong Xinchang Group, thought to be China's fifth largest poultry producer, is owned 60% by Tyson Foods; its duck processing facility can handle 350,000 birds per week.

Croatia: Number one poultry company Koka also expanded into Serbia; within Croatia, it offers a range of fresh and frozen poultry products. Koka's main competitor domestically is Gavrilovic, which also has a strong regional presence.

Czech Republic: Agropol, a division of Agrofert, is the largest Czech supplier of

Company	Country	Birds per year (x 1000)	
Brasil Foods	Brazil	1,690,000	
Marfrig	Brazil	650,000	
Bachoco	Mexico	503,300	
Doux-Frangosul	Brazil	247,000	
Pilgrim's de México	Mexico	184,000	
Tyson de México	Mexico	157,000	
Agrosuper/Super Pollo	Chile	153,000	
Protinal/Proagro	Venezuela	150,000	
Diplomata	Brazil	141,000	
Grupo San Fernando	Peru	121,000	
Corp. Avíc. Jarabacoa (Pollo Cibao)	Dominican Rep.	120,000	
Granja La Caridad	Venezuela	119,000	
Tres Arroyos	Argentina	104,500	
Aurora	Brazil	90,000	
Rasic Hnos S.A.	Argentina	88,000	
Agrícola Ariztía, Ltda.	Chile	73,000	
Avícola la Guásima	Venezuela	72,800	
Pronaca	Ecuador	72,000	
Grupo Pecuario San Antonio	Mexico	61,000	
Avigrupo	Mexico	61,000	



poultry meat.

Egypt: Ismailia Misr Poultry operates as an integrated company aiming to produce 8.5 million chickens, 23.2 million eggs and 37,000 metric tons of poultry feed in fiscal year 2011. Mansourah Poultry specialises

in poultry production and owns 25% of processor Al Safwa Poultry.

Ethiopia: Elfora Agro-Industries supplies 34 million eggs per year and has large-scale poultry sites at four different locations, including broiler processing

and packing units. Alema Farms is the second-largest fully-integrated poultry operation nationally. Genesis Farms is Ethiopia's third-largest private enterprise in poultry, with 10,000 layers as well as its own parent stock and hatchery.

France: Groupe Doux is Europe's leading producer of poultry-based processed products, selling its chicken products in over 130 countries.

Germany: PHW Group includes poultry integration Wiesenhof, with 17 slaughter and processing plants and two further-processing facilities. The group also has feed and animal health interests. Gebrüder Stolle integration (it has feed mills, parent stock production and contracted growers with an output of around 10,000 turkeys daily) is merging with the Friki Germany, a subsidiary of Dutch group Royal Plukon.

Guatemala: Division Industrial Pecuaria, DIP-CMI, is part of Guatemala's Grupo Multi Inversiones and runs a Central America-wide poultry operation that includes Avicola Villalobos (Guatemala), CADECA (Honduras) and Avicola Salvadoreña (El Salvador).

India: Suguna Poultry Farms, one of India's largest poultry companies, works with around 10,500 contract producers of broilers and eggs. Active in 14 Indian states, it also plans to expand overseas. Godrej Tyson is an integrated company processing 36,400 metric tons of poultry annually.

Italy: AIA is part of the Veronesi group. It produces 300,000 metric tons of chicken annually, in addition to more than 1 billion eggs and 200,000 tons of turkey meat.

Indonesia: The country's largest producer of poultry feed, day-old chicks and processed chickens is Charoen Pokphand Indonesia.

Latvia: Putnu Fabrika Kekava is the largest producer of chicken in Latvia. Rated as the largest processor, Lielzeltini holds about 60% of the fresh/chilled market.

Korea Rep.: Harim Holdings (formerly Halim Co.), the largest Korean poultry integrator, supplies chicks to contract growers from five hatcheries. In 2011, the company's meat-processing and 300,000

CHART 3: US chicken industry consolidation 1980-2010



metric tons/year feed-manufacturing operations were separated into a new public company. Easy Bio System claimed the number two spot in 2011 by buying about 20% of chicken production company Maniker, following its acquisition of 70% of Sunghwa Food in 2010. Dongwoo has interests in broiler hatchery, production and processing while also producing feed.

Malaysia: CAB Cakaran Corporation Berhad has one of the largest poultry production capacities in the region, with activities in Selangor, Malacca, Kelantan, Penang, Kedah, Perlis and Perak. Leong Hup Holdings subsidiaries are engaged in layers, broilers and ducks. Comsa produces eggs and broilers. Teo Seng is one of the largest egg producers, operating nine layer farms and five pullet rearing sites.

Mexico: Industrias Bachoco held a 38% share of Mexico's broiler market in 2010 compared with 14% for second-place Pilgrim's de Mexico and 12% for Tyson de Mexico. Bachoco has over 700 production and distribution facilities currently organized into nine complexes throughout Mexico. It also produces about 8% of Mexico's egg supplies. The largest Mexican egg producer, Proteina Animal, accounts for 13% of the market. El Calvario, in third place, holds 6%, followed by Empresas Guadalupe at more than 5% with production of 2.5 million metric tons of table eggs per year.

Netherlands: Royal Plukon Group

covers a weekly processing capacity of 6.5 million chickens and turkeys after the merger of its Friki arm in Germany with German company Stolle. Plukon includes Pingo and Vleesch du Bois and already had eight factories in the Netherlands, Belgium and Germany. Astenhof is ranked among the 10 biggest chicken processors in the Netherlands, working with producers in the Cehave Landbouwbelang Vleespluimvee integration.

Oman: A'Saffa Poultry Farms was the first integrated poultry project to be established in the Sultanate of Oman and remains the largest. Its facilities include parent breeders as well as a hatchery, broiler sites and processing.

Peru: San Fernando is Peru's largest poultry company, with six hatcheries, six feed mills, multiple grow-out sites and two processing plants.

Philippines: San Miguel Foods', SMFI, poultry operations include broiler breeding, hatching, growing and processing using both company-owned and contracted facilities. Vitarich is a leading integrator, operating hatcheries, processing plants and feed

Poland: Drobex produces hatching eggs, chicks, feed and broilers, while also active in processing. Drobimex, part of the PHW Group from Germany, is one of the largest poultry processing concerns in Poland, with two plants and exports about 30% of its production to

other European Union countries. Cedrob is an example of a poultry business that also has a retail chain.

Romania: Ave Impex produced an estimated 15,000 metric tons of chicken in 2010, making it one of Romania's largest producer/processors. Another leading Romanian poultry producer is Avicola Crevedia.

