

# Isoglucose – A new Competitor in Sugar?

## *Global Forum*

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# Agenda

1. Facts about Isoglucose
2. Revenues from By-products – Net Raw Material Cost
3. Processing and Profit Margins
4. Conclusions

# Facts about Isoglucose

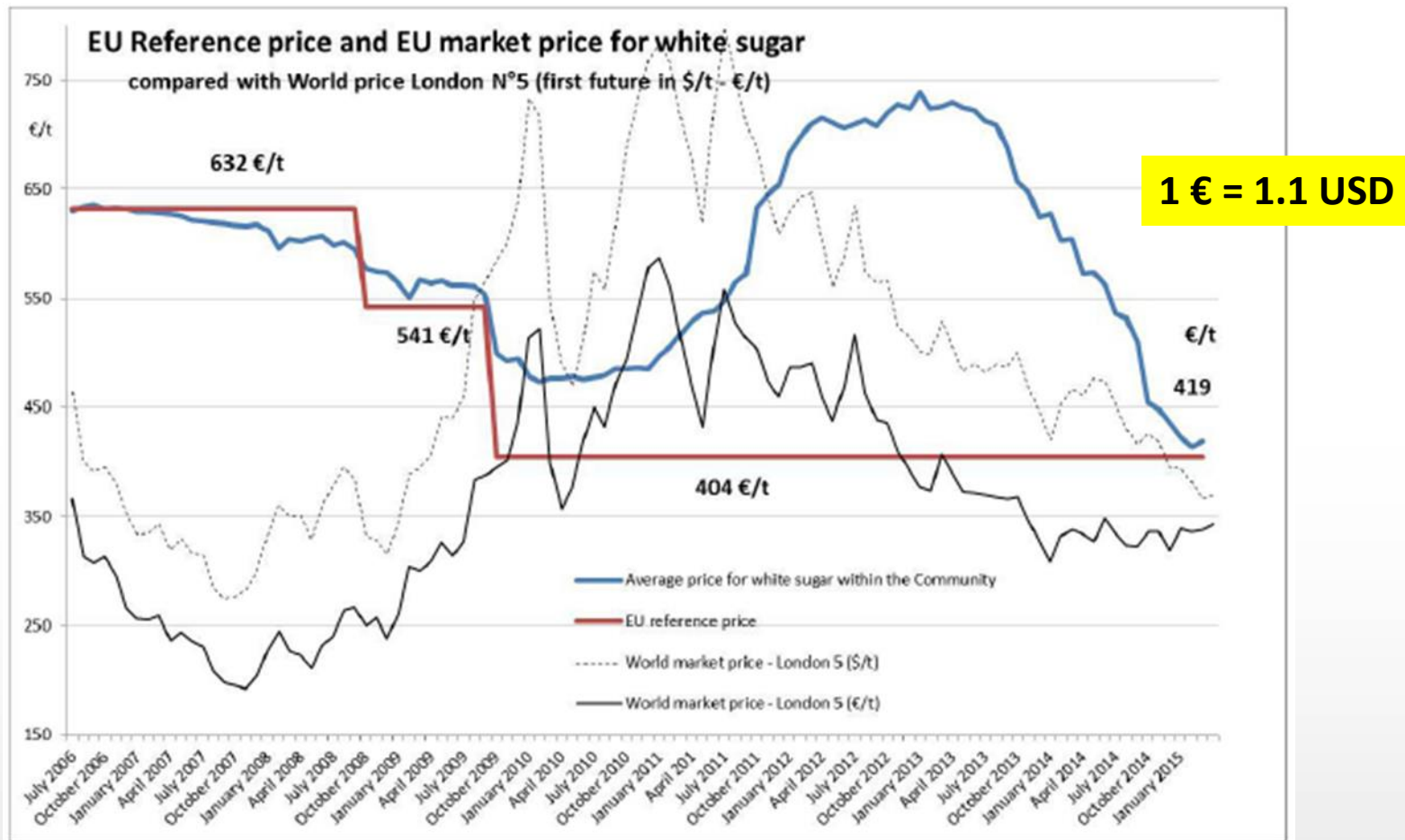
1. Isoglucose is a sugar produced from starch
2. Up until 2017 EU isoglucose production is restricted by quota system (as is sugar).
3. Isoglucose is fluid; needs to be kept warm.
4. Market share in caloric sweeteners in the EU: > 5%  
USA: +/- 50 %; Japan: 20 %.
5. Technical Potential in the EU:  
Soft drinks, bakery, dairy products:  $\approx$  25 -30 %.
6. Per tonne of isoglucose 1.66 t corn is needed.

# By-Products from Isoglucose Production

by-product	t/t of corn
corn gluten meal	0,054
corn gluten feed	0,232
corn oil	0,031
corn germ meal	0,033

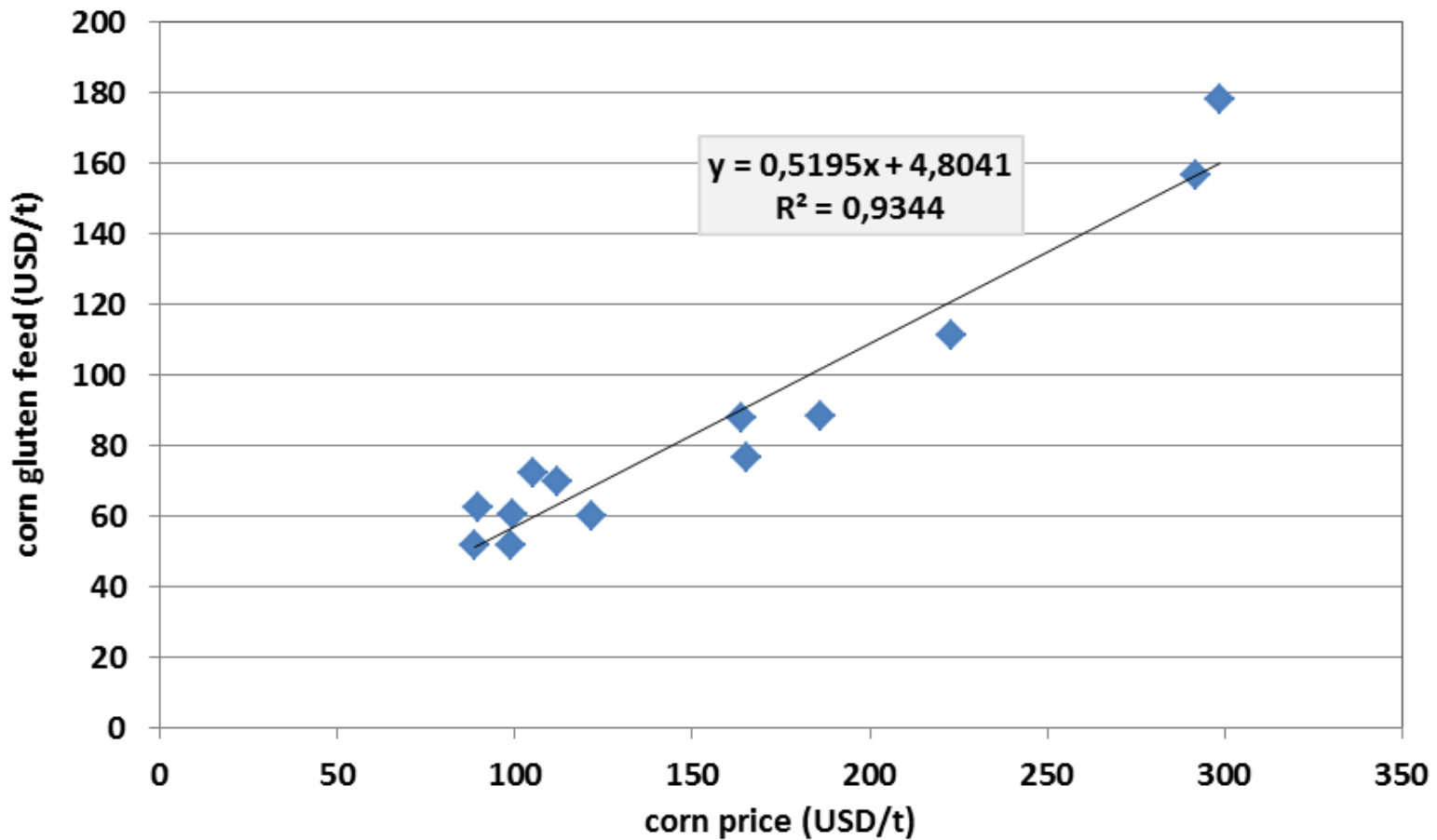
Sources: *O'BRIEN & WOOLVERTON* , *BLASI*, own calculations

