

New Data on Hemp Food Market

EIHA Conference, May 2012

Hempro
Int.



Main Statement

The turnover with hemp foodstuff and corresponding raw material is increasing worldwide. Hempseeds, hulled hempnuts, hempoil and hemp protein powder are becoming more presentable – both in retail as well as in food industry.



Hemp as Foodstuff

Basic Products: Nuts, Oil

From a botanical perspective, the hemp seed is classified as a **nut** and is one of the **most valuable foodstuff of the world**.

- **Hempnuts**
 - whole nuts
 - hulled nuts



- **Hempoil**
(pressed from hempnuts)



Hempseed Advantages



+ **Rich in polyunsaturated fatty acids:**

- Supplier of omega-3 fatty acids in form of SDA
- Supplier of omega-6 fatty acids in form of LA
- ➔ Helpful with illnesses metabolic and cardiovascular ailments

+ **Rich in protein:**

- Includes eight essential amino acids
- Gluten-free
- ➔ Contributes to a healthy immune system and is easily digestible, even for consumers with digestion insufficiencies (Celiac disease)

+ **Without allergens:**

- Hempnuts contain no nut allergens
- ➔ also suitable for humans with nut allergy

+ **GMO-free:**

- Free of Genetically Modified Organisms
- ➔ Eco-friendly food source

Hempoil – Comparision with other Oils



Optimal Omega-6 to Omega-3 ratio

Oils with bad
Omega-6 zu Omega-3
ratio



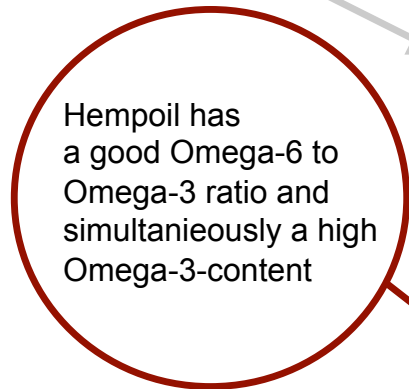
All data in 100 g:	Omega 6	Omega 3	Omega 6 : Omega 3
Thistle oil	73,9	0,5	148:1
Grape seed oil	69,2	0,5	138:1
Sunflower oil	61,0	0,5	122:1
Margarine	41,1	0,5	82:1
Olive oil	8,6	0,8	11:1

Oils with good
Omega-6 zu Omega-3
ratio



Wheat germ oil	54,2	7,1	8:1
Soy oil	49,5	7,0	7:1
Walnut oil	57,3	10,1	6:1
Rape oil	20,4	9,3	2:1

Hempoil has
a good Omega-6 to
Omega-3 ratio and
simultanieously a high
Omega-3-content



Hempoil	60,3	20,2	3:1
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Linseed oil	15,1	61,5	1:4
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Hempoil – Comparision with other Oils

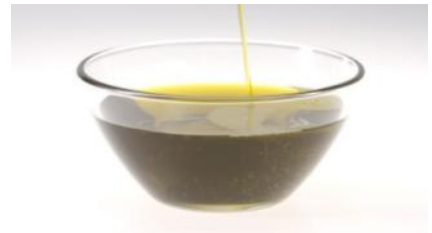


Hempoil versus linseed oil

- Omega-6 to Omega-3 ratio (3:1) from hempoil is equivalent to the natural ratio in humans body.
- Hempoil contains alpha linolenic acid (like linseed oil) but also the rare gamma linolenic acid.