Russia: Bezrk-Belgrankorm is the biggest poultry producer in Russia, and is currently constructing more processing facilities and starting to export poultry products to Europe. In June 2011, Cherkizovo announced a new poultry production and processing complex to include a hatchery with the capacity of 160 million eggs per year, five broiler sites holding 10 million bird places and four parent stock sites for 900,000 birds.

Saudi Arabia: Almarai Co. is investing to increase its poultry business. Al Akhawain produces 70 million hatching eggs and 30 million table eggs per year. HADCO, acquired by dairy products company Almarai in 2009, is the fourth largest for poultry production.

Serbia: Agroziv, the largest Serbian poultry meat producer, is expanding into the Balkans following its 2011 import of a Cobb 500 breeder flock.

Singapore: Producing approximately 340,000 eggs per day, Chew's Agriculture provides 8% of Singapore's egg supplies.

South Africa: Activities by the largest chicken processor, Rainbow Chicken, range across a full integration including 148 production farms. Country Bird is third-largest, with a 10% share of the national market, and other integrated-business operations in Botswana, Namibia and Zambia.

Spain: Coren is a Spanish cooperative producing chickens, turkeys and ducks.

Sri Lanka: Ceylon Grain Elevators and its subsidiaries are engaged in broiler production and processing, with related activities including

parent stock, feed milling and poultry equipment sales.

Sweden: Largest nationally for poultry is Kronfågel, part of Swedish farmers' group Lantmännen, handling about 40 million chickens annually.

Thailand: Betagro produces about 410,000 metric tons of chicken per year and exports some 40,000 metric tons. Broiler producer GFPT sells into Asia and Europe as well as being active in the domestic market.

Uganda: Ugachick's market shares in Uganda are 80% for day-old chicks, 40% for animal feeds and 80% for processed chicken.

UK: Moy Park, owned by Brazil's Marfrig, processes 166 million broilers

Venezuela: Protinal, with its affiliate Proagro, is Venezuela's largest, fullyintegrated poultry company.

Zimbabwe: Suncrest Chickens is Zimbabwe's largest producer of dressed chickens, currently commanding 65% of the local market.



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Poultry performance improves over past decades

Advances in modern layer performance mean gains of almost three extra eggs per bird annually.

performance ird in the commercial poultry industry has shown a staggering improvement recent decades. Modern broilers weigh about 2.5 kg at 39 days, with a liveweight feed conversion ratio of 1.6 kg of feed per kilogram of body weight gain. Laying hens in modern commercial flocks typically produce about 330 eggs per year with a FCR of 2 kg of feed per kilogram of eggs produced.

Dramatic progress in reducing the time taken by broiler chickens to reach market weight has been evident throughout the past 50 to 60 years (see chart 1). Since the early 1960s, broiler arowth rates have doubled and their FCRs have halved.

The change in U.S. broiler performance from 1925 to the present day has been charted by the U.S. National Chicken Council as in table 1.

TABLE 1: 0	Changes in US chic	ken performance		
Year	Market age (days)	Market weight (kilograms live)	Feed conversion* weight (FCR)	Mortality conversion* (%)
1925	112	1.14	4.7	18
1935	98	1.3	4.4	14
1940	85	1.31	4	12
1950	70	1.4	3	8
1960	63	1.52	2.5	6
1970	56	1.64	2.25	5
1980	53	1.78	2.05	5
1990	48	1.97	2	5
1995	47	2.12	1.95	5
2000	47	2.28	1.95	5
2005	48	2.44	1.95	4
2010	47	2.56	1.92	4
2011 (est.)	47	2.63	1.91	3.8

^{*}kilograms of feed to produce one kilogram of broiler live weight

source: National Chicken Council; US Broiler Performance, February 2011

Advances in egg production

The performance of modern layers has advanced at a rate of almost three extra eggs per bird, per year. Genetics specialists believe that whiteegg layers could ultimately produce 520 eggs as a henhoused average and that the horizon for brown-egg strains could be 480 eggs.

Currently, hen performance parameters at egg production sites have been defined by American consultants as including an average flock production rate of 80%, equivalent to 350 eggs per hen housed. The parameters also show 90% as the livability rate during the laying period, from 16 weeks to 72 weeks.

Such calculations give an insight into the scope for further improvement in egg production at the world level, since the current global average has been calculated at only 185 eggs produced per laying hen.

Comparing feed conversion rates

With the recent rise in feed costs internationally and forecasts that costs will remain high, the bird's ability convert nutrients is a particularly important aspect of overall performance efficiency.

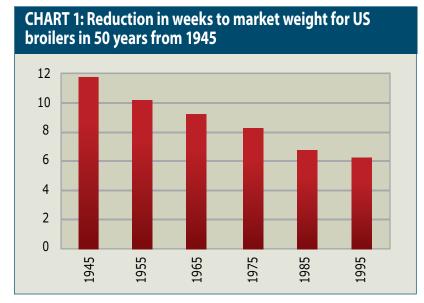
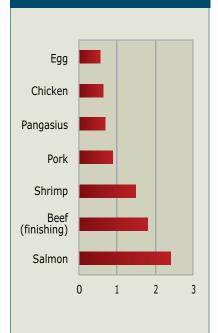


CHART 2: How chicken and egg production costs compare with other animal proteins



A broiler marketed at 2.5 kg may be credited with a live-weight FCR of 1.9:1, which in other words means it ate 4.75 kg of feed in reaching that end weight. But assuming a weight yield of 75% at slaughter and that 10% of carcase weight is represented by bones, together with a typical cooking

eggs are due largely to genetic selection in the nucleus of breeding flocks and a rapid improvement transfer to commercial crossbred progeny. Bird health, robustness,

Download Changes in US chicken performance at www.wattagnet.com/26343.html

loss of 20%, the 2.5 kg live would be 1.35 kg of edible meat. In that case, its conversion of feed into edible meat would be 3.52:1.

By comparison, a laying hen may eat 11 kg of feed in producing 5 kg of eggs. This would indicate her FCR as being 2.2:1. Assuming the edible contents of a 60-gram egg weighs 55 grams, the feed conversion for this production becomes 2.4:1. The extent of cooking losses may be 2%, so the FCR for the edible content would become 2.45:1.

According to "FAO Food Outlook 2010," citing Pym et al., 2008, worldwide gains already made in the production of poultry meat and

and product quality and safety have improved in-line with rises in productivity, as a result of the application of breeding, feeding, disease control, housing and processing technologies. Disease challenges can greatly reduce efficiency, but improvements in vaccination, nutrition and biosecurity have succeeded in limiting this impact.

