



# **Chestnut gall wasp *Dryocosmus kuriphilus* Yasumatsu, spread and recorded damage in Slovenia**

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**KMETIJSKO GOZDARSKI ZAVOD  
NOVA GORICA**

# Chestnut gall wasp - *Dryocosmus kuriphilus* Yasumatsu

## INTRODUCTION

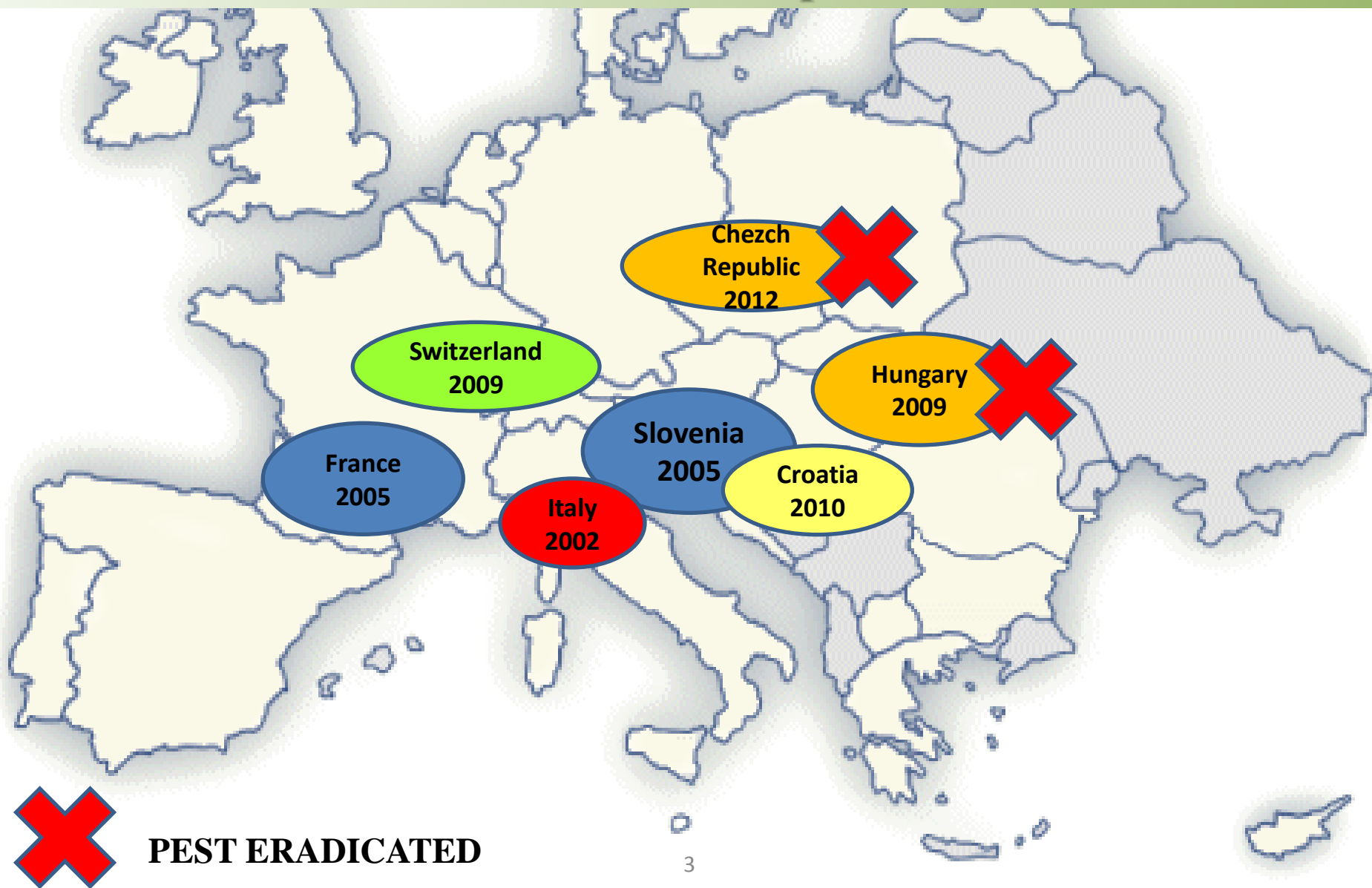
Chestnut gall wasp (*Dryocosmus kuriphilus* Yasumatsu) is considered as the most harmful pest of chestnut worldwide.

**Current distribution in Europe:** Italy (2002), France (2005), Slovenia (2005), Switzerland (2009) and Croatia (2010).



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## Current distribution in Europe





