

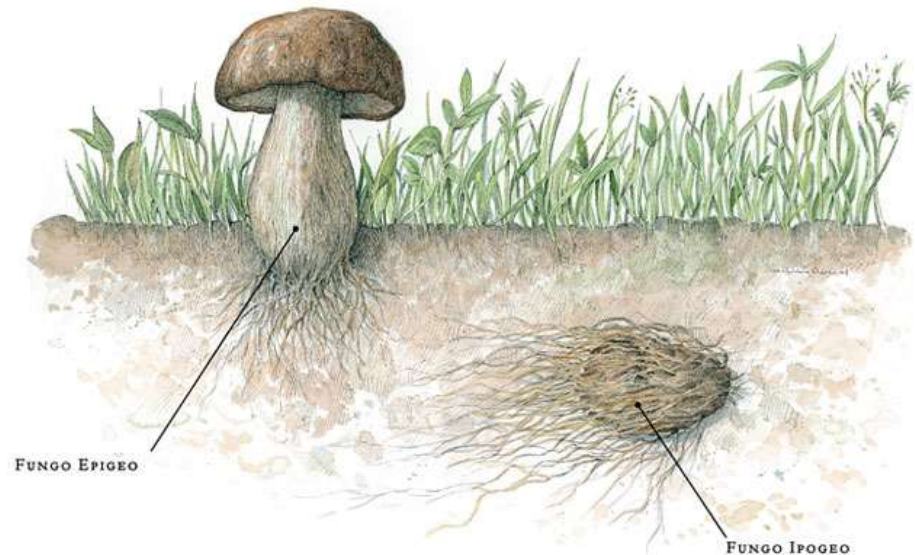
# Truffles industry in Croatia: Current status and future perspectives

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# Introduction

- Truffles are culinary diamond and are considered as delicacy
- Most expensive fungi in the world
- Underground (hypogeous) fungi difficult to find
- They live in symbiosis (mycorrhizae) with trees and shrubs



# Historical background

- The first truffles were found in Istria region in 1929 by Carlo Testoni & Pietro Giovannelli
- Organized collecting starts in 1931
- Baroness Barbara von Hütterott & Massimo Sella with associates (Testoni & Giovannelli) established the company „*Azienda del Tartufo – Sella, Hütterott e C. Levade*” in 1933



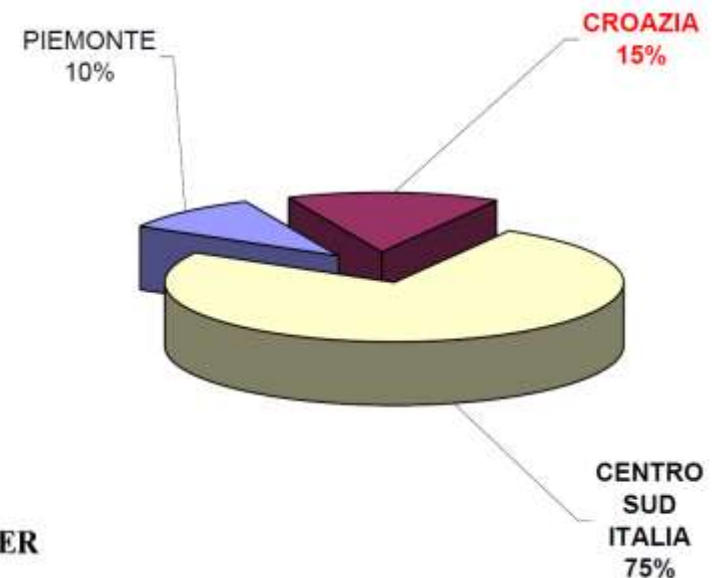
- After 1945 truffles were mainly traded and marketed by state forest companies until 1990-es
- Black market development during 1980-es
- Smuggling to nearby Italy
- Operation „Truffle” in Asti-Alba / Piedmont / Italy (2011) – commercial frauds, only 10% of truffles from Piedmont, 15% from Croatia



*Ministero delle politiche agricole,  
alimentari e forestali*  
CORPO FORESTALE DELLO STATO  
COMANDO PROVINCIALE DI ASTI

COMUNICATO STAMPA

**CONTROLLI NEL SETTORE AGROALIMENTARE: DENUNCIATE 14 PERSONE PER  
FRODE IN COMMERCIO ED ALTRI REATI DI NATURA TRIBUTARIA.**



- Illegal activity, kept in secret, not recorded in statistics





# Main species



- The most important commercial truffle species:
  - *Tuber magnatum* – white Piedmont truffle
  - *Tuber borchii* – bianchetto truffle
  - *Tuber melanosporum* – Périgord truffle (\*not recorded in CNF)
  - *Tuber aestivum / uncinatum* – summer / Burgundy truffle
  - *Tuber brumale* – winter truffle

