

Future Sources of Pig Feed

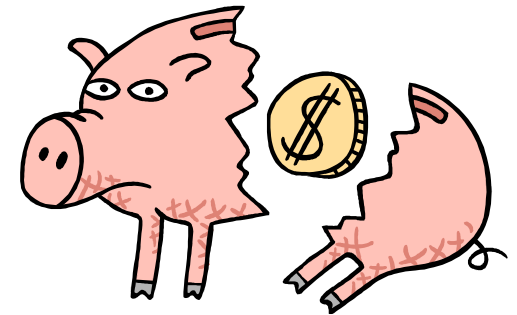
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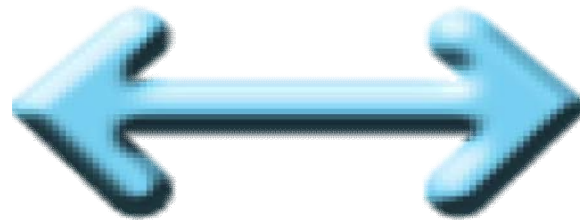


Introduction

- Feed cost = 70% of total cost
- Nutrient requirements
- Least cost formulation



Feed Costs



Profitability

Outline

- Feed prices
 - Reasons for volatility
 - Current situation
- Impact on Irish pig producers
- The future of pig feed
 - GM technology
 - Alternatives for least cost formulation



Primary Factors Affecting Cereal Price

**Ethanol
production**



GM technology



Cereal Price

Weather



Food vs Energy Debate

- Economies of food & fuel were separate
- USA – huge capacity to convert grain to ethanol
- Land area used for ethanol instead of food



- Cereal price increase
- Threatens food security

Primary Factors Affecting Cereal Price

**Ethanol
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GM technology



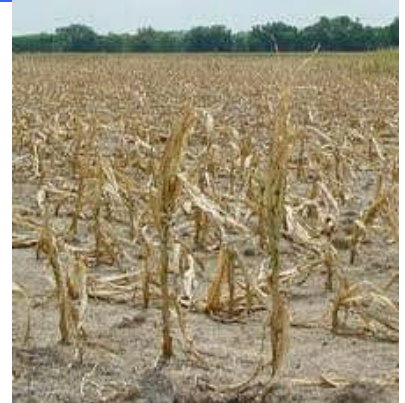
Cereal Price

Weather



Environmental Conditions

- Severe drought – Australia 2007/08
- Wet conditions at harvest
- High temperatures, drought & fire
 - Russia and Kazakhstan, 2010(Export ban imposed by Russia & restrictions imposed by the Ukraine on the export of wheat)