Broiler snapshot

In a survey of results for 30 million broilers in Brazil grown to an average weight of 2.77 kg, the birds recorded an FCR of 1.8:1 and gained 60.3 grams of body weight daily, while the mortality rate was under 3.5%.

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Poultry meat demand rises as consumer incomes increase

Every 1% rise in global GDP is expected to bring a 1% rise in chicken meat consumption.

ecovery from the global financial crisis of 2007 and 2008 has been slower than expected in a number of countries, linked especially to high levels of government debt. This has had a direct effect on personal incomes and, therefore, on the demand for all animal proteins.

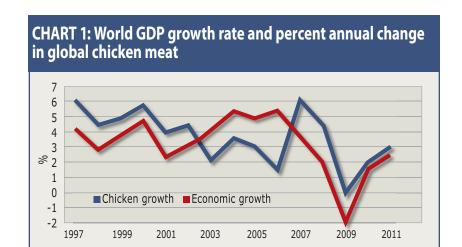
Poultry products have resisted the downward pressure better than other food items, but the central point remains that the demand for chicken has followed the growth patterns of global, regional and national economies as measured by their gross domestic product valuation.

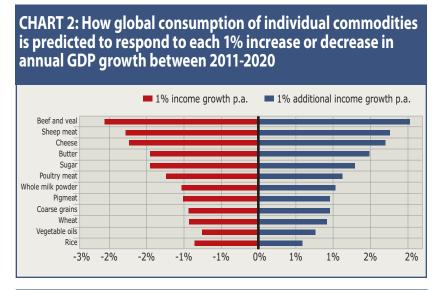
Chart 1, from a 2010 presentation by Dr. Paul Aho based on Food and Agriculture Organization of the United Nations and World Bank data, shows how closely the size of the world market for chicken has stayed in step with the strength or weakness of the global economy over the last 10 years.

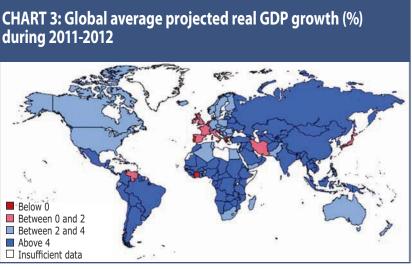
The latest outlook publication prepared jointly by the Organisation for Economic Co-operation and Development and FAO proposed that the uptake of poultry meat will have an almost linear relationship with economic growth in the current decade. As shown in chart 2, every 1% change in global GDP is forecast to bring a response of around 1% in consumption of the meat worldwide.

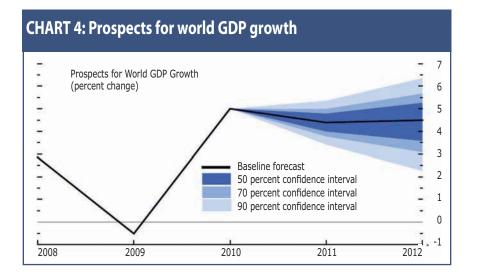
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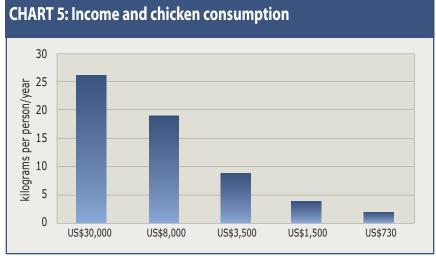
significance relationship is underlined by chart 3 from the International Monetary Fund showing the GDP rises expected for individual countries to the end of 2012. The organisation has forecast an annual growth rate of about 4.5% for the world economy in both 2011 and 2012, but with advanced economies growing at only 2.5% while the emerging/developing ones achieve 6.5% growth. Chart 4 from the













same source reflects the difficulties of forecasting inherent in the 4.5% world level proposed.

Other presentations by Dr. Aho have linked the level of individual incomes to the amount of chicken eaten and to the type of poultry products preferred. Chart 5 originates from his remarks to a 2010 Novus poultry roundtable meeting, in which five bands of income per person were suggested to have extremely different consequences for chicken consumption by those people.

The first quintile - with an average of \$30,000 per person annually accounts for 70% of world income, he explained. These are the people who generally prefer further-processed and value-added products. Their uptake of chicken is as high as 26 kilograms per person per year and stays relatively unaffected by normal fluctuations in incomes.

The second category, averaging \$8,000 annually, has a preference for fresh and frozen chicken. The members eat around 19 kg per person. This contrasts with the 9 kg average for people in the third-quintile group of \$3,500 per year, whose demand is more income-elastic. On that basis, the third quintile would be the most likely target for increased chicken sales as incomes rose.

The fourth and fifth quintiles cover people earning \$1,500 and \$730 per year on average, and they are associated with consumption levels of only 4 kg and 2 kg per person. Chart 6 emphasises that the amount purchased and eaten is especially susceptible to the price of the product for populations in the lower three income quintiles. But at times of financial crisis, the buying habits of many more people become price-

Urbanisation of world population shapes food market

Urban shift changes consumer preferences for poultry products.

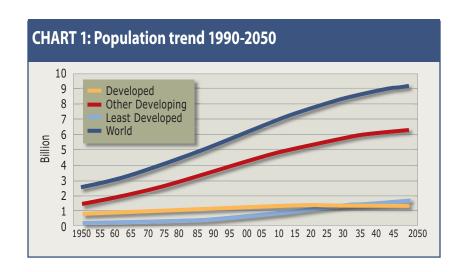
aving passed 6 billion in 1999, the total number of people on the planet will probably reach 7 billion in 2011. Approximately 60% of them live in the countries of the Asia-Pacific zone. Africa holds 15%, Europe 11%, Latin America 9% and North America 5%.

The trends in world population expected to 2050 are illustrated by chart 1. The percentage changes forecast for each region until 2019 are shown in chart 2. See table 1 for the likely population sizes by region in 2020 and 2050, while table 2 adapts indications from an analysis by the United Nations on prospects for world population growth, as reviewed in an Organisation for Economic Co-operation and Development publication, to highlight that the regions' rates of change will probably differ quite markedly over the coming two decades.

Both of the world's two most populous countries are said to be in line for a slowdown in their population annual average growth rate. For China, the growth rate is expected to slow from 0.65% in 2000-2010 to 0.55% in 2011-2020 and for India, from 1.51% to 1.17% over the same periods.