# EU and world market sugar prices (€/t)



Source: EU COMMISSION (2015)

# US Corn Gluten Feed closely linked to Corn (2000 – 2013)

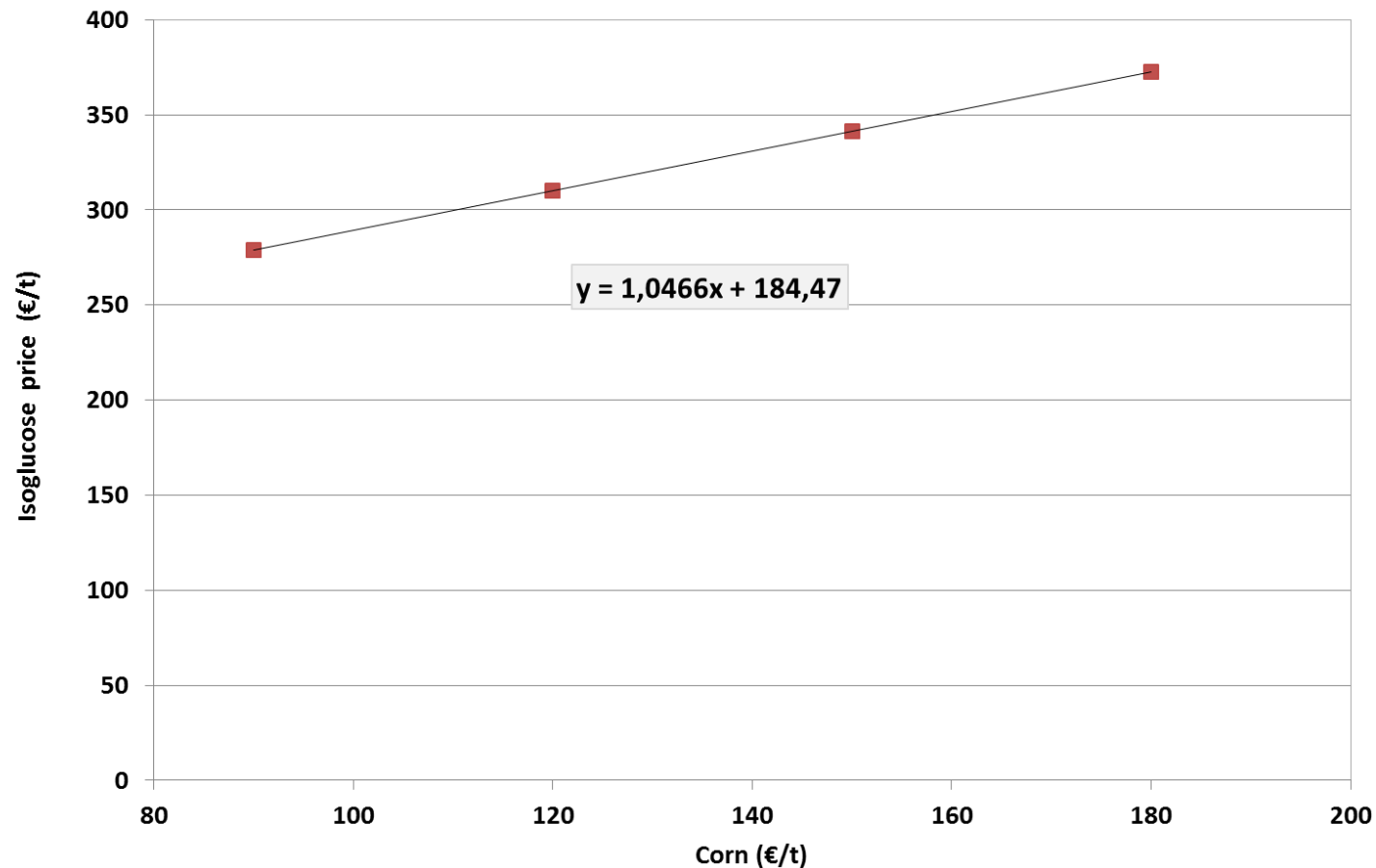


Sources: ERS (2013), own calculations

# Net Raw Material Cost Isoglucose

<b>Corn price (€/t)</b>	90
<b>Derived price by-products (€ je t)</b>	
Corn gluten meal	266
Corn gluten feed	52
corn oil	471
corn germ meal	52
<b>Output by-products per tonne of corn (t/t)</b>	
Corn gluten meal	
Corn gluten feed	
corn oil	
corn germ meal	
<b>Revenue by-products per tonne corn (€/t)</b>	
Corn gluten meal	
Corn gluten feed	
corn oil	
corn germ meal	
<b>Total revenue from by-products (€/t)</b>	
<b>Net raw material cost (€/t corn)</b>	
<b>Net raw material cost (€/t Isoglucose)</b>	

# Total Cost Isoglucose depending on Corn Prices (in €/t)



Sources: own calculation



# Processing- and Profit Margins Sugar Industry

## Provided: Sugar Price = Isoglucose Price

	Sugar beet price (€/t)	Indifference price wheat / corn (€/t)	Calculated Isoglucose price (€/t)	Processing & profit margin sugar factory (€/t)	Reduction of sugar factory margin (€/t)	Reduction of sugar factory margin (in %)
2009	36	228	423	220	57	21%
2010	33	204	398	216	152	41%
2011	49	334	534	259	166	39%

# Conclusions

1. In the EU isoglucose will become a very competitive product compared to sugar.
2. EU sugar industry needs to reduce its margin by app. 40% or 150 €/t in order to price sugar at parity.
3. But: This is only necessary for 25 - 30 % of the current market.  
Therefore: market split is in principal possible.
4. If sugar industry is not able underprice isoglucose reduction of EU sugar production by app. 25 to 30 % likely.
5. Termination of isoglucose quota will become a major challenge to sugar industry – also because at the same time fight for market shares in sugar will really take off.

