



# **Market Study on Cannabidiol (CBD)**

Hürth, 4<sup>th</sup> November 2015

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&  
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### Background information on the survey

- This survey was online from the 26<sup>th</sup> of August to the 1<sup>st</sup> of October 2015 (35 days)
- It was answered by 171 participants, of which 74 filled in the survey in full

### Main conclusions

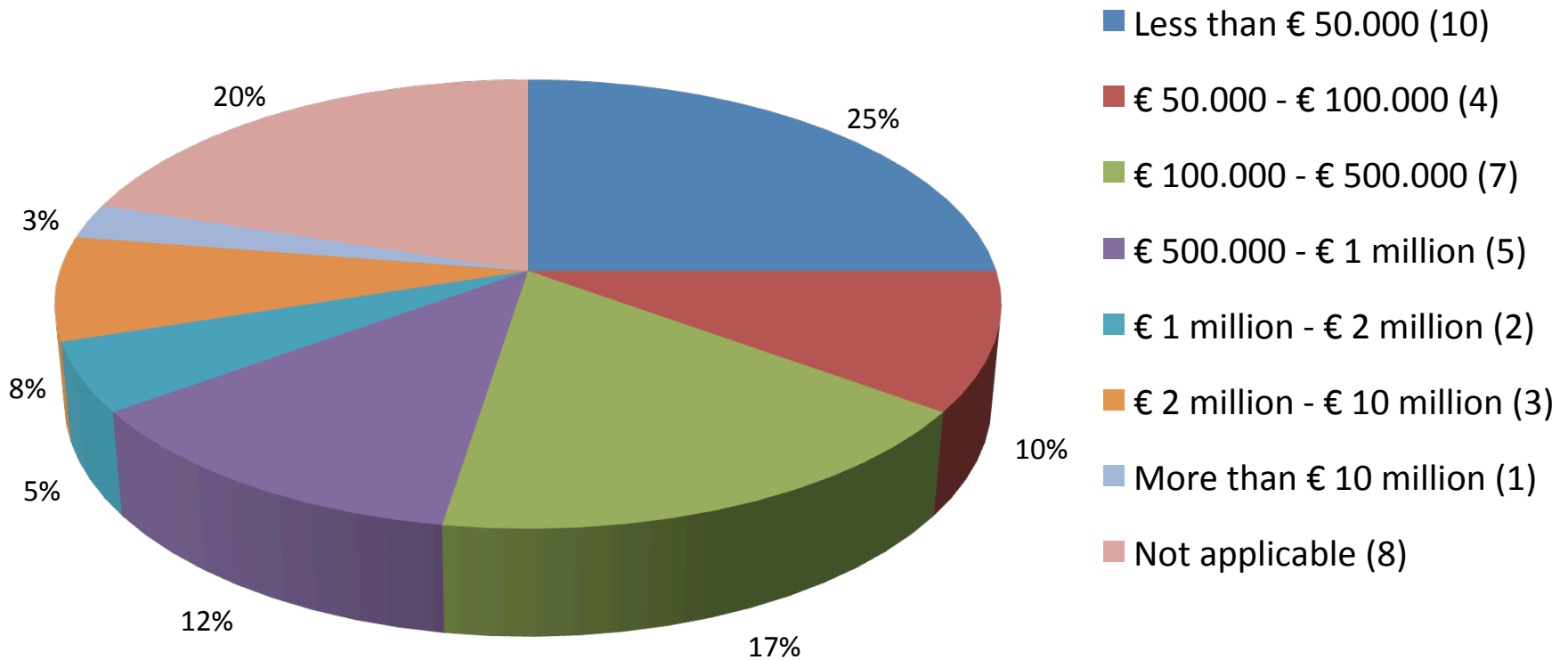
- The majority of the participants SME were mainly from Germany, USA and Canada
- More companies traded outside their own country
- Sales to specialized shops or retailers were preferred across the board
- The potential for growth was identified as being the biggest strength of the CBD markets
- Government legislation and lack of consumer awareness were the main weaknesses