Variety of Products

- Hempseeds
- Hulled hempseeds → hempnuts
 - Hempseed bars → bakery products
 - cereals, etc.
- Hempoil → capsules
- Hemp presscake → protein powder
- Hemp tea



Examples Hemp Foodstuff



The Hemp Market EU

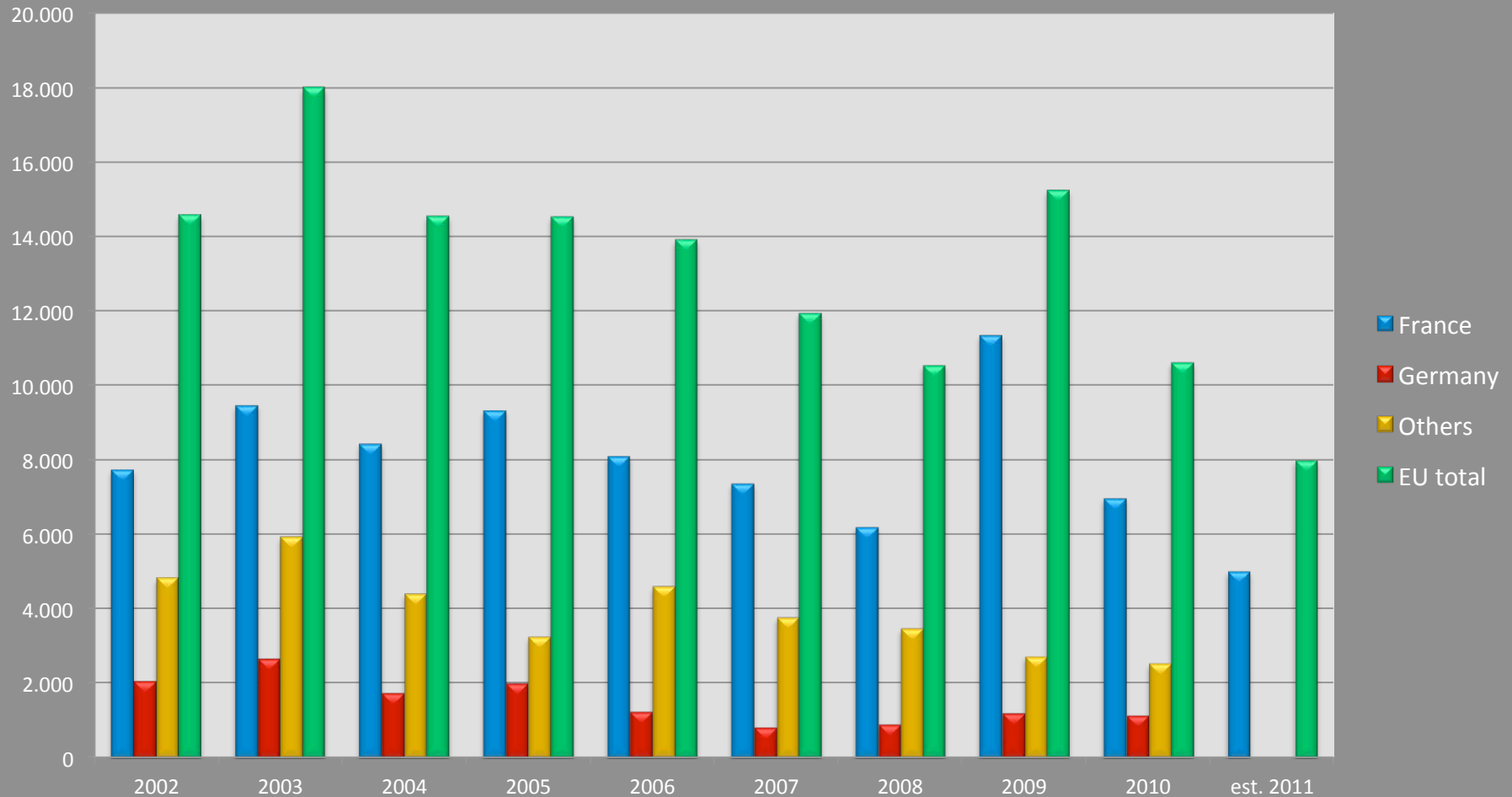
Status EU:

- Problem: no actual statistics for hempseed used as raw material
- Estimated around 5 – 10 % of hempseed production for food production, 90m - 95 % for animal feed
- No specific information available about hempseed production
Presumably many hundred tons of hempseed annually
= many thousand tons of various end products