# Knowledge is our business

## Thank you for your interest

For more details on this follow this link:

<http://www.agribenchmark.org/cash-crop/sector-country-farm-information/sugar-isoglucose.html>



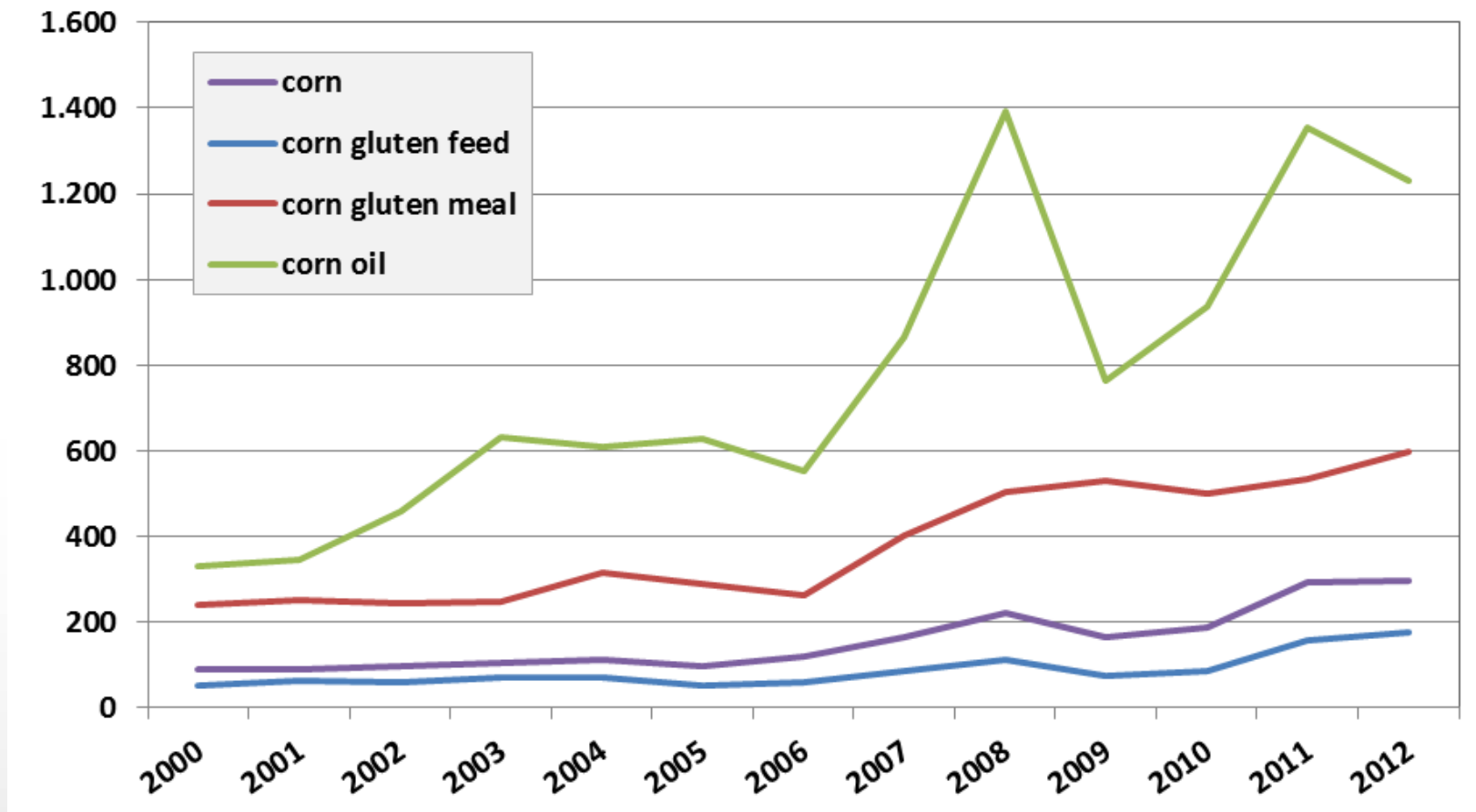
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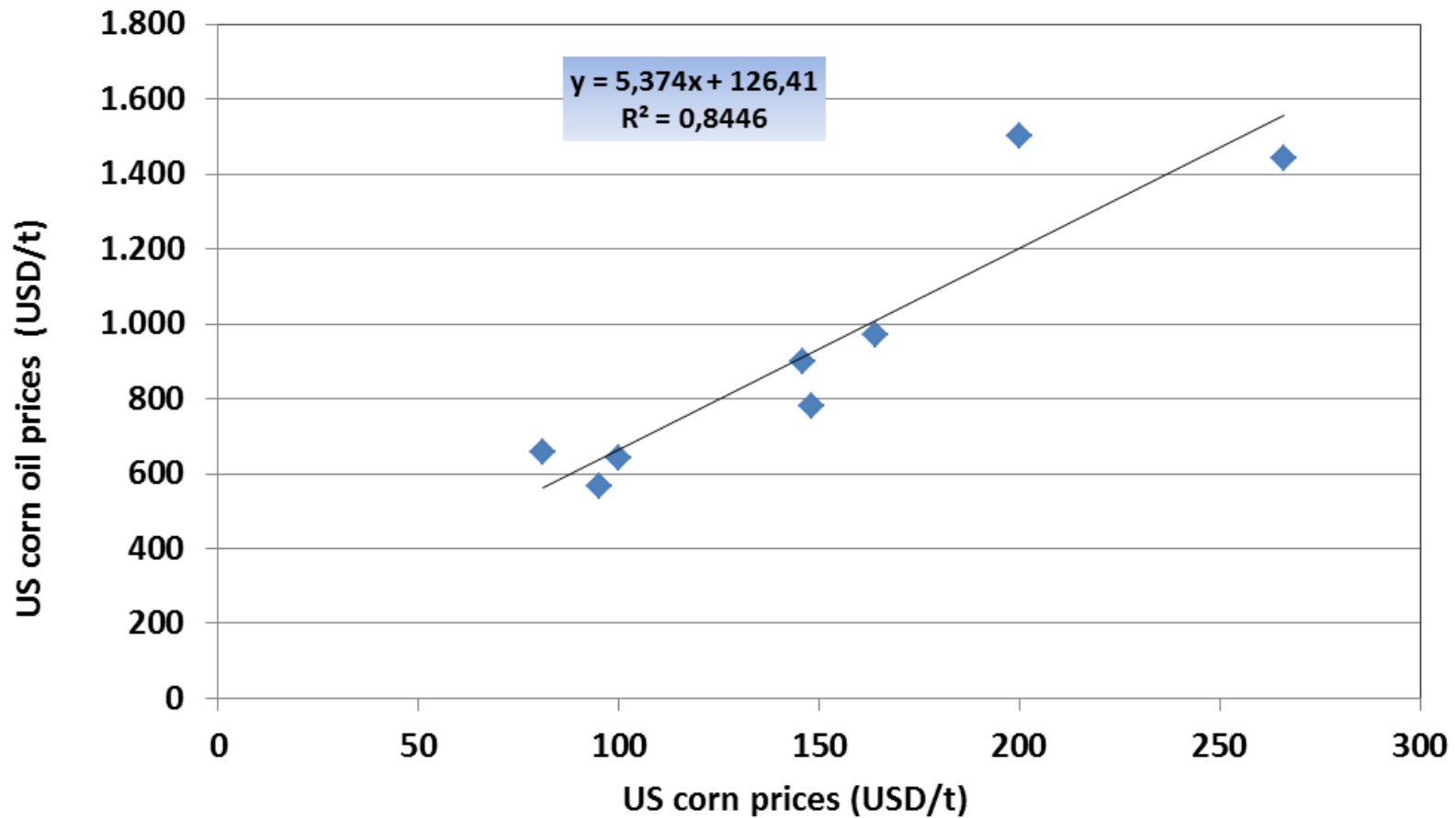
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# Prices by-products US isoglucose production (USD/t)