### Analysis and overview of the current CBD market in the USA and EU for the past three years

#### The market

- 42% of the enquired identified themselves as producers or traders of CBD oil, most commonly from USA, Germany but also from Canada and China
- 75% of the companies comprised of 9 employees or less
- Higher turnover incidence in the range of € 50,000 to € 1 million
- Only 34.5% of this subset produce or trade solely CBD oil, majority of which European, possibly due to CBD being a novelty product in the market
- Germany and the US stand out as countries with the most businesses solely dedicated to CBD
- 65% trade overseas, possibly due to lack of established markets at home
- The US is currently the biggest market for CBD

Figure 3 – Turnover distribution (in absolute terms)

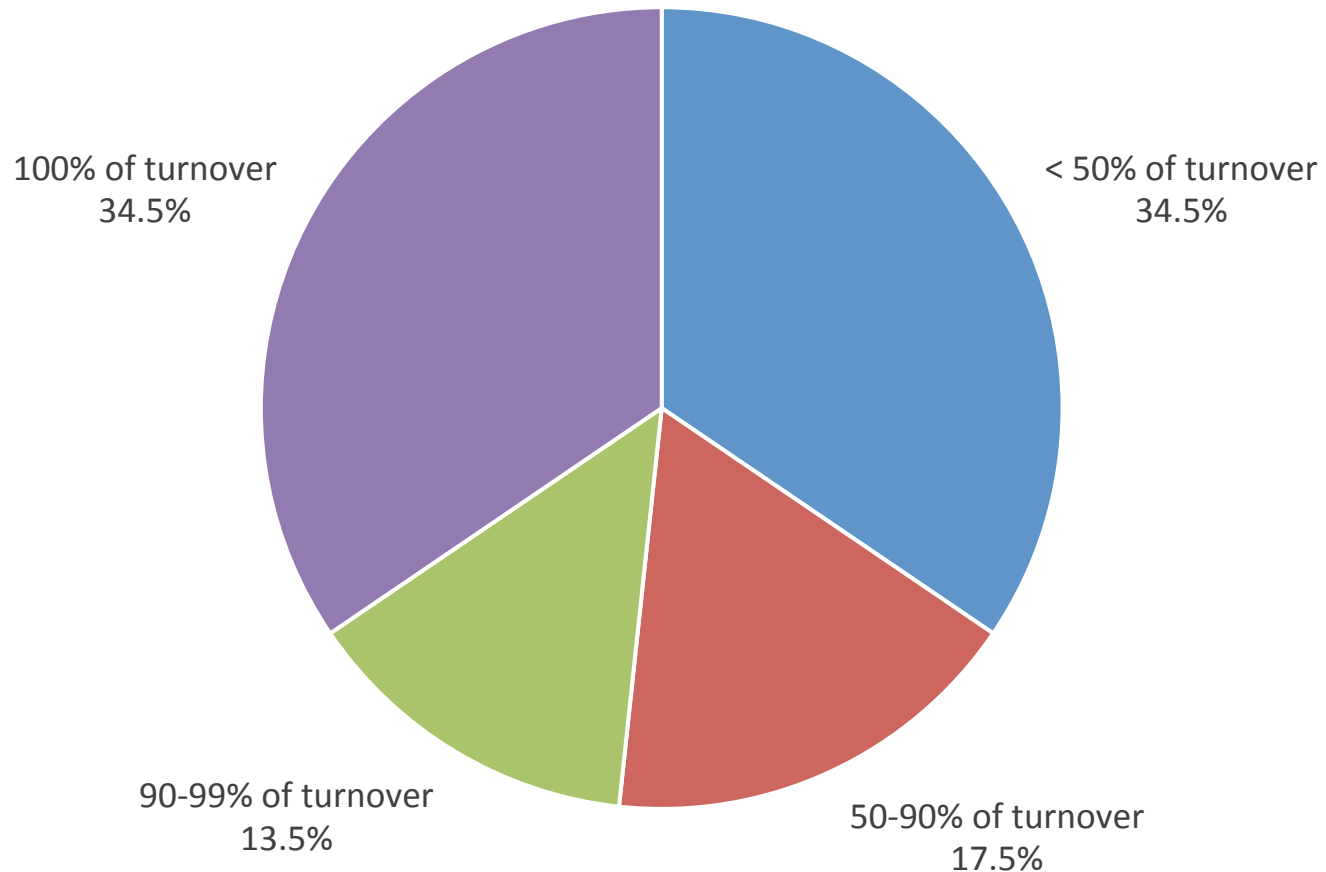


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#### Sales and marketing

- CBD producers do not use the internet at all or it plays a minor role in sales, they are mainly selling directly to wholesalers and distributors
- Internet is more commonly used among B2C group
- 33% also sell to specialized shops
- Very predominant use of social media
- Online advertising just as frequently used as conventional advertising (flyers, posters etc.)
- Sales and discounts, along with tradeshow, also identified as common means for advertising and selling
- 65% stated that CBD represents at least 50% of their turnover, while for 48% representing 90% or more of their turnover

Figure 5 – Company's percentage of turnover derived from CBD oil sales



## Analysis and overview of the current CBD market in the USA and EU for the past three years

### Strengths and Weaknesses

- 87.5% identify the potential to growth as CBD's biggest strength in Europe and NA
- A small majority also thinks there is an increased awareness of CBD by the public
- 80% identified the major weakness of the CBD market as government legislation, in particular lack there of, with many fearing this may damage the industry as a whole
- THC limits and lack of consumer awareness were issues also raised
- R&D was considered the most invested field in the industry followed by marketing and product awareness

Figure 7 – Main strengths of the CBD market in Europe and NA (in absolute values)