Primary Factors Affecting Cereal Price

**Ethanol
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GM technology



Cereal Price



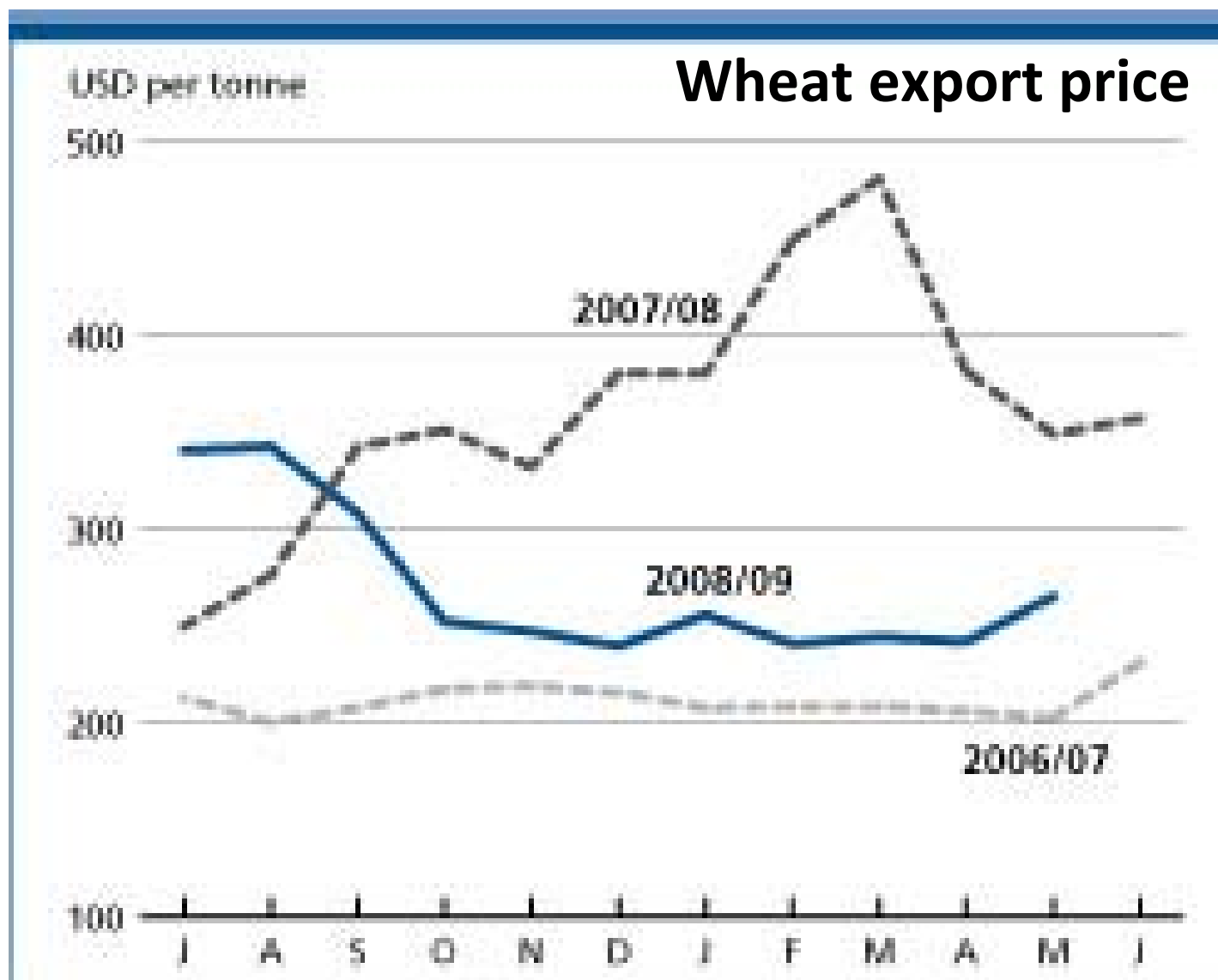
Weather

Adoption of GM technology

- Global area of GM crops has increased
- Non-GM crops difficult to source & high priced
- EU authorization; lengthy process
- Limits our availability to new GMO, available to others outside the EU
- Increases feed cost and cost of production
- EU authorization process of GMOs?