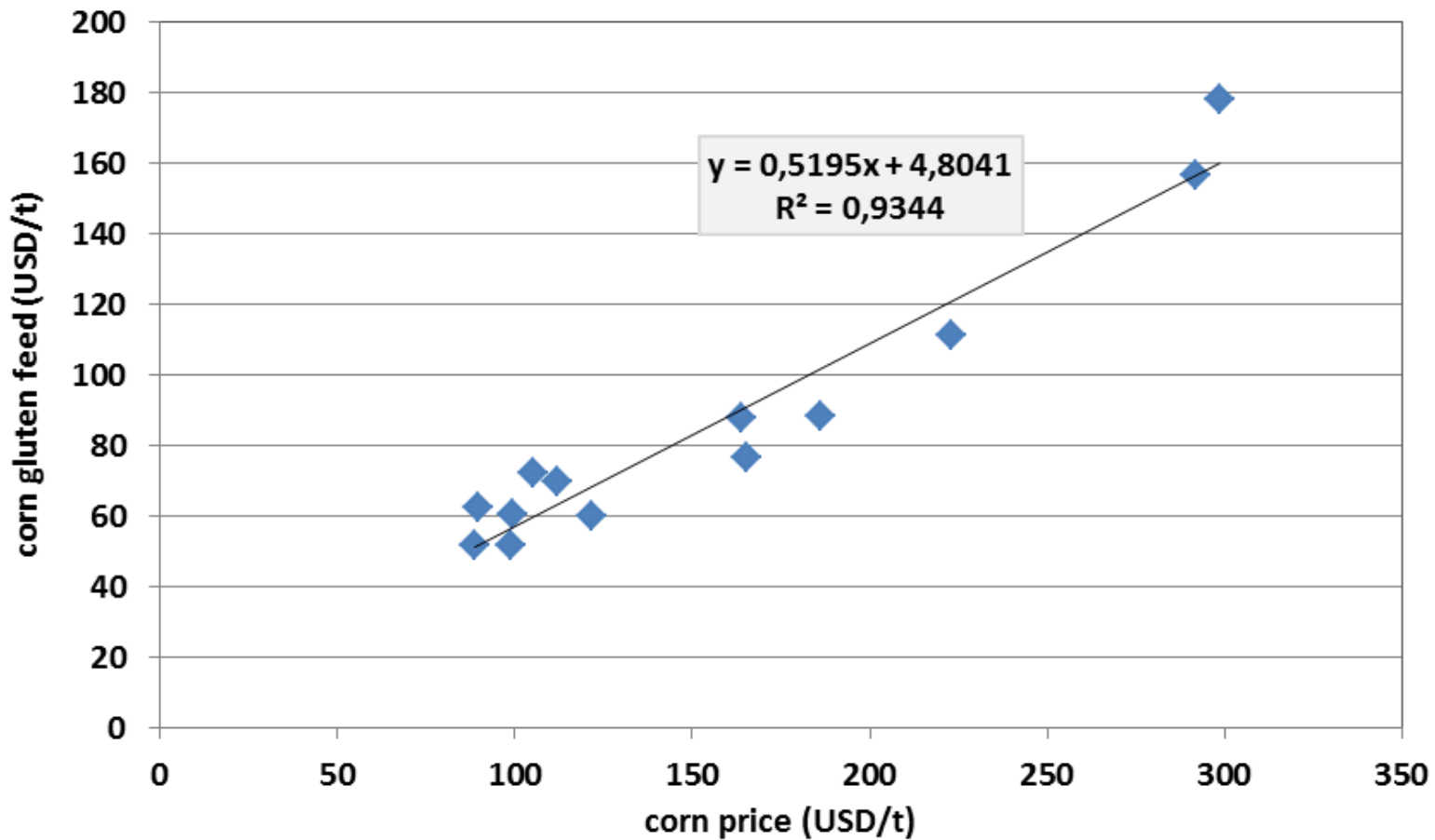
Source: ERS (2013b); World Bank (2013)

# Corn oil prices driven by corn prices (2000 – 2013)



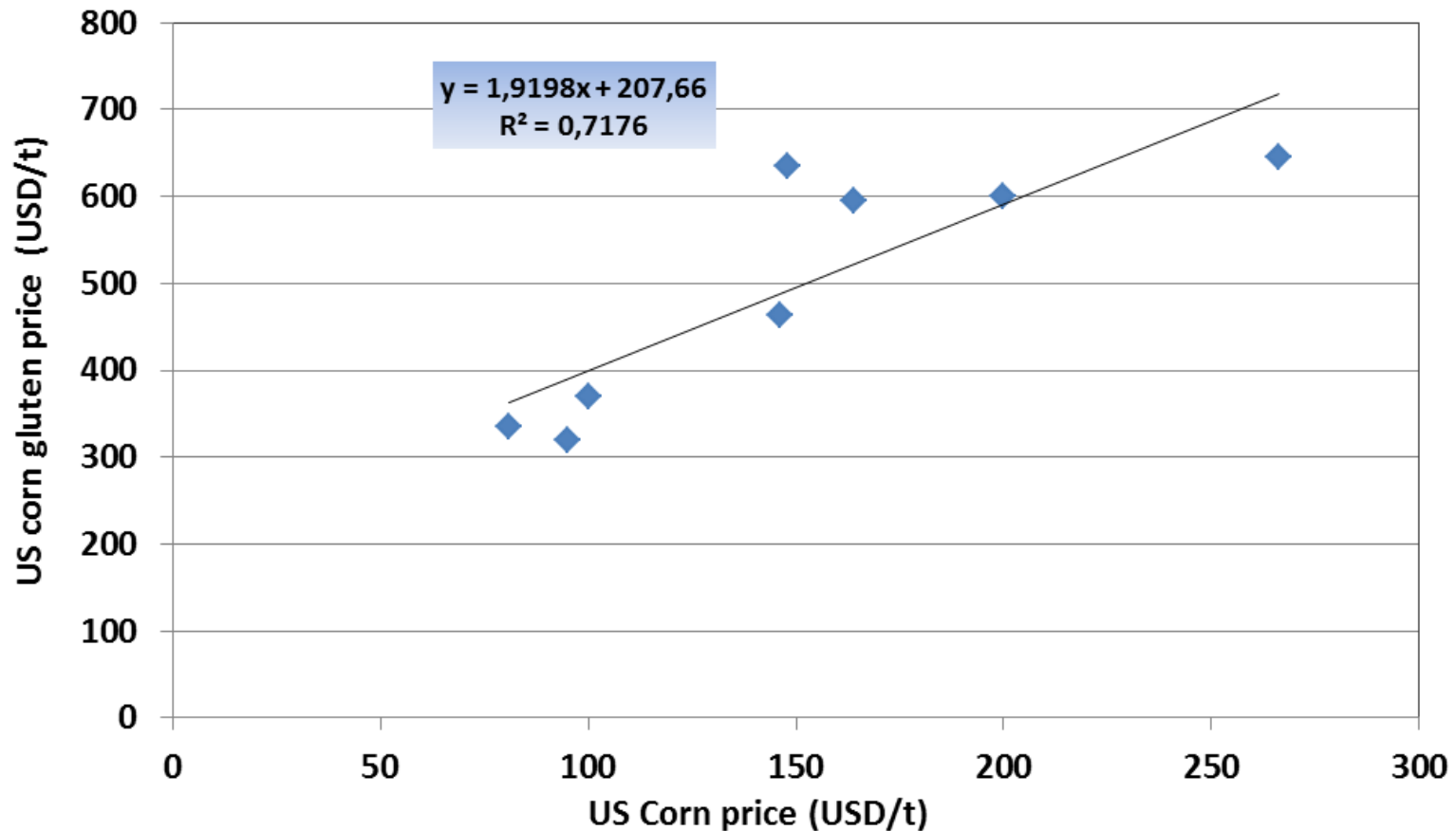
Source: ERS (2013)