Source: nova-Institut (2006), BMELV (2004/2005)

The Hemp Market EU

Hemp Cultivation Area in the EU (ha)



The Hemp Market EU

t hemp seeds p.a.	2007	2009	2010	2011 (est.)
EU production	6,000	7,000	5,000	5,000
- France	n/a	6,500	4,500	4,500
- Ukraine	n/a	500	500	500
EU imports*	11,000	9,700	9,800	ca. 11,500
EU exports	500	900	1,000	1,500
EU consumption	16,500	15,800	13,800	14,000
- Food, 5 - 10 %:	600	700	800	1,500
- Feed 90 - 95 %:	15,900	15,100	13,000	12,500

Source: nova-Institut (2011), Eurostat 2011, Hempro Int.

Table 1: Development of the European hemp seed market 2007-2011.

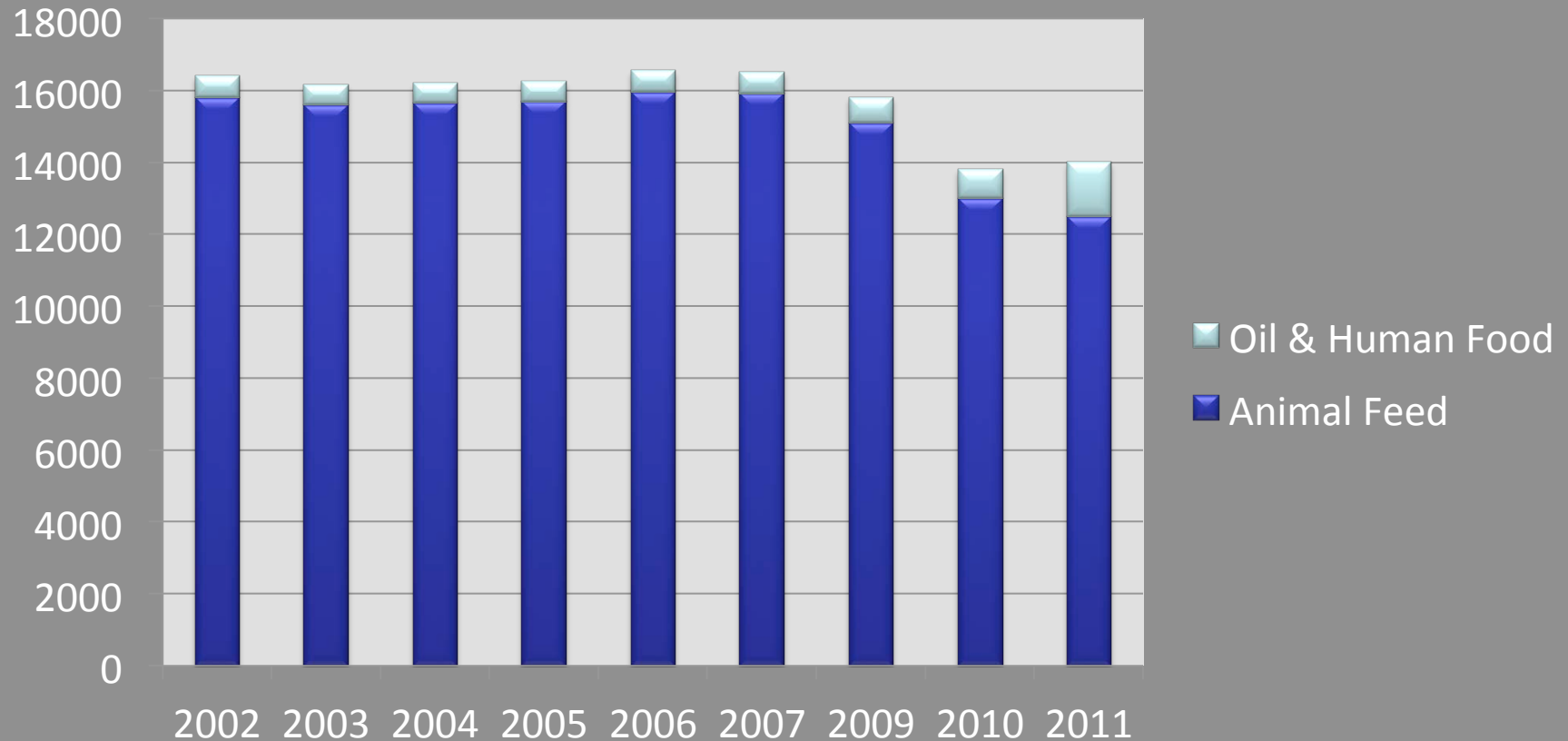
*Mainly from China, ** Exports of processed hemp seeds to North-America (included in 2011 EU consumption).