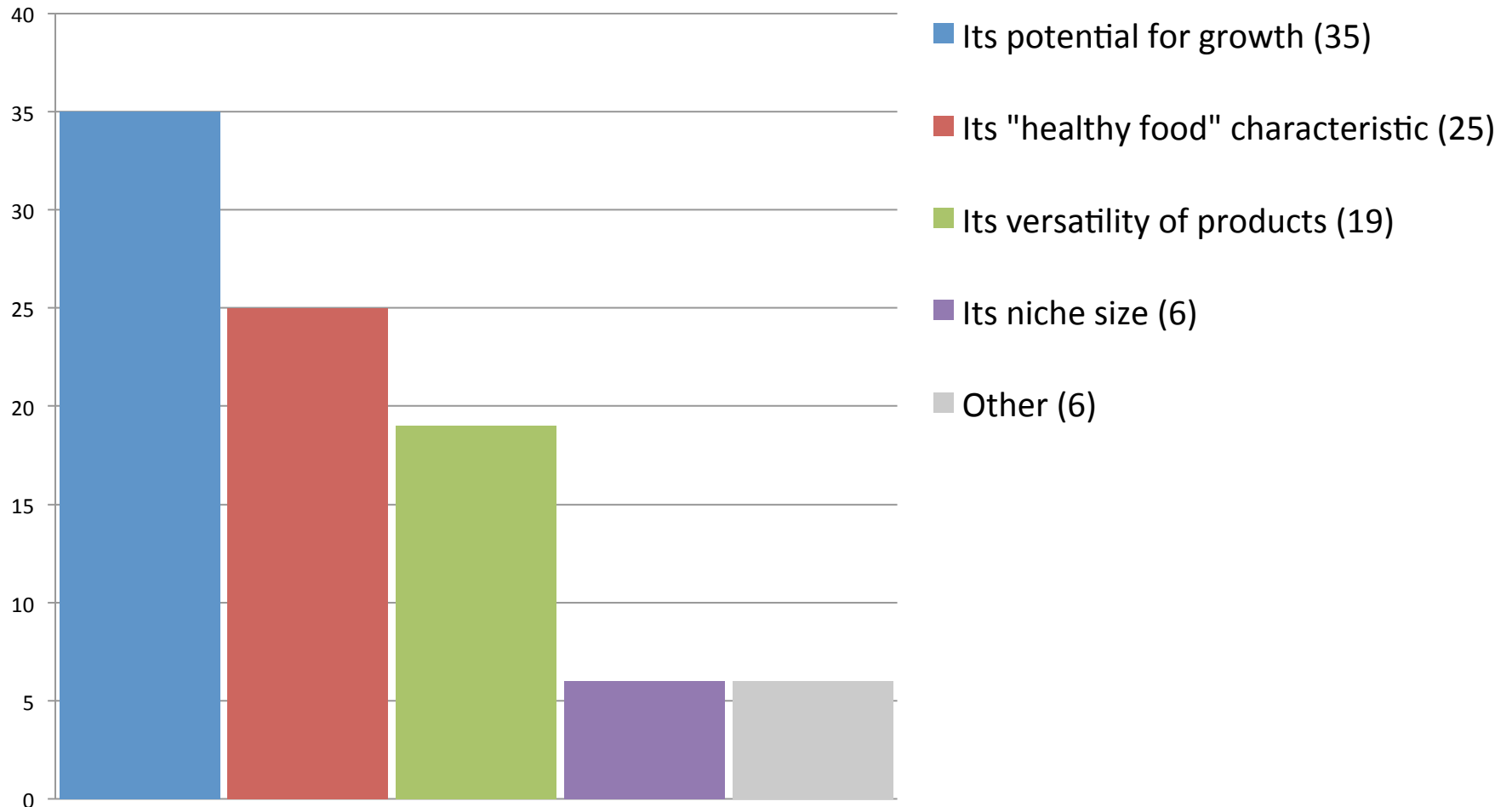