Cereal Prices – Current Situation

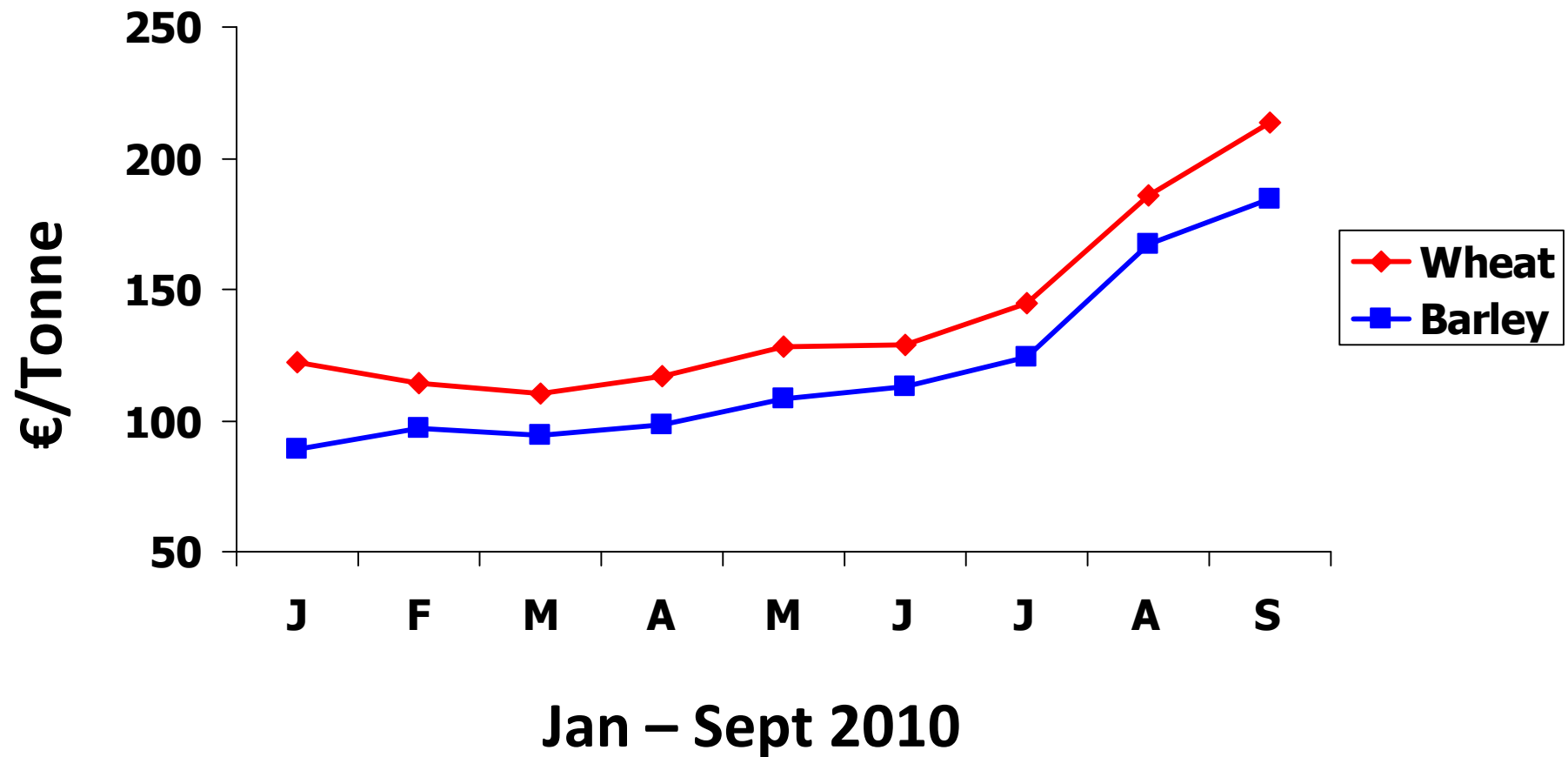


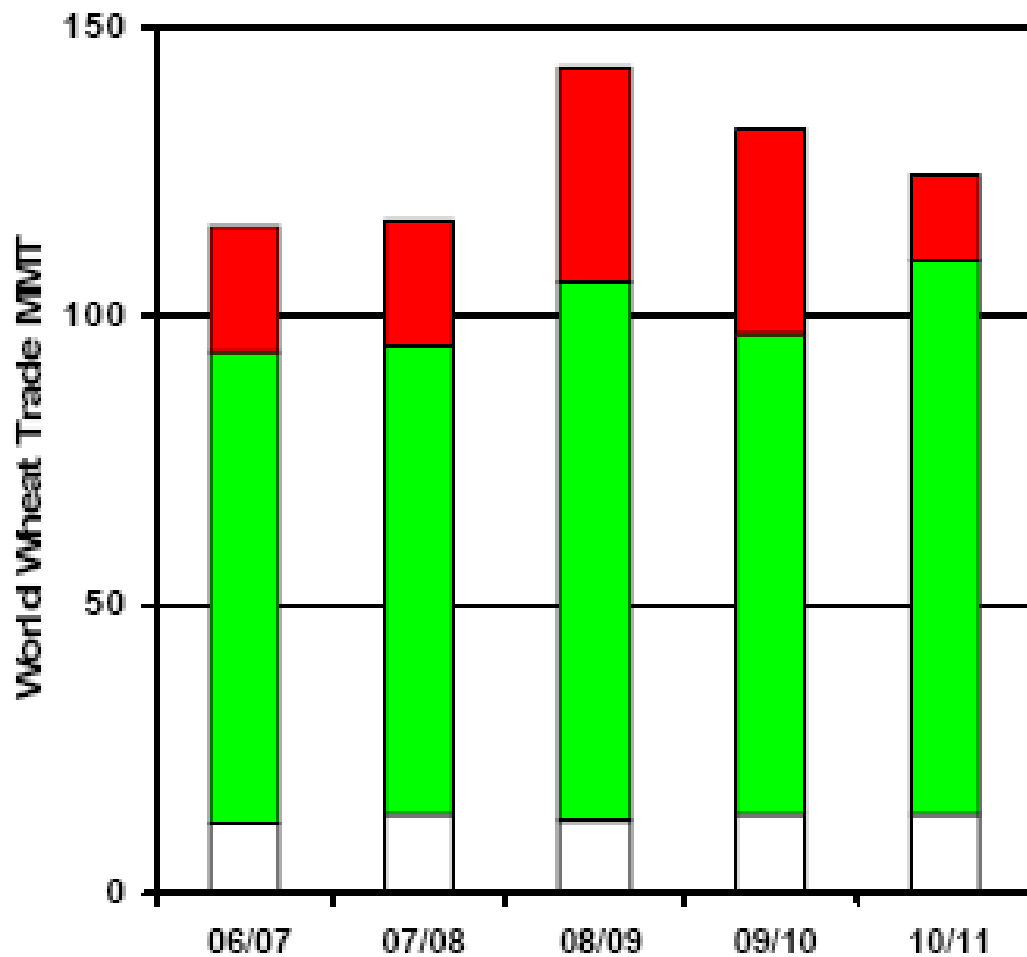
Source: USDA, FAS; 2010



Wheat and Barley Prices

(average UK & France)





Others
 Traditional Exporters
 Black Sea

Black Sea is Russia, Ukraine, and Kazakhstan

Traditional Exporters are Argentina, Australia, Canada, EU, and United States

**Less than 2 %
decrease in world
wheat supply**

Impact on Pig Producers

Cereal prices, €/tonne	Wheat	Barley
Sept. 2009	111	97
Sept. 2010	225	194
Additional cost, €/tonne	+ 114	+ 97
Assume pig feed contains 75% cereals		
Additional cost/tonne composite feed (€)	85.5	72.75
Additional feed cost/pig (€)	24.97	21.24
Additional cost/kg deadweight (cent)	31	26