The Hemp Market EU

- Currently, relevant production in Eastern Europe only takes place in Ukraine (ca. 500 t/a), but is likely to increase.
- Of the 1,500 t of hemp seed exported from the EU, ca. 500 t were actually exported as processed hemp seeds to North-America.
- Recently increasing demand in the food market
- At the same time, supply decreased due to lower acreages in France (lower demand from the cigarette paper industry)
- Other grains/food materials increase in price (e. g. corn, wheat, rape etc.)
- Price increase:
 - 2010 ca. 40% (to previous year)
 - 2011 ca. 30% (to previous year)
 - 2012 ca. 10% (to previous year)

The Hemp Market EU

EU Hempseed Consumption (t)



Source: EIHA (2011)

The Hemp Market Canada

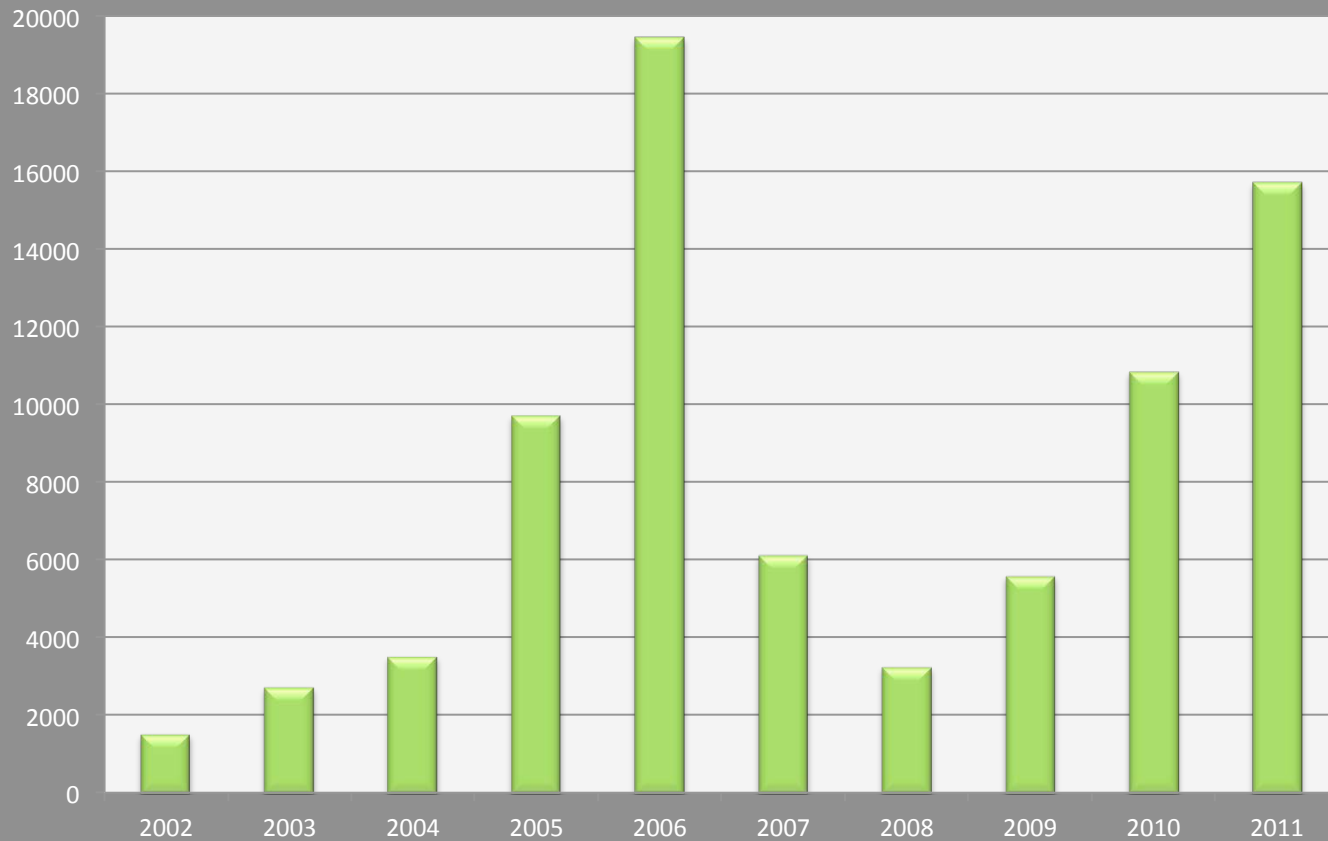


Status Canada:

- Main market for Canadian hemp products is the USA food market
- Canadian acreage expands gradually - with hick-ups
- Sharp fall in 2007 to 4000 ha because acreage increased faster than the market in 2006
- Hempseed storages were still filled in 2007 with seeds from last year. Therefore acreages were reduced in 2007. But the demand is still increasing, so after 2008 there is an upward trend again.

The Hemp Market Canada

Canada Hemp Cultivation Area (ha)



Source: EIHA (2011), CHTA (2011), Hemp Oil Canada Inc. (2011), Canada Health (2012)