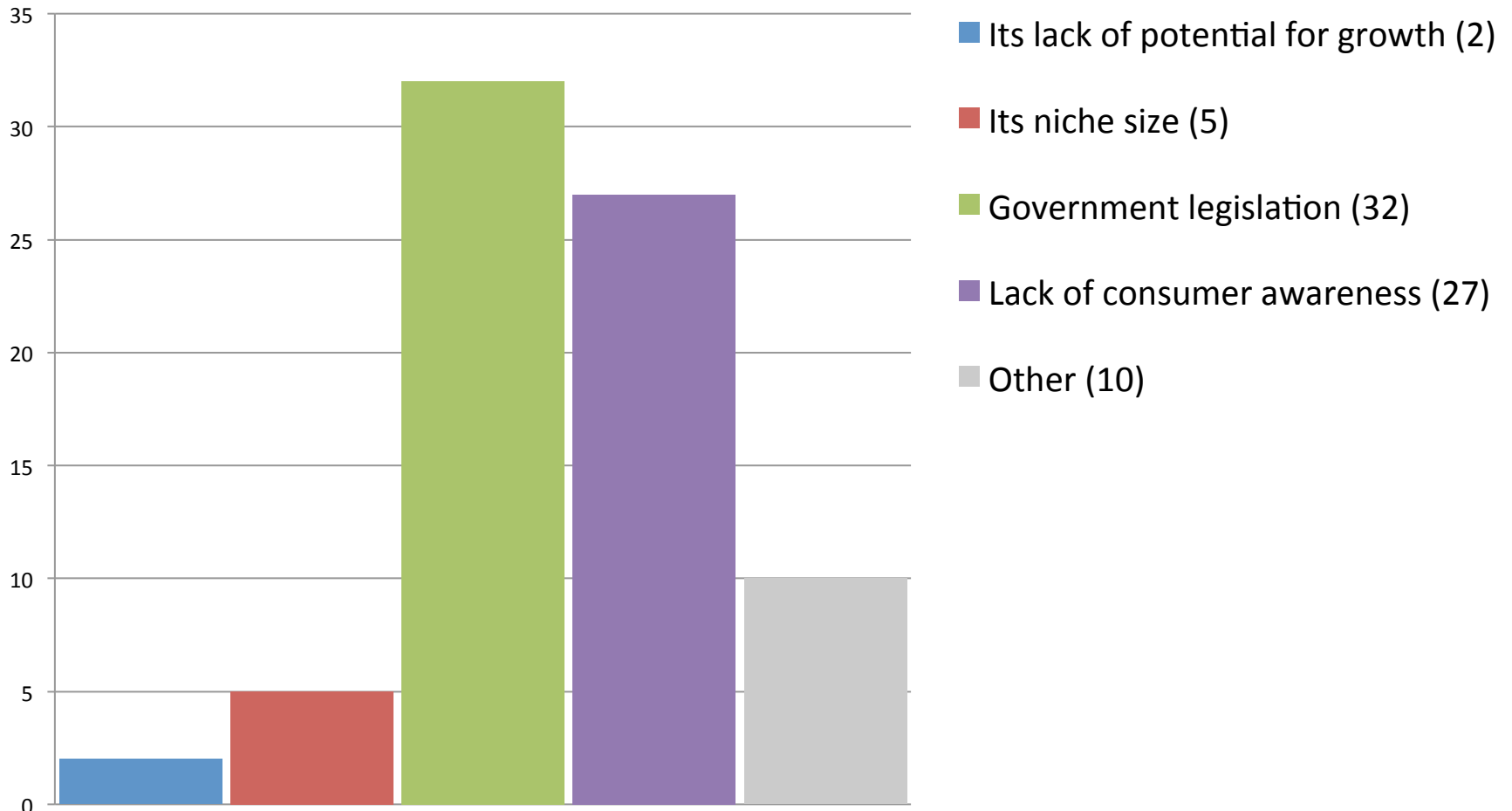