But no less significant for the food market, including poultry products, is the change in lifestyles indicated by the latest statistics. These suggest that, for the first time, half the world's total population resides in towns and cities. It will greatly affect the uptake of all foods because urban dwellers tend to have more disposable income and make different food choices than people in the countryside.

example from the viewpoint of the chicken sector



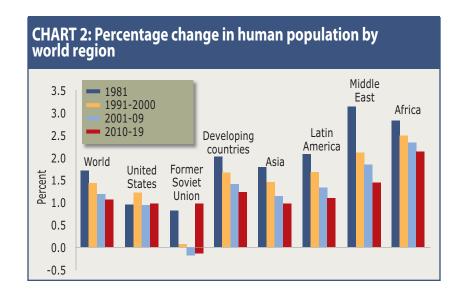


TABLE 1: World and regional population sizes (in millions), 1990-2050						
	1990	2000	2010	2020	2050	
World	5295	6124	6909	7667	9191	
Africa	636	813	1033	1228	1937	
Asia-Pacific	3127	3707	4176	4593	5265	
Latin America + Caribbean	444	523	589	667	783	
North America	283	315	346	375	438	
Europe	788	728	733	705	644	
(source: UN)						



TABLE 2: Average annual rates of change for population by world region, 2000-2019 Population change (annual growth rate %) 2001-2010 2011-2020 World 1.21 1.05 Africa 2.34 2.18 Asia-Pacific 1.23 1.01 Latin America + Caribbean 1.19 0.91 North America 0.97 0.88

0.11

Source: OECD, from UN World Population Prospects - 2008 Revision

is that an urban population tends to buy more processed products from multiple-store retailers, whereas their rural counterparts source locally and consume mainly fresh meat. Overall, according to the Food and

Europe

See from table 3 that threequarters of the people living in the Latin American/Caribbean, North American and European regions were already urban residents some 20 years ago. The increase in Asia has made an important difference,

0.09

- **Download World human population 2000-2010 at www.wattagnet.com/26387.html**
- **Download Population changes by region 1990-2050** at www.wattagnet.com/26389.html

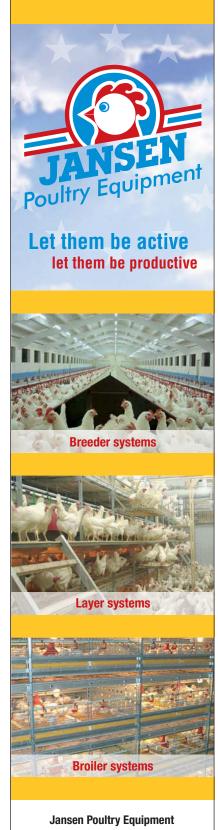
Agriculture Organization of the United Nations, people in urban areas spend an average of 30% more on food compared with rural inhabitants (see example from China in chart 3).

The increasing urbanisation of the population has been an especially Asian phenomenon.

not least in China where the urban share of the population is now around 47%.

Other individual countries named as recording the fastest rates of urban growth include India, Indonesia, Brazil, the Philippines, Mexico and Turkey.

Based on current trends,



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TABLE 3: World urban population percentage							
	Total population (millions)			l	Jrban population (%)	n	
	1980	1995	2010	1980	1995	2010	
World	4428	5713	6909	39.1	44.7	50.6	
Africa	482	726	1033	27.9	34.2	40.1	
Asia-Pacific	2590	3477	4176	36.5	43.6	49.6	
Latin America + Caribbean	363	482	589	64.9	73	79.3	
Europe	739	727	733	66.8	71	72.6	
North America	254	300	352	73.9	77.3	82.1	

(source: adapted from UN publications)

TABLE 4: Human population (x 1000) in 10 countries + EU-27, listed by projected size in 2050						
	1950	1970	1990	2010	2030	2050
India	371857	549312	860195	1220182	1505748	1658270
China	554760	830675	1149069	1351512	1458421	1408846
EU-27	-	435474	470388	499389	519942	515303
USA	152271	205052	249623	308936	363584	419854
Indonesia	79538	120532	182847	239600	279666	296885
Brazil	53975	95989	146593	196834	237738	259770
Mexico	27741	50785	83971	108396	120928	121856
Russia	102702	130392	148615	140318	123915	107832
Turkey	21484	35294	56104	76505	90806	96498
Japan	84109	104665	123611	127176	115224	95152
UK	50373	55711	57237	62309	70750	76959

(source: OECD, from UN database)

the world will have a human population of 8 billion by 2025. Over half of them will be in the Asia-Pacific territory. India is projected to have passed China for national population size by

that time, with 1.65 billion people in 2025 compared with China's 1.41 billion (see table 4). By 2050 the population of the USA is projected to have grown to 420 million, ahead of Indonesia

at almost 300 million and Brazil at 260 million. The expectation for the EU-27 area of Europe is that population will increase from 500 million in 2011 to 515 million in 2050.

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Markets in the news

Australia eyes new poultry meat production record

Poultry meat production in Australia has already risen from 662,000 metric tons in 2001 to more than 900,000 tons in 2011. It may now pass 1 million tons per year by 2015, according to forecasts presented to the 2011 annual outlook conference of the Australian Bureau of Agricultural and Resource Economics and Sciences. The uptake of poultry meat per person per year within Australia is seen rising from about 38 kilograms currently to close to 40 kg in 2015.

Egg production rises in Vietnam

According to the director governmental Vietnam's of livestock department husbandry, first indications for Vietnamese egg production in 2011 have been an annual increase of 9.5% to some 6.5 billion eggs per year.

More layers, fewer broilers in Ghana

Kwabena Asante, chairman of the Ghana National Association of Poultry Farmers, said in 2011 that the number of laying hens in Ghana rose from 18 million birds in 2010 to 21 million a year later. However, the combination of high feed costs and imports of frozen chicken has reduced Ghanaian broiler numbers over the past 10 years.

Chicken imports for Colombia

Estimates of broiler production in Colombia, published by the Foreign Agricultural Service of U.S. Department of Agriculture, suggest an annual total of 1.05 million metric tons in 2011 compared with 1.04 million tons in 2010. With consumption calculated at 1.08 million metric tons, imports of around 35,000 tons were needed again in 2011 to fill the deficit.

Poultry numbers rise in Zimbabwe

Zimbabwe's poultry production has been contributing roughly

6,500 metric tons of meat per month in 2011, according to Solomon Zawe, chairman of the Zimbabwe Poultry Association. Production of 5 million chicks and up to 70,000 dozen eggs per month represented growth rates of 16% to 19% from previous years. Some two-thirds of the local output is from informal traders.

Extra meat demand in Czech Republic

Czech Office Statistical reported that the Czech average of 24.8 kilograms of chicken meat consumed in 2009 represented a 13-fold increase since 1948, when just 2 kg per person was eaten on average. Overall, Czechs consumed 78.8 kg of meat per person on average in 2009. Consumption was at its highest for the country in 1989, when the average reached 97 kg.