# Main distribution area and natural habitats





- Total Croatian truffle production is collected from natural habitats
- *T. magnatum* habitats are small and patchy
- River valleys, along side of streams and creeks

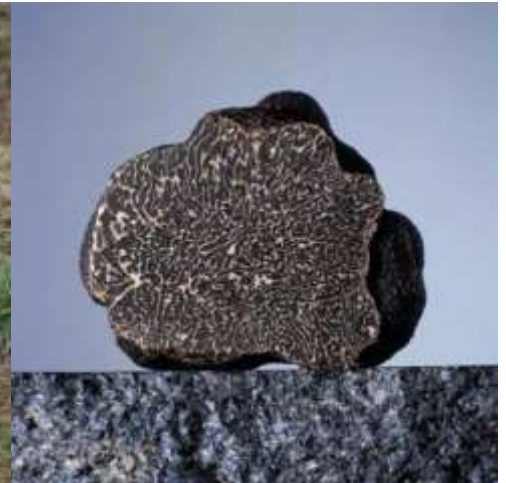


- *T. aestivum* is present in most parts of Croatia
- No „truffle management”
- Ecological problems (floods, soil pollution, tree dieback, diseases and pests, unfavorable water management)



# Truffle hunters and truffle dogs

- Number of truffle hunters in Istria is estimated at 1000-2000 people
- High socio economic impact
- Two truffle hunters associations in Istria, approx. 150 members
- Truffle collecting and trade are still unorganized in Istria