Figure 8 – Main weaknesses of the CBD market in Europe and NA  
(in absolute values)



## Possibility No. 1: Food Supplement

- USP / applications
  - Antioxidant effects
  - Promotes hormonal balance
  - Plant-based sedative (similar to valerian)
- Outlets
  - Supermarkets as specific product or as „additive“ for functional food
  - Drugstores (DM, Rossmann etc.)
  - Online
  - Health food store (e.g. Holland and Barrett's)
  - Bio-supermarkets
- Market size
  - Large due to widespread distribution channels and demand for plant-based, sedative, anti-aging (= antioxidant) compounds

## Possibility No. 2: Cosmoceuticals

- USP/applications
  - Skin care: Psoriasis
  - Acne vulgaris treatment
  - Scar tissue treatment
- Outlets
  - (Bio)-Supermarkets
  - Drugstores (DM, Rossmann etc.)
  - Online
  - Perfumeries (Douglas etc.)
  - Cosmetic stores
- Market size
  - May be large in the future but at the moment the high price is prohibitive (also for food supplements)

### Possibility No. 3: Pharmaceuticals

- Applications (demonstrated effects on humans)
  - Epilepsy
  - Anxiety disorders
  - Schizophrenia
  - Inflammation-associated pain (e.g. bone cancer)
  - Dystonia
  - Alerting in low doses, sedating in higher doses
  - Neonatal hypoxic-ischemic encephalopathy
- Outlets (depending if sales without prescription are possible)
  - Drugstores (DM, Rossmann etc.)
  - (Online-)Pharmacy
- Market size
  - Estimated upper market size in Europe for CBD as a pharmaceutical targeting chronic diseases is € 2 billion

### General notes on CBD as pharmaceuticals:

- Cannabis can be a medical solution for chronic diseases as it has little or no side effects
- It has little to no negative effect over a lifetime of consumption, although it may interact with other medical products consumed
- The following estimations were made based on a CBD market price of € 5/100 mg; this may drop in the future as more supply becomes available
- Dosage estimates are derived from current peer reviewed scientific papers
- Market penetration figures are conservative calculations, these values may increase in the future as more research becomes available, CBD prices drop and widespread use increases