Philippines chickens by type

According to the Philippines Bureau of Statistics, BAS, native chickens accounted for 47% of chicken inventory in 2010, compared with 34% for broilers and 19% for laying hens. The gross value of poultry production in 2010 amounted to P152.1 billion (US\$3.5 billion), up 4.8% from 2009.

Zambia's flock size

Figures for Zambia quoted by the national poultry association have indicated a total of 2.4 million laying hens and 36 million broiler chickens. Hatcheries in Zambia have a capacity for setting 1.8 million chicks per week.



Poultry challenges pork in worldwide meat consumption

Some forecasters believe poultry will overtake pork as the most consumed meat worldwide in the next five to six years.

world average of about 12.5 kilograms of poultry meat has been eaten per person in 2011. This compares with 13.5 kg for pork, 8 kg for beef and veal combined and 1.6 kg for sheep meat.

In terms of total volume, while the consumption of poultry meat is now about 100 million metric tons annually, that of pork is 109 million tons, beef/veal is close to 65 million tons and sheep meat is 13 million tons.

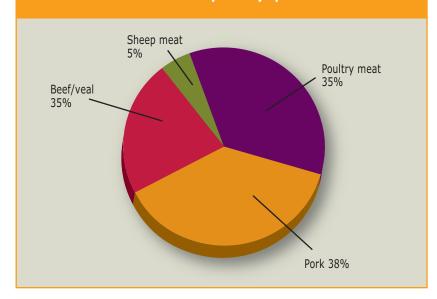
Chart 1 compares uptake of different meats as a percentage of the total world market. It reinforces the message that poultry already rivals pork as the world's most

popular meat. Several forecasters believe that it will gain the number one place within the next five to six years.

In its favour, poultry meat can claim to be the most affordable of all meats and the most available in all countries. Almost 60% of the amount consumed each year reflects consumption in the less developed economies. This part of its demand picture is predicted to grow much more quickly than in the developed nations over coming years, as an important factor in driving it ahead of pork on a global basis.

Wide regional variations

Chart 2 gives a view of poultry meat consumption by region, **CHART 1: World meat consumption by species**



- **Download Poultry meat consumption comparison by region** at www.wattagnet.com/26392.html
- **Download Poultry meat consumption per person/year by** world region at www.wattagnet.com/26397.html
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showing that the regional share represented by Asia-Pacific is now close to 40%, whereas each

of the three regions of Latin America, North America Europe represents around 18% to

CHART 2: Poultry meat consumption 2008-2010 by region

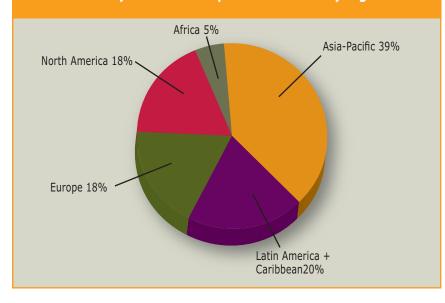


TABLE 1: Poultry meat consumption per person/year by world region				
	Average (kilograms ready-to-cook weight per person/year	Growth (%)		
	2008-10	2001-10		
World	12.3	2.14		
North America	43.4	0.28		
Europe	20.2	2.55		
Africa	3.3	1.53		
Latin America + Caribbean	28.7	3.85		
Asia-Pacific	7.5	2.83		

(source: adapted from FAPRI-ISU 2011)

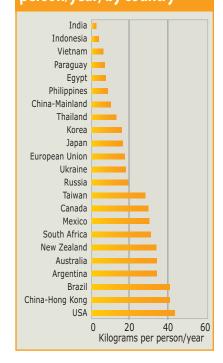
20%. Table 1 provides a different regional perspective by showing how the average rate of uptake per person per year compares between regions, with exceptionally higher rates currently in North America, Latin America and Europe than in Asia-Pacific and Africa.

A further indication of the variations in average annual rates that exist internationally is given in chart 3. Relatively few countries worldwide can claim a current average of 30 kg or more of broiler meat consumed per person each year and many places are still below 12 kg on this reckoning, which is shown in the chart according to ready-to-cook weight.

Chicken and turkey are clearly winning the battle for the U.S. consumer's vote, on the long-

term trend graphed by chart 4. For calendar year 2011, the total uptake of all meats in the USA is reckoned at around 94 kg. At that level, it would be the fourth year in succession that U.S. meat

CHART 3: Broiler meat consumption (kilograms per person/year) by country



consumption per person had declined – the first time on record that this has happened over such an extended period.

But chart 5 confirms the decrease to have been due almost entirely to a decline in the popularity of beef, as poultry meat consumption has largely held level even if not matching the peaks of 2006-07. In fact the latest figures show that chicken consumption in the USA rose in 2010, for the first time since 2006. The combined red meat category of beef plus pork, on the other hand, seemed likely in 2011 to be at its lowest since official records began in 1935.



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CHART 4: Long-term trend for shares of US meat protein market held by poultry and other meats

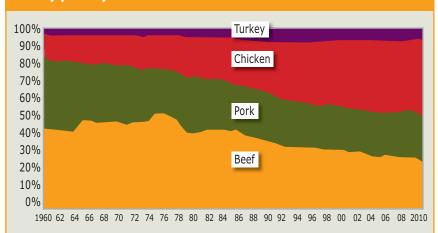
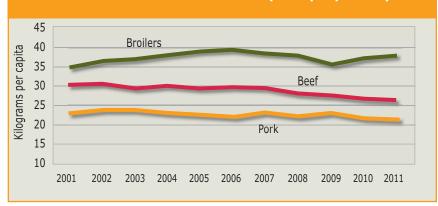


CHART 5: US trend 2001-2011 for meat uptake per person/year



Meat consumption rises with economic growth in Brazil

Brazil produced 11.4 million metric tons of broiler meat and 485,000 tons of turkey meat in 2010, ahead of expectations that these annual totals would rise in 2011 to 11.75 million tons and 510,000 tons,

respectively. Economic growth at home has stimulated consumption of poultry meat such that an average uptake of 41.7 kilograms per person in 2010 was seen increasing to about 42.5 kg in 2011.

Across the world, the view is that meat consumption trends will be increasingly affected by a combination of limiting factors. Among these are the ageing of the population and a tendency for consumers in more matured markets to be deterred by negative publicity on such matters as the environment and animal welfare. Higher meat prices resulting from increased production costs have also proved a deterrent to sales. Elsewhere there have been incidents of a sudden drop in the demand for meat after a highly publicized disease outbreak in animals or birds.