# Corn gluten feed prices driven by corn prices (2000 – 2013)



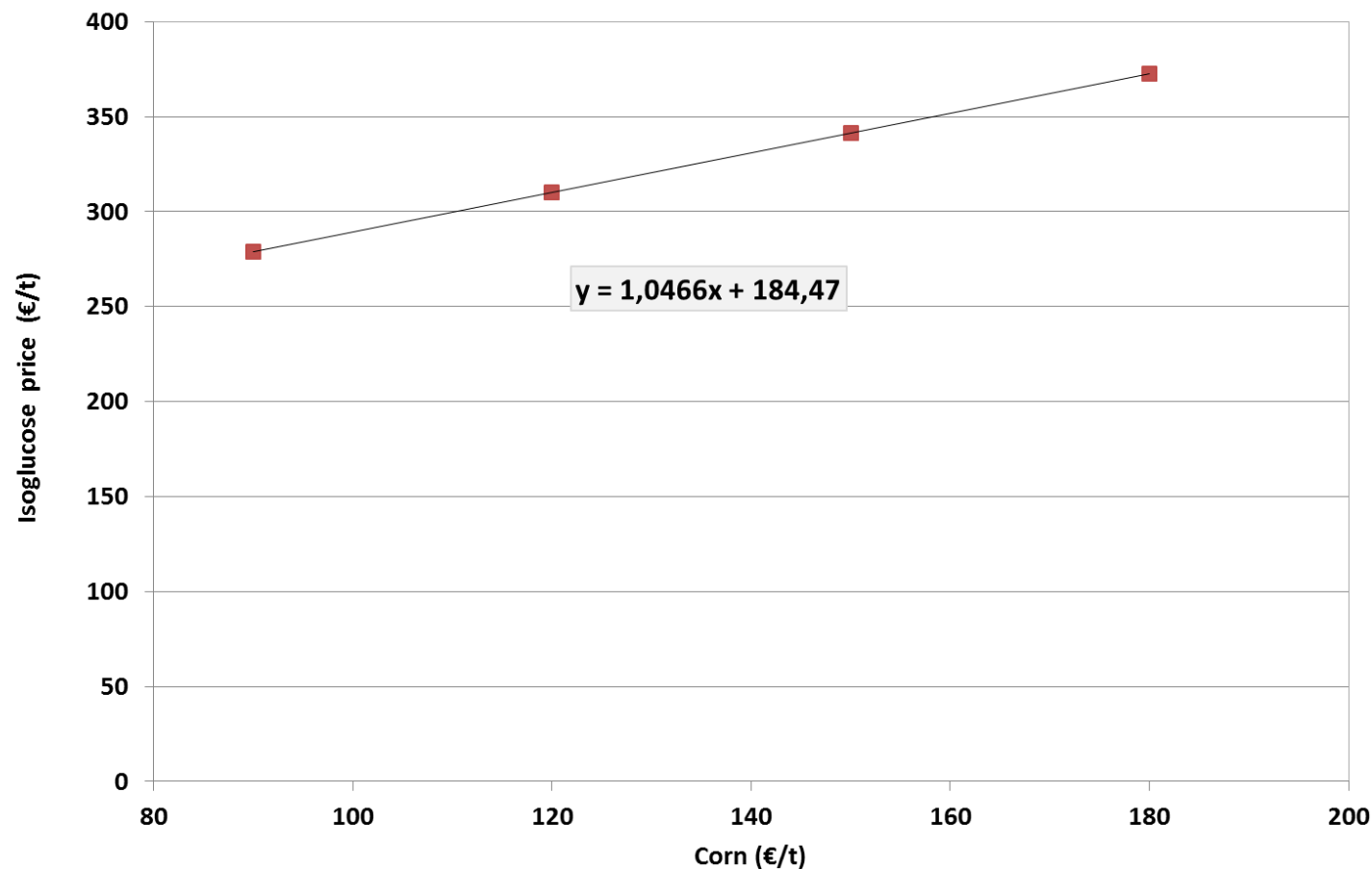
Source: ERS (2013)

# US corn gluten price driven by corn prices (2000 – 2013)



Source: ERS (2013)

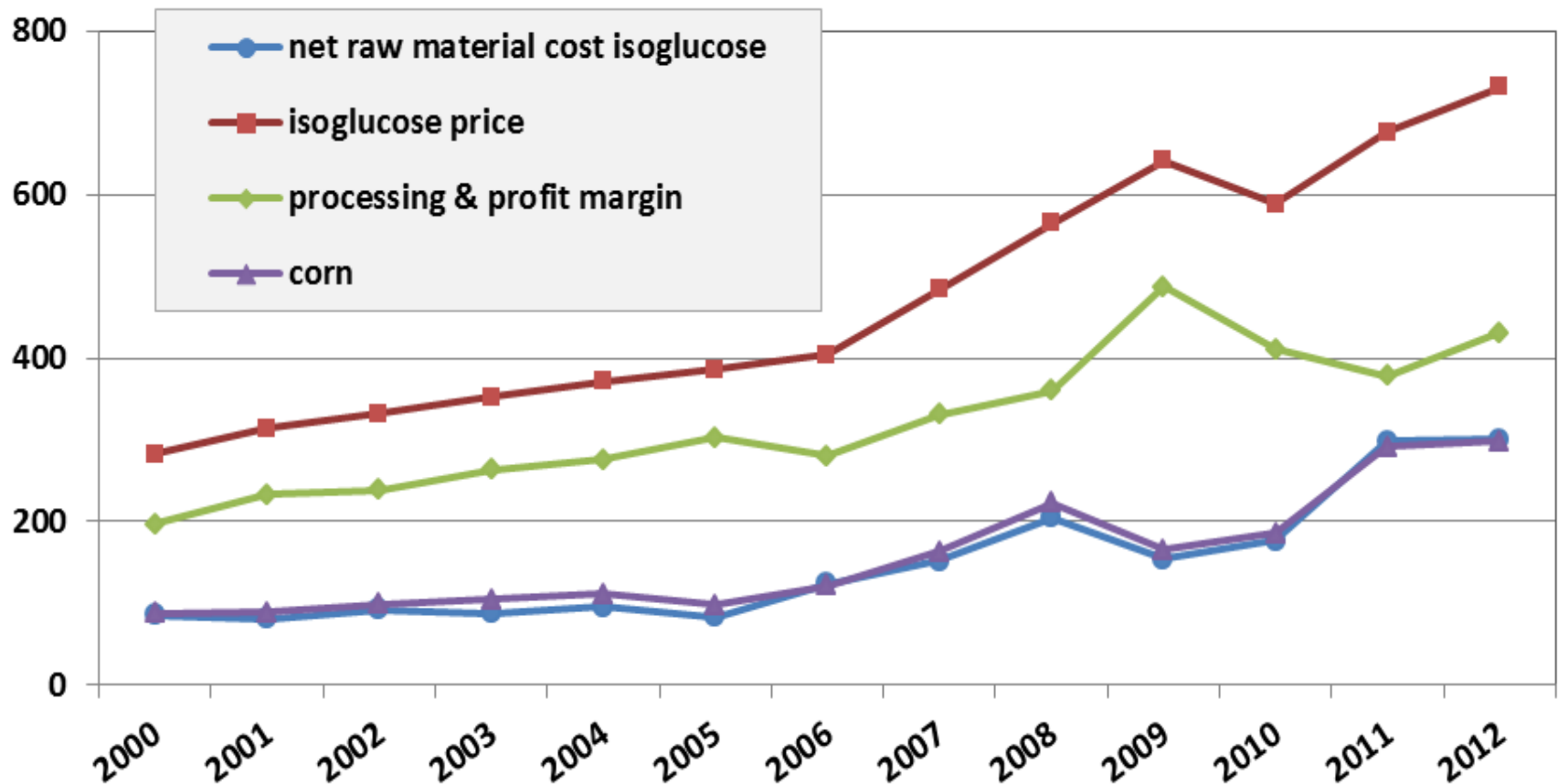
# Total cost isoglucose at different corn prices