## Conclusions

- We estimate a total CBD market value in Europe of just over € 2 billion for those diseases that have direct CBD research and, thus, represent a promising CBD market
- The market potential may increase considerably, if
  - more research confirms the beneficial effects of CBD
  - further decreasing of CBD prices would make it affordable for more people
  - more people become aware of the therapeutic potential of CBD

- Use as Food Additive / Dietary Supplement (1130/2011; 1333/2009)
  - Must be included in “Union List of Food Additives” and have advantage from a consumer or technical point of view
  - CBD is not on the list => use as food additive not approved
- Use in Cosmetics (655/2013, 1223/2009):
  - Made according to GMP and registered in CosIng
  - No THC may be contained
  - CBD is not on the list => use in cosmetics not approved
- Use in Pharmaceuticals (1924/2006):
  - CBD has orphan designation (EU/3/14/1339) for Dravet syndrome
  - CBD has to be listed in pharmacopoeia

We think that CBD will eventually be categorized as pharmaceutical when the existing laws will be applied to it.

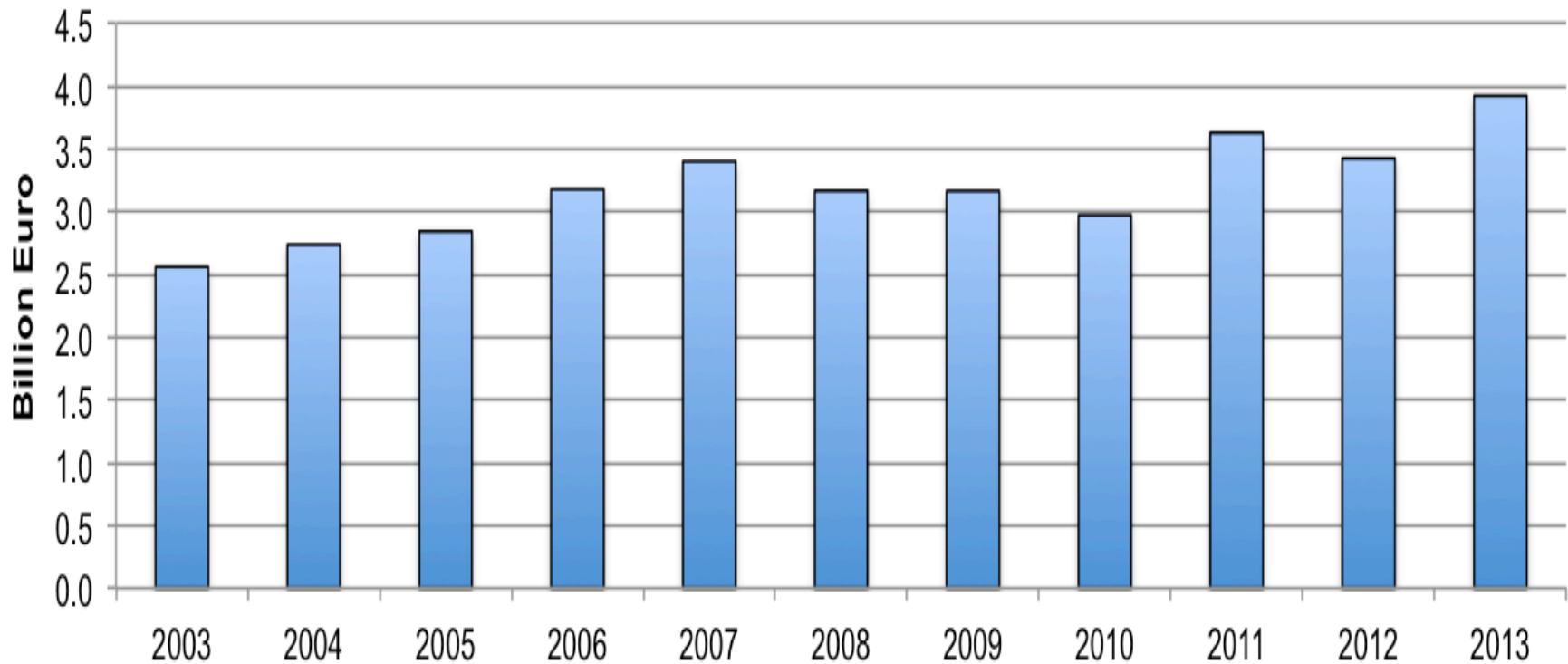
Regardless of the laws CBD might be too expensive for applications in food supplements, especially if used in pharmaceutically active doses.