Against these considerations are the aspects of improving personal incomes and of the continuing increase in the number of mouths to feed, even if the world population's growth rate is slowing.

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Pas Reform provides Watter's Nontox Electrical Chemical Activation disinfection technology to hatcheries. Nontox ECA technology uses water, salt and electricity to produce a non-toxic disinfectant to neutralize viruses and bacteria, Pas Reform says.

Pas Reform www.pasreform.com

Bosch Pack 301 IN inverted horizontal flow wrapper

Bosch's Pack 301 IN inverted horizontal flow wrapper



is ideal for packaging soft products, multi-packs or other products that are difficult to handle using a traditional upright flow wrapper. The inverted flow wrapper transports the product by carrying it on top of the film from the former through the cutting

head. The Pack 301 IN can integrate with a variety of infeeds, such as flighted, lug-less, trough-style and belt feeders.

Bosch www.bosch.com

Zip-Pak Slider Select



Zip-Pak says its Slider Select is the smallest and lightest-weight of its slider offerings. The slider can attain speeds of over 150 closures per minute, according to the company. The slider also features leak resistance and does not require a small opening or a protruding

finger in order to work properly. The slider is ideal for pre-made pouches and form, fill and seal applications.

Zip-Pak www.zippak.com

Hubbard Feeds Bioverse manure pit management products

Hubbard Feeds offers Bioverse manure pit management products for swine producers. Products in the line include Agraphere and Activator Plus. Both products use naturally occurring bacteria to reduce sludge build-up and prevent crusting, the company says.

Hubabrd Feeds www.hubbardfeeds.com

Noveko International Inc. Agroscan L

Noveko International Inc. offers Agroscan L for back fat and muscle measurements. Agroscan L is a portable unit equipped with a large probe for back fat and muscle measurements, a lithium battery and a 5.5-inch high-resolution LCD display. The ultrasound scanning can be linear or sector array, and fully digital conversion. The unit can also measure distance, length, volume, area and circumference, ellipse, time and heart rate.

Noveko International Inc. www.agroscan.com

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Global egg consumption increases in 2011

Lifestyle and economic development are factors that shape how egg consumption is changing.

n very approximate terms, we can say that 1,195 billion eggs have been consumed worldwide in 2011 and that this is equivalent to 173 eggs per person per year. By comparison, the global consumption of 963 billion eggs in 2000 equated to 157 eggs per person.

Table 1 illustrates that high rates of annual egg consumption per person are found in every region of the world. Of course, the consumption rate possible for any food depends on personal or disposable incomes. Table 2 is adapted from a presentation to the WATT Online Forum of 2011, in which the consumption of eggs in each country was related to its economy in terms of gross domestic product per person and the size of its human population.

It is important to repeat the warning that the calculated average egg consumption by each person does not necessarily tell the full story about demand. We can use statistics from the USA to make this point.

U.S. Department of Agriculture data show the number of eggs consumed per person nationally decreasing from 248.2 in 2009 and 247.4 in 2010, to 247.3 in 2011 and 244.9 in 2012. While this continues a generally decreasing national trend (see chart 1), the country's utilisation of eggs for human consumption in fact rose from about 76.4 billion in 2010 to 77.35 billion in 2011.

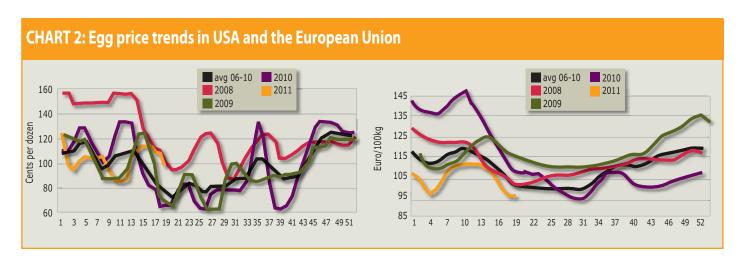
Statistically, the highest figure for number of eggs consumed per person per year in the USA was recorded in 1945, while the lowest came in 2001. During the past decade the average appeared to rise between 2000 and 2005 before leveling out and returning to a

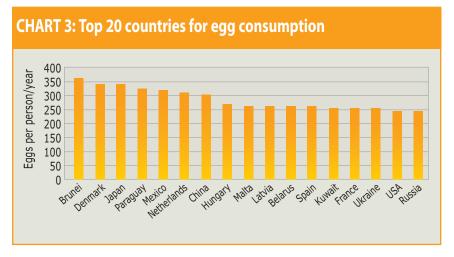
CHART 1: Egg consumption per person trend in USA Eggs per person/year

TABLE :	l: Egg consumption tr	end by coun	try (kilogram	ıs per person	/year)
Hours	Country	2000	2005	2006	2007
1:00	Brunei Darussalam	11.98	14.81	15.31	20.99
2:00	Denmark	13.74	18.96	19.49	19.61
3:00	Japan	19.38	19.1	18.98	19.59
4:00	Paraguay	11.99	17.17	17.94	18.74
5:00	Mexico	15.49	16.4	18.63	18.37
6:00	Netherlands	19.59	17.51	18.05	17.94
7:00	China	15.84	17.02	16.82	17.41
8:00	Hungary	15.69	16	16.07	15.79
9:00	Malta	11.35	11.96	14.59	15.39
10:00	Latvia	9.71	13.4	14.93	15.38
11:00	Belarus	12.76	14.47	15.28	15.14
12:00	Spain	13.88	13.01	14.24	14.89
13:00	Kuwait	11.62	12.85	10.95	14.82
14:00	France	15.99	14.35	14.01	14.7
15:00	Ukraine	9.66	13.78	14.56	14.57
16:00	USA	14.33	14.5	14.48	14.29
17:00	Russia	12.73	13.98	14.32	14.28
18:00	Austria	12.28	13.37	13.62	13.93
19:00	Belgium	11.04	11.42	13.5	13.04
20:00	Romania	10.64	14.32	14.87	12.83

TABLE 2: Egg consumption and income						
Country	Eggs per person/ year	Population (millions)	GDP (US\$) per person			
Argentina	200	40	14700			
Australia	170	22	39700			
Belarus	260	10	12750			
Belgium	200	11	36100			
Brazil	135	194	10200			
Canada	175	34	39000			
China	300	1331	6900			
Czech Republic	245	10	24000			
Finland	150	5	36000			
France	255	63	34000			
India	45	1155	3300			
Iran	160	73	11500			

TABLE 2: Egg consumption and income						
Country	Eggs per person/ year	Population (millions)	GDP (US\$) per person			
Japan	340	128	33500			
Kuwait	255	3	53900			
New Zealand	220	4	28000			
Paraguay	325	6	4500			
Russia	250	142	18500			
South Africa	130	49	10100			
Sweden	200	9	38000			
Switzerland	190	8	47000			
Ukraine	255	46	6500			
United Arab Emirates	135	5	49000			
USA	250	310	47500			





decreasing trend.