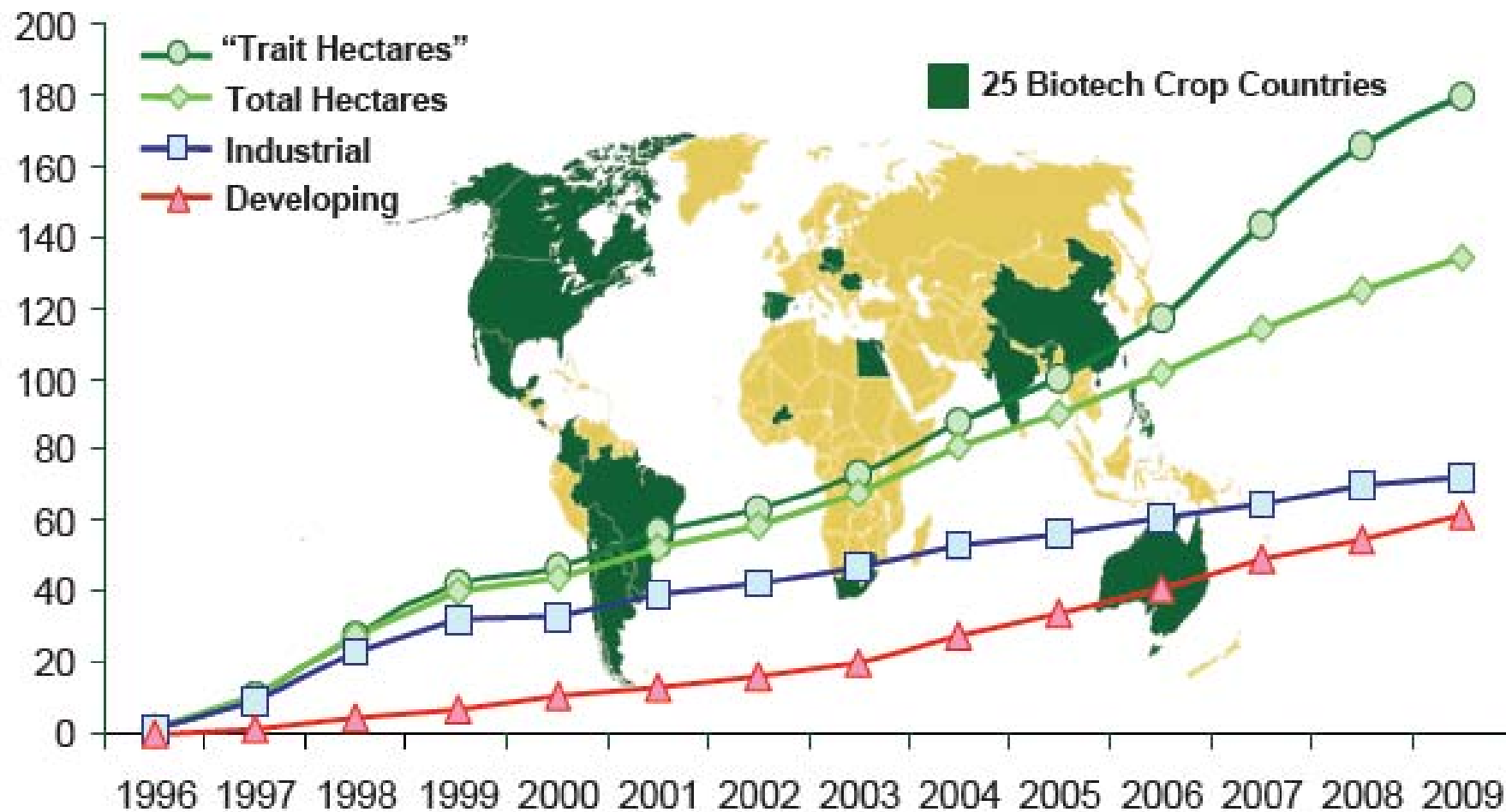


Future Sources of Pig Feed

GM Crops



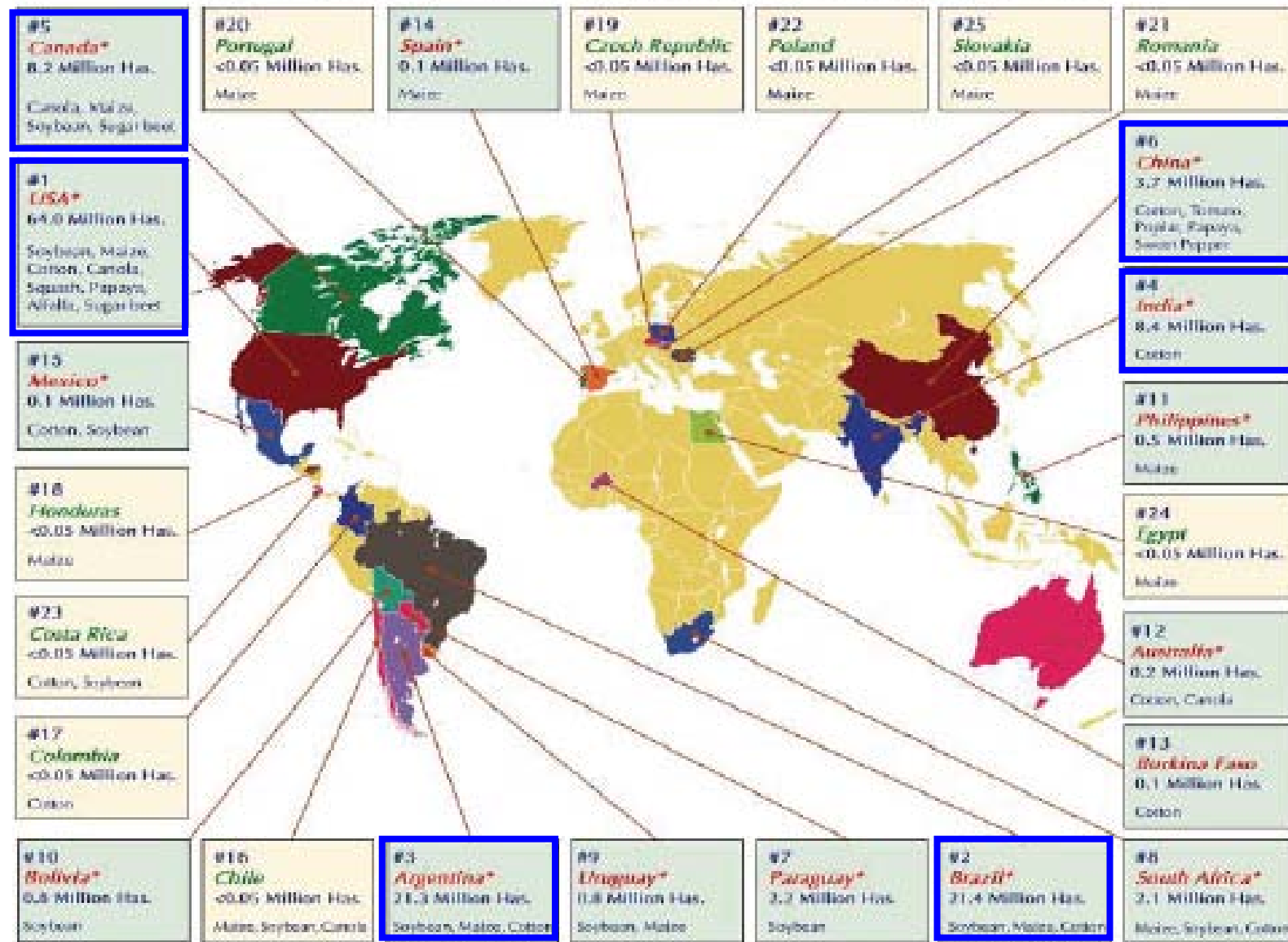
GLOBAL AREA OF BIOTECH CROPS Million Hectares (1996 to 2009)



A record 14 million farmers, in 25 countries, planted 134 million hectares (330 million acres) in 2009, a sustained increase of 7% or 9 million hectares (22 million acres) over 2008.

Source: Clive James, 2009.

Biotech Crop Countries and Mega-Countries*, 2009




* 15 biotech mega-countries growing 50,000 hectares, or more, of biotech crops.

Source: Clive James, 2009.

Ireland's Position on GM Crops

- No cultivation of GM crops currently
- Only EU authorized GM crops can be imported & used in animal production
- Import large amounts of GM crops
(2005-2007; >3.4 million tonne imported into Ireland)
- Declaring Ireland a 'GM-free island'





Estimated Cost of Substituting Conventional for GM Ingredients on the Irish Pig Industry

Situation on September 11th 2009

	Access to current GM products	Access to cheaper GM products
Additional cost/tonne diet (€)	8.80	13.8
Total cost to pig Industry (million €)	8.7	13.7
Total cost per pig (€)	2.51	3.93

Lawlor & Walsh, 2009

GM Crops


Advantages

- Stabilize world food supply
- Stress resistant crops
- More food for less land
- Less environmental impact
- Reduce cost of production
- More nutritious/functional foods

Disadvantages

- Consumer concerns
 - Perceived risk to health
 - Toxicity
 - Allergenicity
 - Transfer of antibiotic resistance





Other Alternatives for Least Cost Formulations

Requirements;

- More economical
- Maintain feed quality
- Maintain or improve pig growth performance
- Inclusion will depend on price & availability
- Limits on inclusion levels
 - Dried distillers grain with solubles; ~20%
 - Brewers dried grain; 5%
 - Corn glutens; 30%
 - Sunflower meal; 25% of protein
 - Rapeseed meal; 50% of protein
 - Sorghum; substitute for cereals



Take Home Message.....

- High cereal prices are crippling the pig industry
- Cyclic pattern to cereals prices to continue
- More rapid adoption of new GMOs by the EU
- Must explore alternatives to maintain least cost formulation



**"That's
all
folks!"**