## Market data

- Statistical information about phytopharmaceuticals is rare
- “Medicaments of alkaloids or derivatives thereof” (codes 21.20.13.10 and 21.20.13.40) -> Eurostat PRODCOM database
  - most of the relevant phytopharmaceuticals, such as valerian, contain alkaloids as their main active substances
- Figure 9 shows the development of the total production value of this product group over the last 11 years; in 2013 the production value amounted to about € 4 billion



Figure 9 – Production value of „Medicaments of alkaloids or derivatives thereof“ in the EU-28



Source: Eurostat 2015

## Facts and figures

### In Germany in 2011

- Phytopharmaceuticals sold in drug stores generated a turnover of € 1.1 billion<sup>1</sup>
- 30,760 t of medicinal plants were demanded by the German market with a total production value of € 84 million
  - 70% were used for human phytopharmaceuticals
  - 20% were used for health food
  - 5% for cosmetics
  - 5% for veterinary products
- Average value of 2-3 €/kg (raw plant)
- Valerian and Echinacea were among the most expensive crops
  - Valerian 5 €/kg<sup>1</sup>
  - Echinacea 9 \$/kg<sup>2</sup>

### In Europe 2009

- Market value of € 4.9 billion (estimation)

<sup>1</sup> Schmitz, N. 2014: Marktanalyse Nachwachsende Rohstoffe. Schriftenreihe Nachwachsende Rohstoffe 34. Hrsg.: Fachagentur Nachwachsende Rohstoffe e.V. (FNR), Gülzow 2014.

<sup>2</sup> Lubbe, A. and R.Verpoorte 2011: Cultivation of medicinal and aromatic plants for specialty industrial materials, in: Industrial crops and products, 34 (2011) 785–801.

## Conclusions

- According to these figures the price for alkaloid-containing phytopharmaceuticals was around 60-70 €/kg in recent years for final products. This fits quite well to actual retail prices, e.g. for preparations based on valerian
- Applying this price estimate of 60-70 €/kg to the European market, the European production value of about € 4 billion would correspond to a production volume of about 40,000 to 60,000 t
- As a scenario, we assume in the following that CBD-containing preparations could be sold in drug stores in the European market for a price of 60-70 €/kg. If 1% of the market volume of 40,000 to 60,000 t of alkaloid-containing phytopharmaceuticals could be substituted by preparations based on CBD, this would result in a turnover of € 24-42 million.

### CBD

- Currently a market niche ruled by SME, mainly trading outside their borders
- Due to the fact that CBD is still a new product in the market, it is not surprising that 87.5% identify the potential for growth as CBD's biggest strength in Europe and NA
- Increased public and governmental awareness is crucial to expand market and frame proper legislation, or potential exists for damages
- Therefore the way CBD is legally framed may affect its market size

### CBD

- According to estimates, CBD has an upper market potential in Europe of € 2 billion if used as medicine for chronic diseases
- Putting on a level with over-the-counter medicine such as valerian, CBD has a minimum market penetration potential of € 24 million
- The gap between upper and minimum market potential can be reduced with more consumer information and investment on research to support initial medical claims, as seems to be the current trend



**Thank you!**

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