The Hemp Market Canada

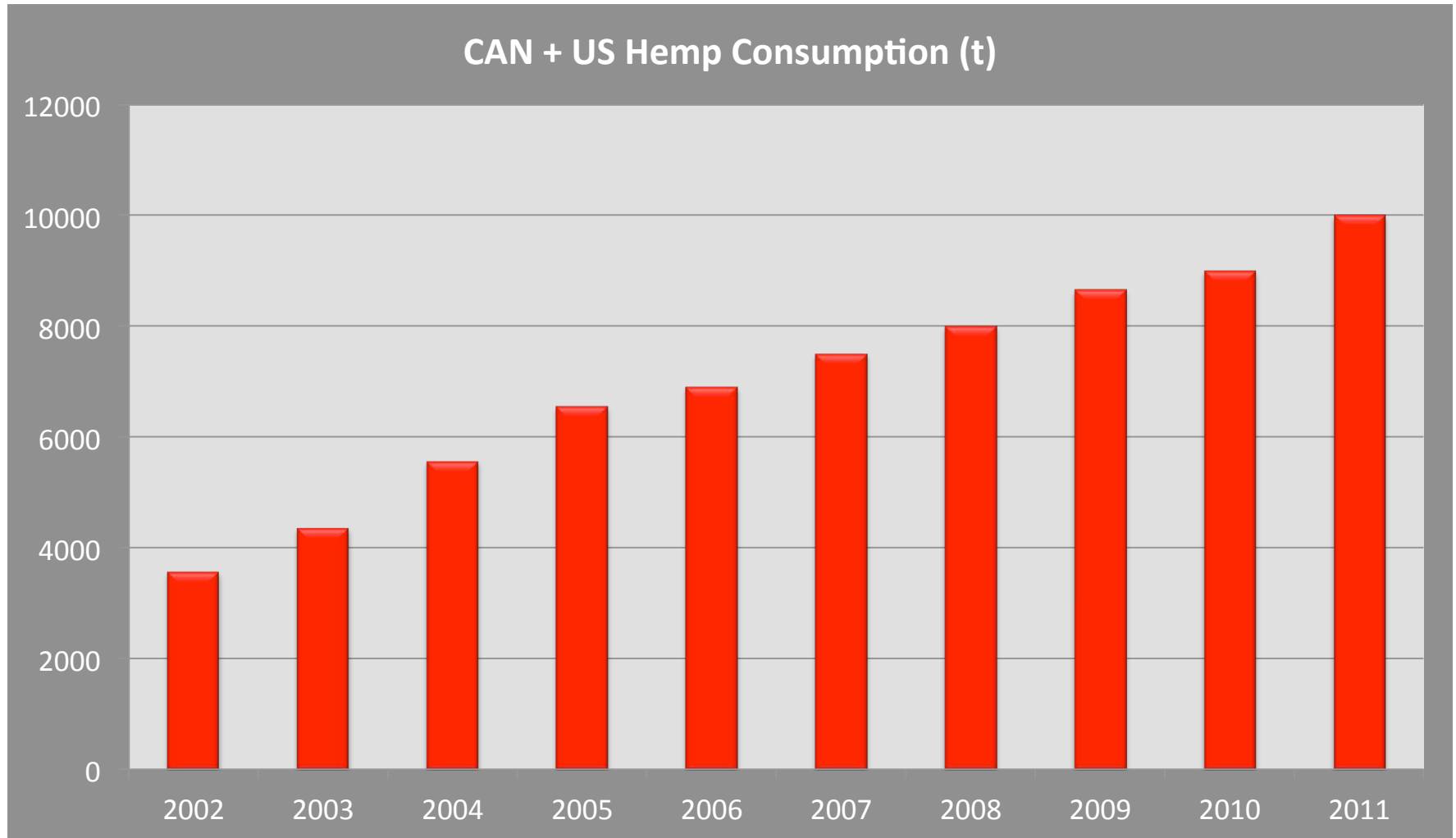


Status Canada:

- From 2002 seed production: approx. 3500 t hempseed; since then high increase
- Derived from the 10,000 t (2011) approx. 1,700 t for hemp oil production and 5,500 protein powder, 2,800 t for hulled seed
- Virtually all production for seed – no utilization of fibre!
- More than 60% of acreage is certified organic
- 90-95 % of hempseeds target the food market