A commentary by the American Egg Board said that table egg consumption had grown between 2000 and 2010 mainly due to an

increased uptake of egg products, itself a reflection of lifestyle changes. In fact, the nature of consumption is changing everywhere. In countries with

→Download Egg consumption per person by country at www.wattagnet. com/26347.html

developed economies, the trend is to increase the uptake of processed egg products, whereas in countries with developing economies, the tendency remains for improving incomes to raise the uptake of shell eggs.

Sales are always influenced by prices, of course. U.S. egg prices in 2011 have been less volatile than in 2010, while the EU-27 price in Europe was the lowest of recent years (chart 2).

Stonhard Stongard

Stongard from Stonhard product line that consists waterproofing and decking of membrane products formulated address moisture issues in mechanical equipment rooms and indoor spaces. Stongard MR protects mechanical equipment rooms and indoor spaces that cannot tolerate moisture. Stongard MD is also a waterproofing solution, but adds a focus on style to meet specific design expectations, the company says. Stonard MX includes a fiberglass reinforcement, where specified, to satisfy spaces requiring positive side moisture protection. All are abrasion, crack and slip resistant, according to Stonhard.

> Stonhard stonhard.com

Big Dutchman Inc. WIN4 egg weighing system

Big Dutchman says its WIN4 egg weighing system allows egg belts to be advanced multiple times per collection cycle to avoid egg collisions and distributes



egg flow evenly along the egg belt.

Big Dutchman says its WIN4 egg weighing system allows egg belts to be advanced multiple times per collection cycle to avoid egg collisions and distributes egg flow evenly along the egg belt. The system has two channels per bird group and four channels recommended for houses with more than 20,000 total hens. Target weight can be adjusted to adapt weights to a specific weekday. The egg belt offers three different weighing procedures: nominal weight exceeded, average value of the nominal weight exceeded, or average value of all channels or nominal weight of one channel exceeded.

> Big Dutchman Inc. www.bigdutchmanusa.com

Tecno Poultry Equipment Anaconda

Tecno Poultry Equipment says the Anaconda system is ideal for transporting eggs from the head of the housing to the gathering centers.

Tecno Poultry Equipment says the Anaconda system is ideal for transporting eggs from the head of the housing to the gathering centers. Standard widths from 40 cm to 100 cm are available based on a plant's egg gathering requirements. The Anaconda system consists of stainless steel, anodized aluminum and technopolymers. The Anaconda system allows eggs to be conveyed around bends, or up or down slopes. The speed of the belts is variable to adjust egg flow in relation to the sorting or packaging machine's capacity. The conveyor's egg counting system counts eggs from each belt, storing totals per level and per building for one week.

> **Tecno Poultry Equipment** www.poultryequipment.com

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SC, the company says, is a blend of botanical extracts, organic acids, phytoalexins, essential oils, saponins, lowfoam detergents and bioflavonoids concentrated form. The product can be used on eggshells to kill

pathogens, viruses and fungi.

Green Earth Naturally LLC www.greenearthnaturally.com

Sanovo Process Solutions **DELVONis**



Sanovo Process Solutions' DELVONis is a Nisin-based product that has an anti-

microbial effect on gram-positive bacterias. DELVONis is added to liquid egg product before pasteurization in powdered form and can be suspended in water first to ensure better distribution, the company says. According to Sanovo, DELVONis can be used in all liquid egg products as well as prepared products, and is tasteless and allergen-free.

> **Sanovo Process Solutions** www.sanovogroup.com

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The Chore-Time Chore-Tronics Ethernet Local Talk Interface gives users with Internet access the ability to manage and control house operations from anywhere in the world and remotely monitor his or her farm and make adjustments to control settings as needed.

The Chore-Time Chore-Tronics Ethernet Local Talk Interface gives users with Internet access the ability to manage and control house operations from anywhere in the world and remotely monitor his or her farm and make adjustments to control settings as needed. The ELT Interface converts



information from Chore-Tronics Controls into a Web-friendly format for viewing control settings and house conditions or for making changes. It permits authorized users to view Chore-Tronics 2 Control information via a Web display of the control screen using a Web browser on Java-compatible computers and mobile devices. Authorized users can also use the ELT unit in place of a phone line and modem to view data from Chore-Tronics 1 or 2 Controls using Chore-Time's C-Central Professional Software.

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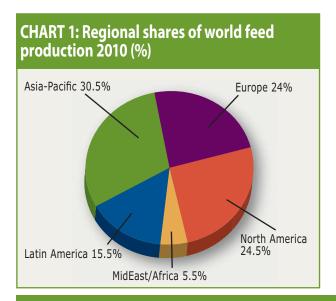
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Input costs affect poultry feed production

The world market is shifting for poultry feeds.



stimates compiled by our associated publication Feed International suggest that world compound feed production for all species by industrial feed mills in 2010 increased by about 1.4%, to a new record of approximately 718 million metric tons with a combined market value of about \$240 billion. Further growth in 2011 has been constrained primarily by high feed grain prices globally, although Asian countries have continued to deliver extra volumes to meet local requirements.

In most years, the industrial manufacturing of feeds for poultry represents between 40% and 45% of total compound feed production worldwide. Within the category of poultry feeds, output tends to be divided almost equally between products for feeding to meat birds and diets for egg layers.

Poultry represents the largest single segment of

compound feed production by industrial mills on a global basis, compared with approximate shares of 30% for pigs, 25% for ruminants and less than 5% for aquaculture. The variation between Asian countries for the proportion of poultry feeds in total feed production is illustrated in chart 1.

A significant event in 2011 was the announcement by the European Feed Manufacturers' Federation, FEFAC, that its calculations showed poultry feeds have become the biggest part of the industrial feed market in the European Union, taking the number one slot from pig feeds for the first time. According to FEFAC figures prepared for its latest annual congress, EU countries produced a total of 149.97 million metric tons of compound feeds at industrial mills in 2010. Feeds for poultry registered 50.89 million tons, whereas pig feed recorded 49.65 million tons.

FEFAC's first projections for 2011 were that the poultry feed tonnage would rise by about 0.5%, with cattle feeds up 2% and a 1.5% drop in pig feed volume.