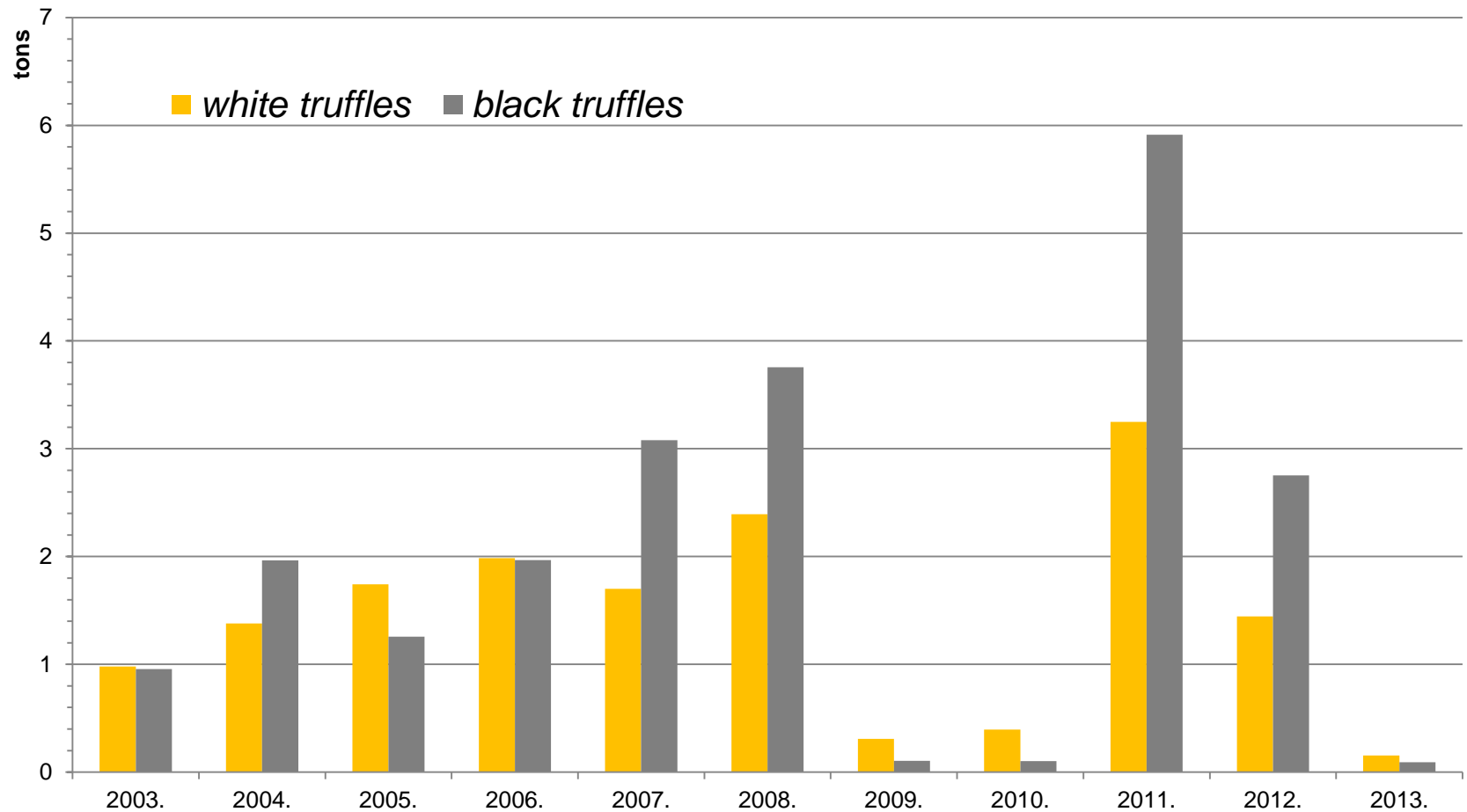




- On average, each truffle hunter has 2-4 trained dogs
- Number of dogs is estimated up to 8000
- No specialized breeding kennels
- No certification for truffle dogs



# Commercial truffle species collected in Croatia from 2003-2013 based on commercial pickers annual reports (in t/year)



# Truffle market

- Truffle industry gives benefits from direct collection and trade, processing and marketing, trade of final products and tourism
- Estimated annual value 1-2,5 mil. € (only legal trade)
- High importance for rural economy
- No truffle auctions nor central market place





# Truffle regulation in Croatia

- Regulation on fungi protection ([NN 34/02; NN 99/09](#))
  - Regulates the status of M&T pickers, species, dimensions, quantities and season (for truffles only)
  - Unique season for all truffle species (15 Sept – 31 Jan)
  - Regulates number of dogs during truffle collection
  - *Tuber asa*, *T. borchii*, *T. maculatum* & *T. magnatum*
  - *Tuber aestivum*, *T. brumale*, *T. hiemalbum*, *T. macrosporum*, *T. malenconii*, *T. melanosporum*, *T. mesentericum* & *T. aestivum* var. *uncinatum*



- Croatian forests L.t.d. NWFPs Regulation on use of NWFPs and pricelist (2014)
- Collectors must buy permits to harvest in state forests
- Yearly quantities for companies defined and official data collected by Ministry of Environmental and Nature Protection
  - questionable reliability of data



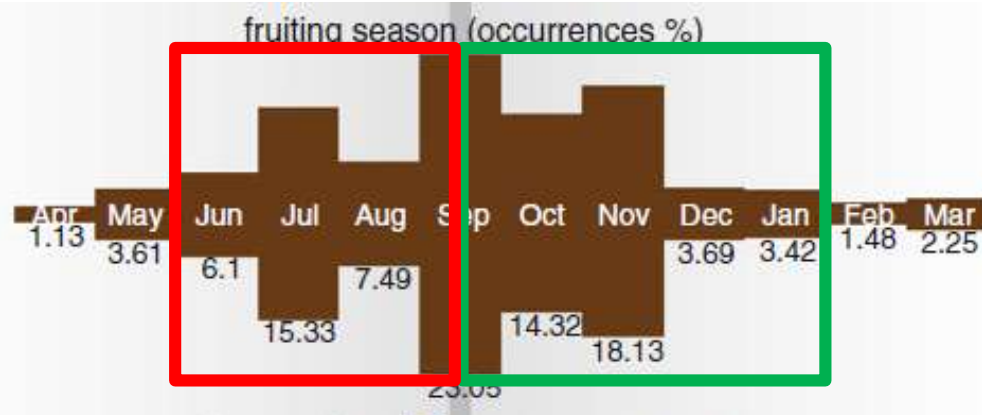
# Problems

- No scientific data on truffles
- Unorganized collection, trade and market
- High number of illegal truffle hunters
- Rising number of truffle hunters per same area
- Weak control
- Widespread black market





- No targeted truffle management
- Decreasing quality and quantity of collected truffles
- Degradation of natural habitats
- No organized dog breeding and certification
- Differentiation to white and black truffles
- Collecting season adapted only to *T. magnatum*



- Ecological problems of natural habitats
- And many more...



# ...Between now and future...



- **Strategy of sustainable truffle industry in Istria county**  
(December 2014)
- Development financed from MEDLAND 2020 project
- 4 main strategic goals (2014-2020)
  - Protection and increasing of production in natural truffle habitats
  - Establishing of truffle plantations
  - Strengthening and regulation of truffle market in Istria county
  - Supporting sustainable rural development



# Conclusions

- Widespread black market
- Legal framework often confusing
- Scarce or no data on truffles
- Small number of ongoing projects
- Only few species marketed
- Truffles present in Croatian touristic and gastronomic offer
- High socio-economic potential







**Thank you for your attention!**

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