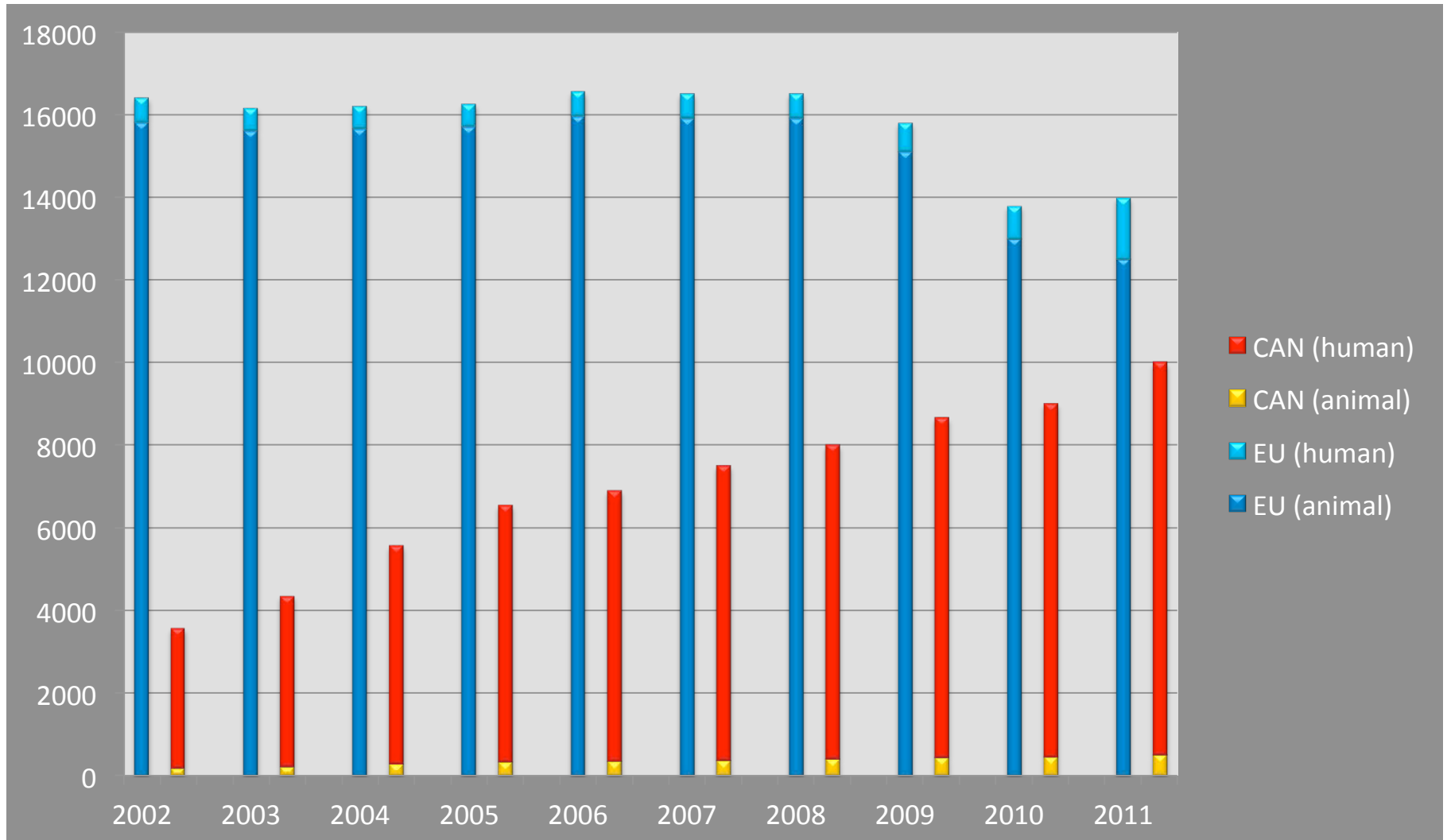
Source: CHTA (2011), Hemp Oil Canada Inc. (2011)

The Hemp Market Canada



Source: EIHA (2011), CHTA (2011), Hemp Oil Canada Inc. (2011)

The Hemp Market Comparison EU/Canada



Source: Estimates nova-Institut (2006) / Hempro Int. (2011)

Reasons for Problems/ Challenges

- **Quality:** e.g. ffa (free fatty acids indication number), cleaning, drying etc.
- **Availability (Supply):**
 - Increase of desired amounts, only stepwise possible
- **Countries of origin:**
 - Germany, but only small amounts
 - France provides high quality seed, but expensive
 - East Europe and China gain importance as seed distributors, but yet with certain quality problems
- **Marketing:**
 - Achieve greater attention in trade and with customers
 - No standard customer information available
 - The hemp foods hardly reach German supermarket chains
 - Abroad, integration in supermarket assortments (product design)

Future Prospects

- North American data shows that high sales turnover and substantial amounts can be achieved.
 - ➔ Good perspectives for the EU market
- In Great Britain, Canada and USA, hemp already belongs to the standard sortiment in supermarkets
 - ➔ This should also be possible in the EU and other countries e.g. Germany.
- Example: If only 10 % of the population in Germany would integrate 10 ml of hemp oil in their daily nutrition, a yearly requirement of approx. 30 million litres of hemp oil e.g. 100 000 t of hemp seed would result.

Thank you for your attention!

Hempro
Int.