CHART 2: Poultry feed (% of total feed) in Asian countries in 2010

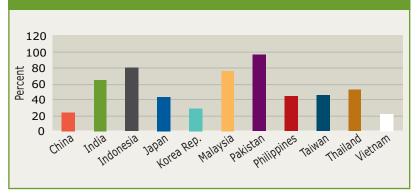
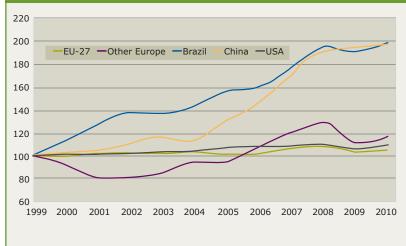


CHART 3: Evolution of global feed production (Index 100 = 1999)



Shares grow in key markets

Brazil's national association Sindicato Nacional da Indústria de Alimentação Animal, Sindirações, estimated that the Brazilian production of slightly more than 60 million metric tons of all compound feeds includes nearly 34 million tons for the poultry sector,

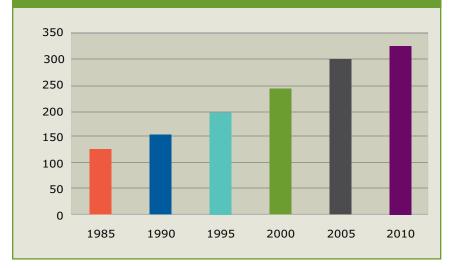
CHART 4: European feed grain price volatility August 2010 to June 2011 (prices in Euros per metric ton)



CHART 5: Evolution of poultry meat/feed prices index between 2005-2011 where 2002-2004 = 1



CHART 6: Million metric tons of feed ingredients consumed by global poultry industry, 1985-2010



- **Download World total feed production by year at** www.wattagnet.com/26355.html
- **⇒**Download European Union annual feed production by species at www.wattagnet.com/26357.html

a share of 57%. The fact that about 80% of the feeds made industrially in Indonesia are for poultry has helped bring the national feed industry to an annual growth rate of 4%.

A big increase in Russia's poultry feed production has been projected by

Russian government officials. In a draft program on the development of feed production, they projected poultry's share of compound feed consumption to grow from 31% in 2009, to 34% in 2012. A U.S. Department of Agriculture report estimated that poultry establishments

Russia currently manufacture about 70% of the country's total feed requirements.

Increases in ingredient costs have again been a major consideration for poultry feed manufacturers around the world. One estimate from the USA was that the rise in the maize price quoted on the Chicago Board of Trade, the equivalent of \$315 per metric ton, would add almost 17 cents to the production cost of each kilogram of chicken. The annual report of U.S. top poultry company Tyson Foods noted that corn and soybean meal represented about half of the cost of growing a chicken. By its reckoning, every additional 10 cents per bushel in the price of corn, or \$10 per ton of soybean meal, would typically raise chicken production costs by \$0.0025 per live-weight pound.

Analysts warned that the escalation of the maize price to new highs cost U.S. chicken producers some \$20 billion in extra feed costs over the last five years. American chicken company Cagles Inc. said in its report for fiscal year 2011 that its feed cost had risen by 18.5% year on year, driven by a 75% increase in the cost of maize, or corn. Averaged annually, the cost rise worked out at \$18 per metric ton of feed. But in the fourth quarter, the feed cost increase was \$82 per ton, or 34% above the same quarter in fiscal 2010.

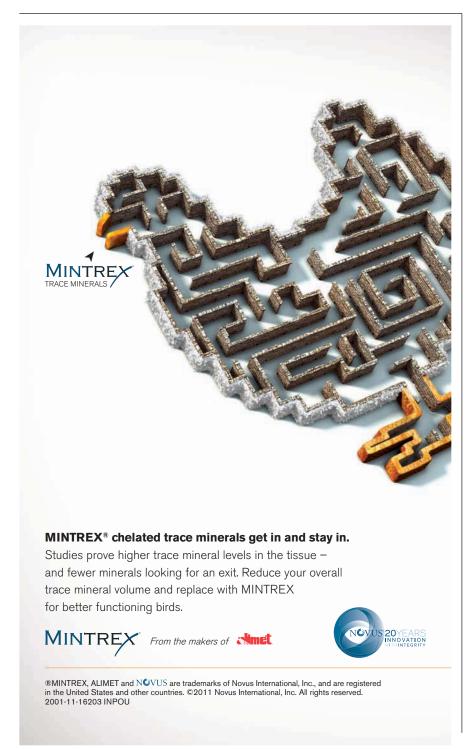
DuPont Qualicon BAX System STEC Suite

DuPont Qualicon's BAX System STEC Suite contains three real-time PCR assays that enable food processors and labs to detect the Shiga toxin-producing *E. coli*.

The BAX System screening assay detects a combination of stx and eae virulence genes to clear negative samples in the production line. Two

multiplex panel assays can determine which of the top six non-O157 STEC serogroups (O26, O45, O103, O111, O121, O145) are present in positive samples, the company says. The tests were developed in collaboration with the Agricultural Research Service of the United States Department of Agriculture.

DuPont www.dupont.com



Milk Specialties Global Animal Nutrition ROC program

Milk Specialties Global Animal Ration Options Nutrition's Consultants program is designed to help nutritionists and dairy producers replace high-cost commodities without compromising production. Through the ROC program, consultants work with the company's Dairy Technical Services team to lower ration costs by eliminating high-priced feeds, such as corn and cottonseed, and replace the nutritional value with alternative inaredients.

Milk Specialties Global Animal Nutrition www.milkspecialties.com

Cardinal Scale Mfg. Co. Admiral washdown bench scales

Cardinal Scale Mfg. Co. offers Admiral washdown bench scales with 190 STORM weight displays in multiple sizes and capacities. The scales are equipped with ColorZONE checkweighing technology that changes colors on



the scale's LCD screen as precise weight targets are met. The Admiral has a one-inch high LCD, stainless steel base, push button tare. printing, label carrying handle, interlocking

commodity tray, adjustable tilt display, built-in RS232 port and optional rechargeable Lithium Ion battery pack.

Cardinal Scale Mfg. Co. www.cardinalscale.com

Maxi-Lift Inc. Titan Ultimate belt splice

The Titan Ultimate belt splice from Maxi-Lift Inc. is engineered for thick elevator belts in large export river terminals or 24-hour processing plants. The Titan is constructed with a central aluminum vice-grip section that is bracketed by two exterior aluminum clamps. Belt ends bend through a 75 mm radius to a 90-degree angle, employing clamp force and friction to secure the load. The central wedge is equipped with rubber backing on the pulley side to prevent wear due to pressure or friction generated during operation, the company says.

Maxi-Lift Inc. www.maxilift.com

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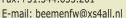
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