Source: own calculation

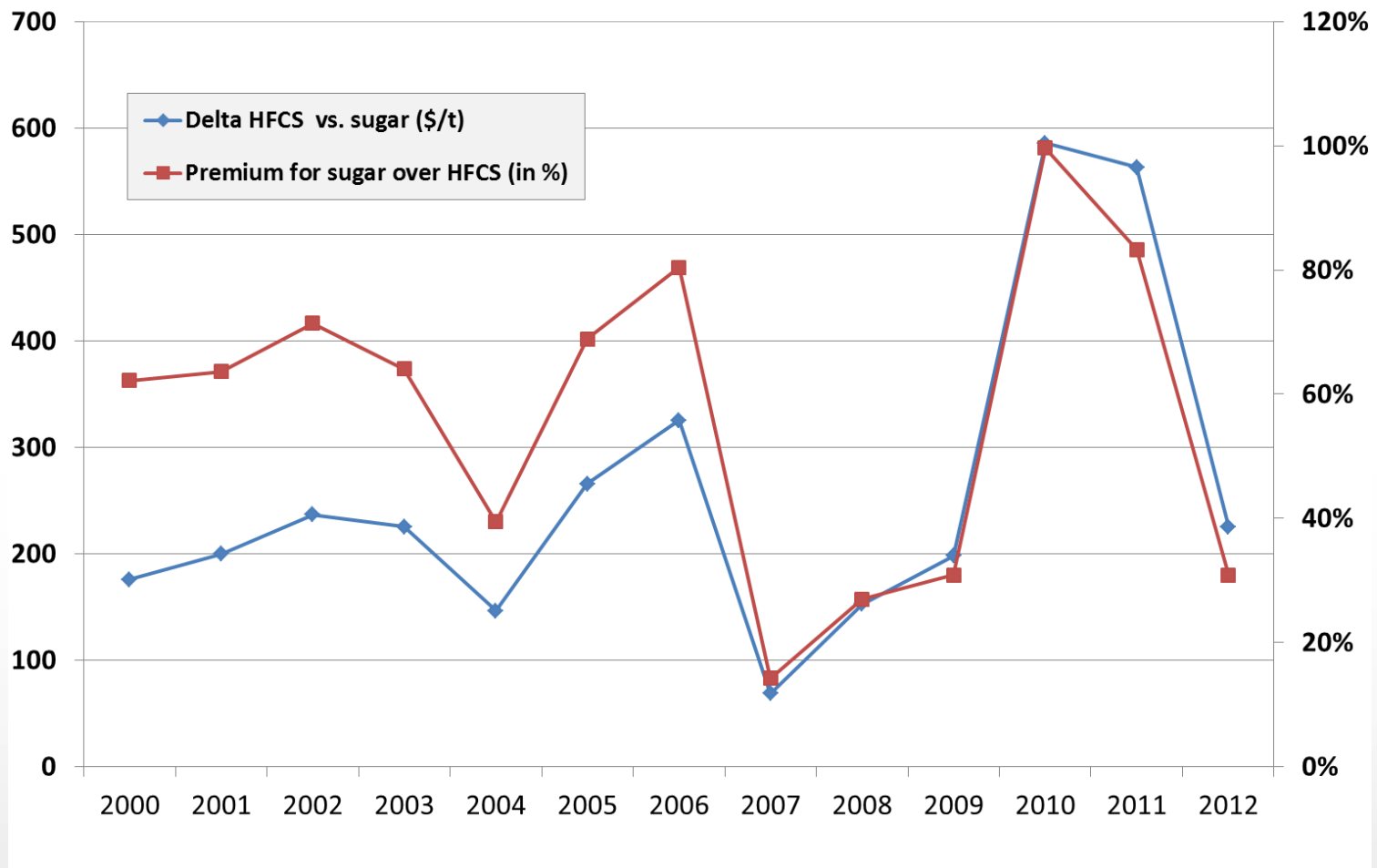


# Economics of US isoglucose production (USD/t)



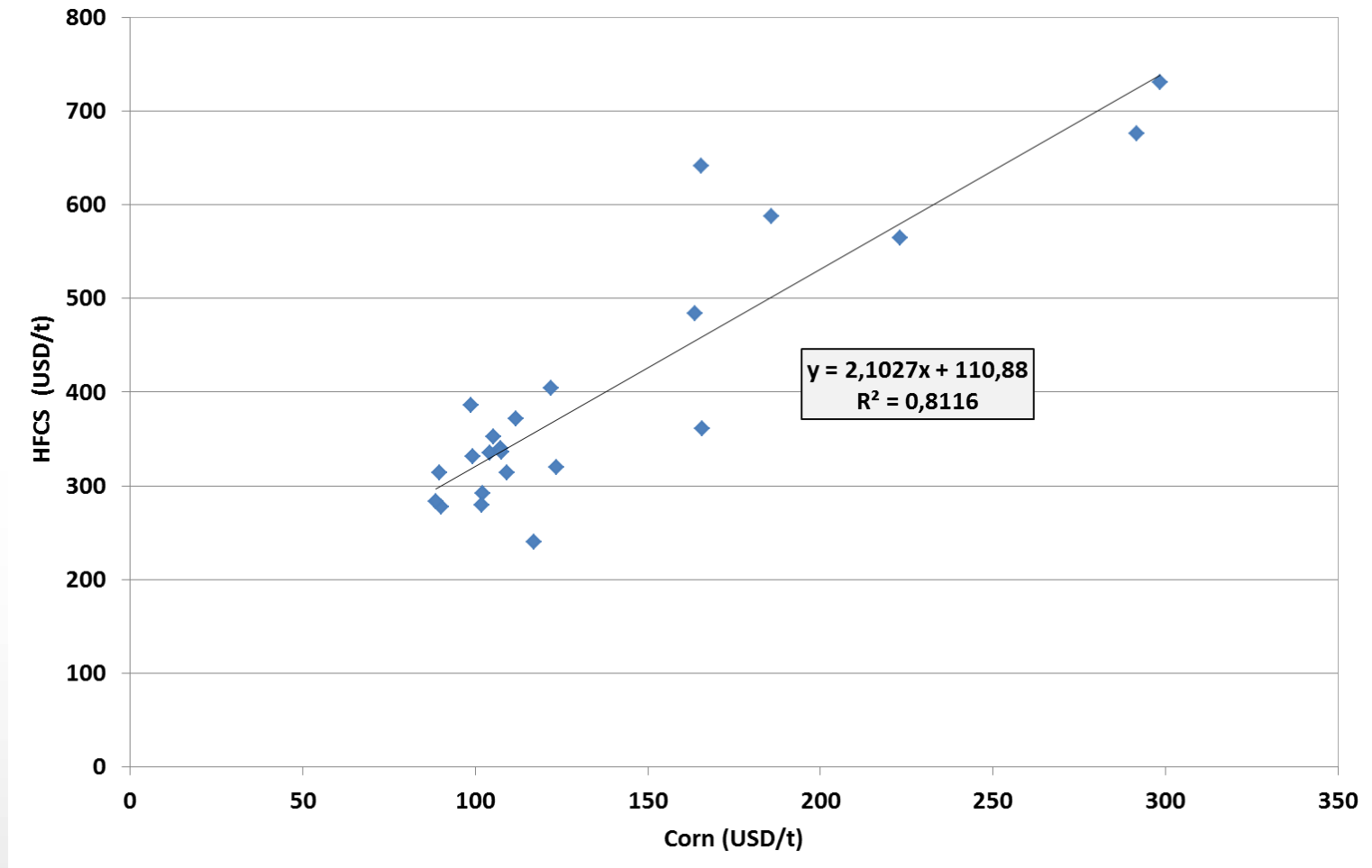
Source: ERS (2013b); World Bank (2013), own calculation

# US sugar vs. isoglucose market (1990 – 2012)



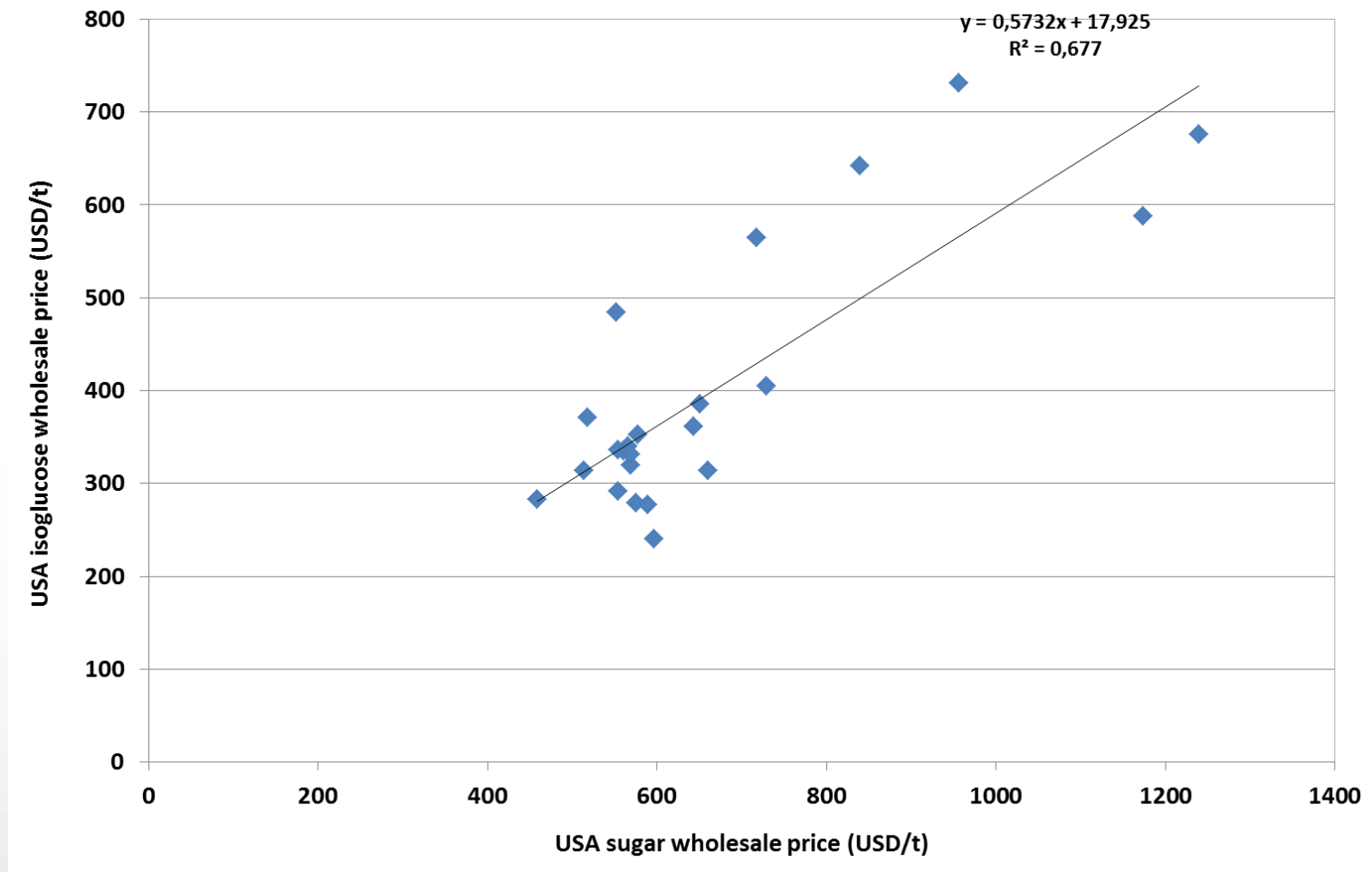
Source: ERS (2013b)

# Interaction US corn vs. isoglucose market (1990 – 2012)



Source: ERS (2013b); World Bank (2013), own calculation

# Interaction US sugar vs. isoglucose prices (1990 – 2012)



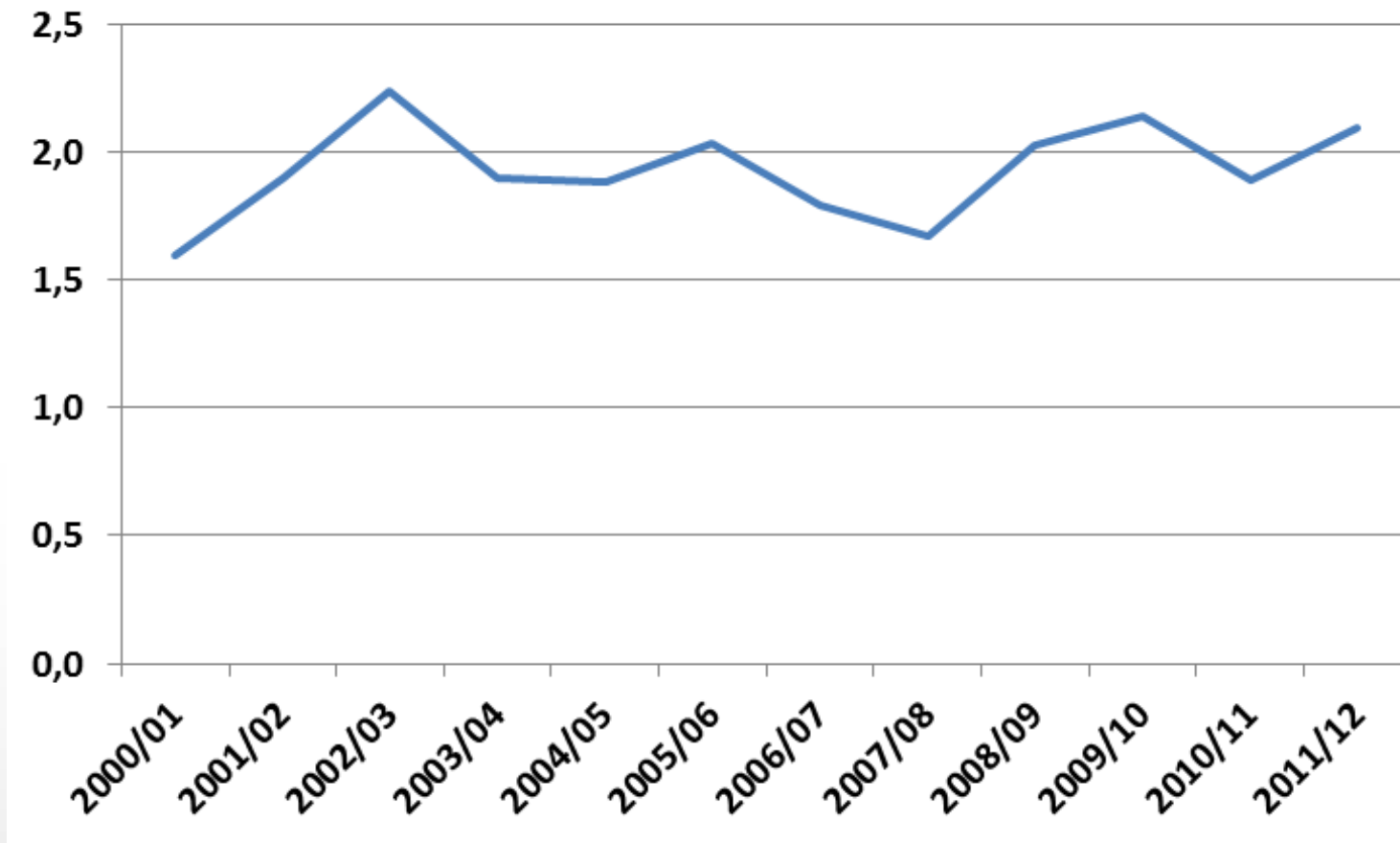
Source: ERS (2013b), own calculation

# EU corn and wheat prices: Fluctuating around parity



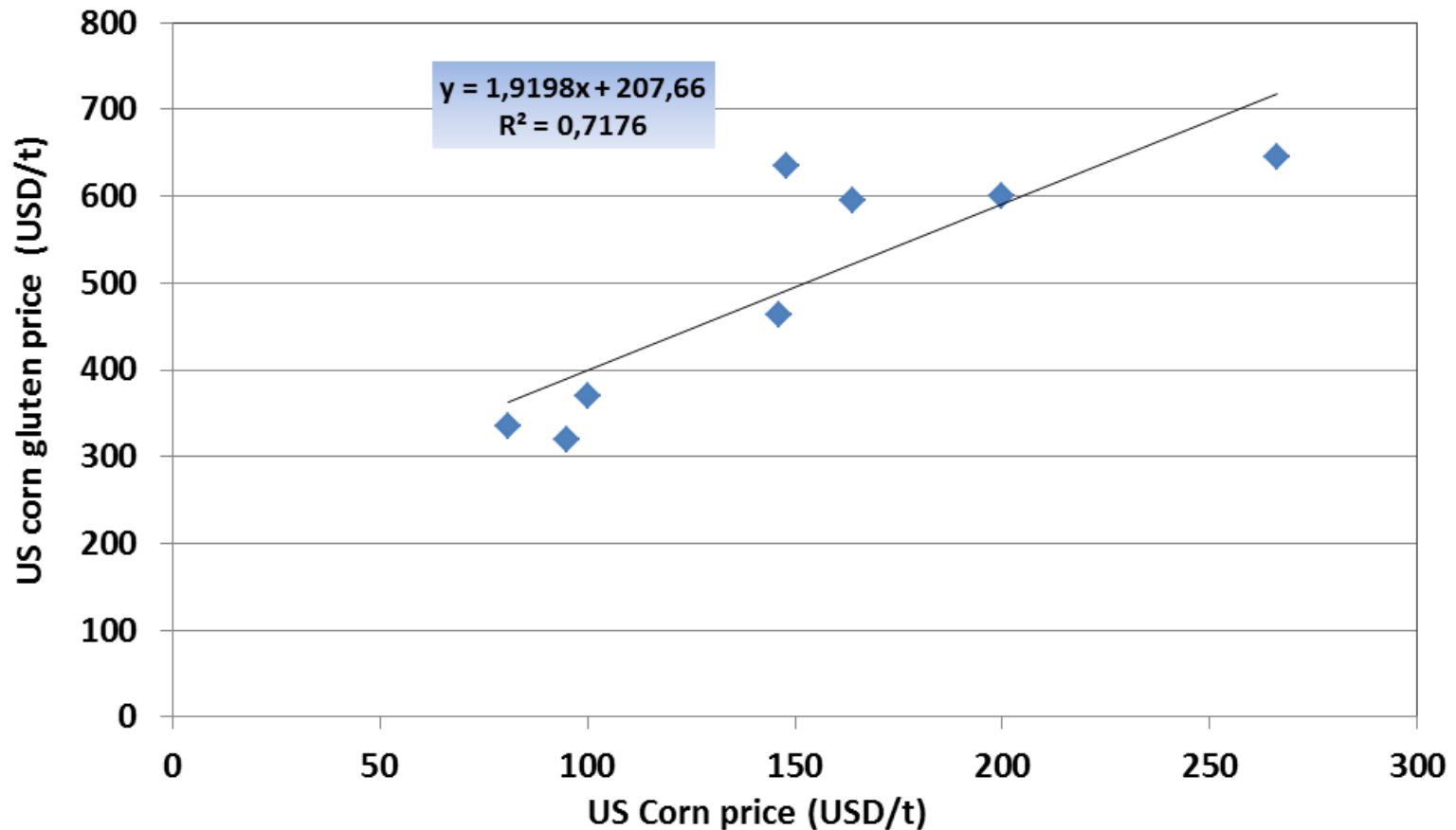
Source: [agrarticker.de](http://agrarticker.de)

# Price ratio rapeseed vs. wheat



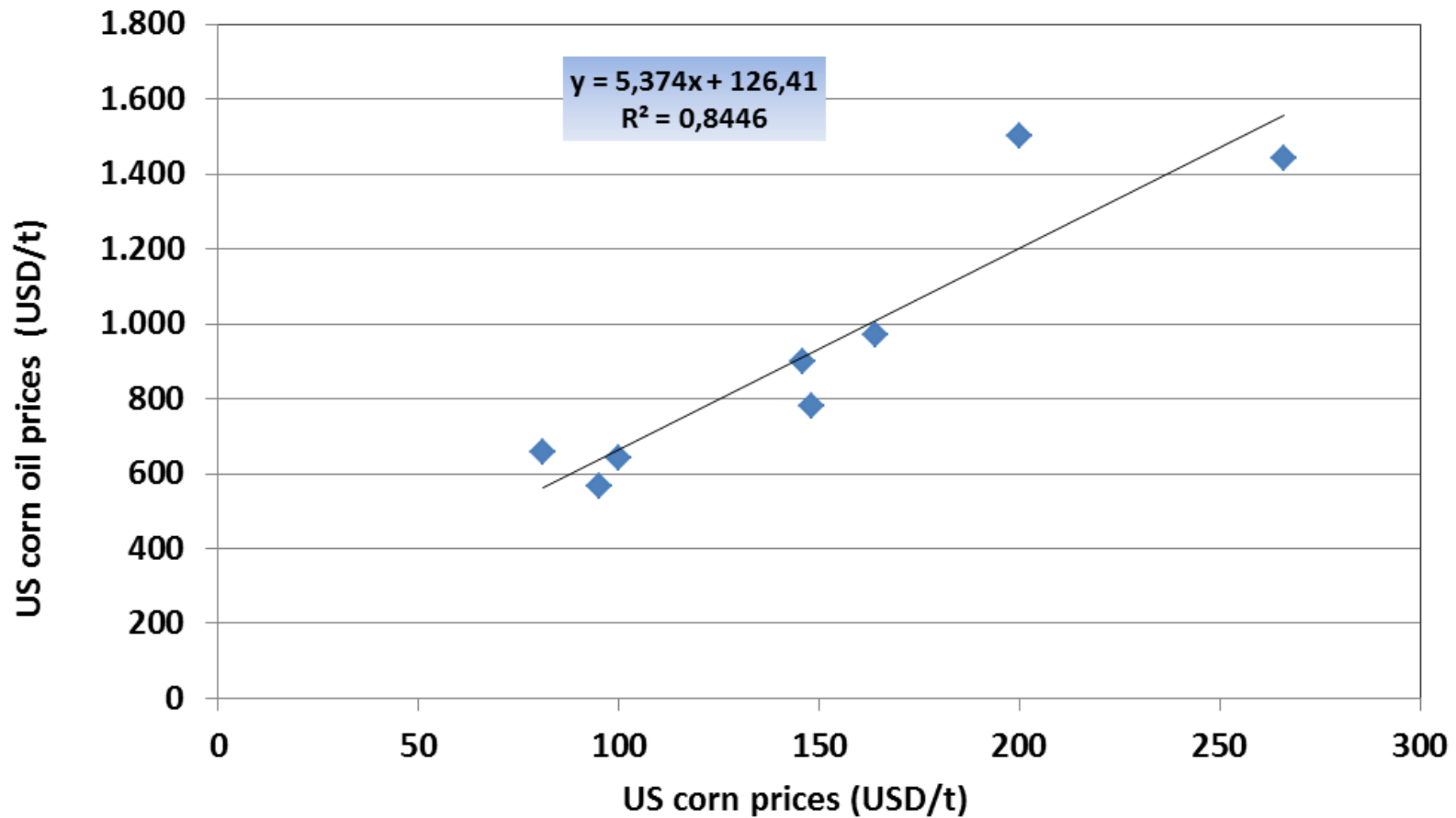
Source: Agrarzeitung, own calculation

# US Mais-Glutenpreise hängen am Mais (2000 – 2013)



Source: ERS (2013)

# US Maisöl-Preise hängen am Mais (2000 – 2013)



Quelle: ERS (2013); eigene Berechnungen