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## Symptoms



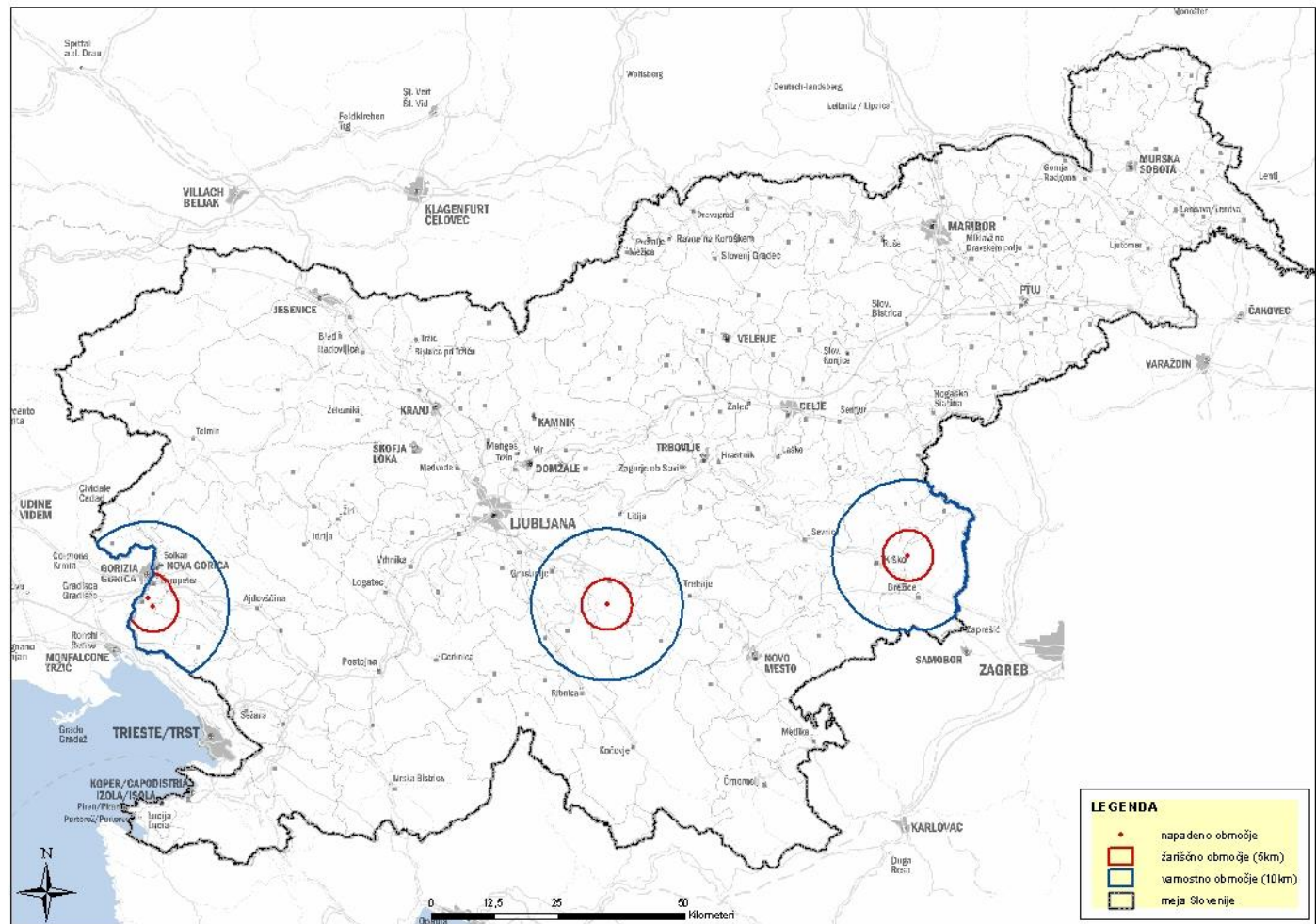
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## Alert and first finding in Slovenia

- **13/06/2005**: NPPO of Slovenia received a notification from the Italian Regional phytosanitary service of Piedmont on probable introduction of *Castanea* plants from an infested nursery in Cuneo.
- **17/06/2005**: first infested plants were found (infested consignment). The introduction of D.K. was done in late autumn 2004 by a registered Slovenian supplier (1250 plants/590 traced back and inspected)
- **20/06/2005**: Immediate eradication measures were imposed. Due to the biology of D.K. the adults had not been hatched yet, **eradication was successful.**
- **24/06/2005**: Decision on emergency measures was prepared and published in the Official Gazette of the Republic of Slovenia (before legal basis for official measures in EU)

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## First finding in Slovenia



**First officially demarcated areas (Foci + buffer zones) in Slovenia in June 2005.**

**Infested plants for planting were found on 3 locations; eradication was successful.**



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## Official survey in 2006

- Since 2006 official survey has been carried out in the entire territory of Slovenia;
- 198 visually surveyed locations;
- No new findings on new locations and the foci demarcated in 2005 were all negative;
- June 27, 2006: EU Commission decision on provisional emergency measures to prevent the introduction into and the spread within the Community of *Dryocosmus kuriphilus* Yasumatsu (2006/464/EC)

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## Official survey in 2007- The first outbreak

- Official survey continued; 219 locations were visually surveyed;
- In the late June 2007 the Agricultural service in Nova Gorica was informed about a suspicion of *Dk* in a chestnut orchard on the location Sabotin -West Slovenia
- Many infested trees were found in the orchard and some few in the adjacent woodland on hidden place on the mountain Sabotin
- The infested area was still very limited;
- Visual symptoms were observed in an area of 3,5 hectares.
- Unfortunately a number of wasps had already hatched
- **As documented in phytosanitary certificates, empty places in the orchard were replanted in 2004 with chestnut plants from Cuneo/Italy region imported in January 2004 (Slovenia was not the EU member at that time);**



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## Eradication in 2007



**All trees in the infested orchard were immediately removed and burned on the spot**



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## **Eradication in 2007**



**Infested trees in the surrounding forest were removed and destroyed**

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## Establishment and spread of the pest

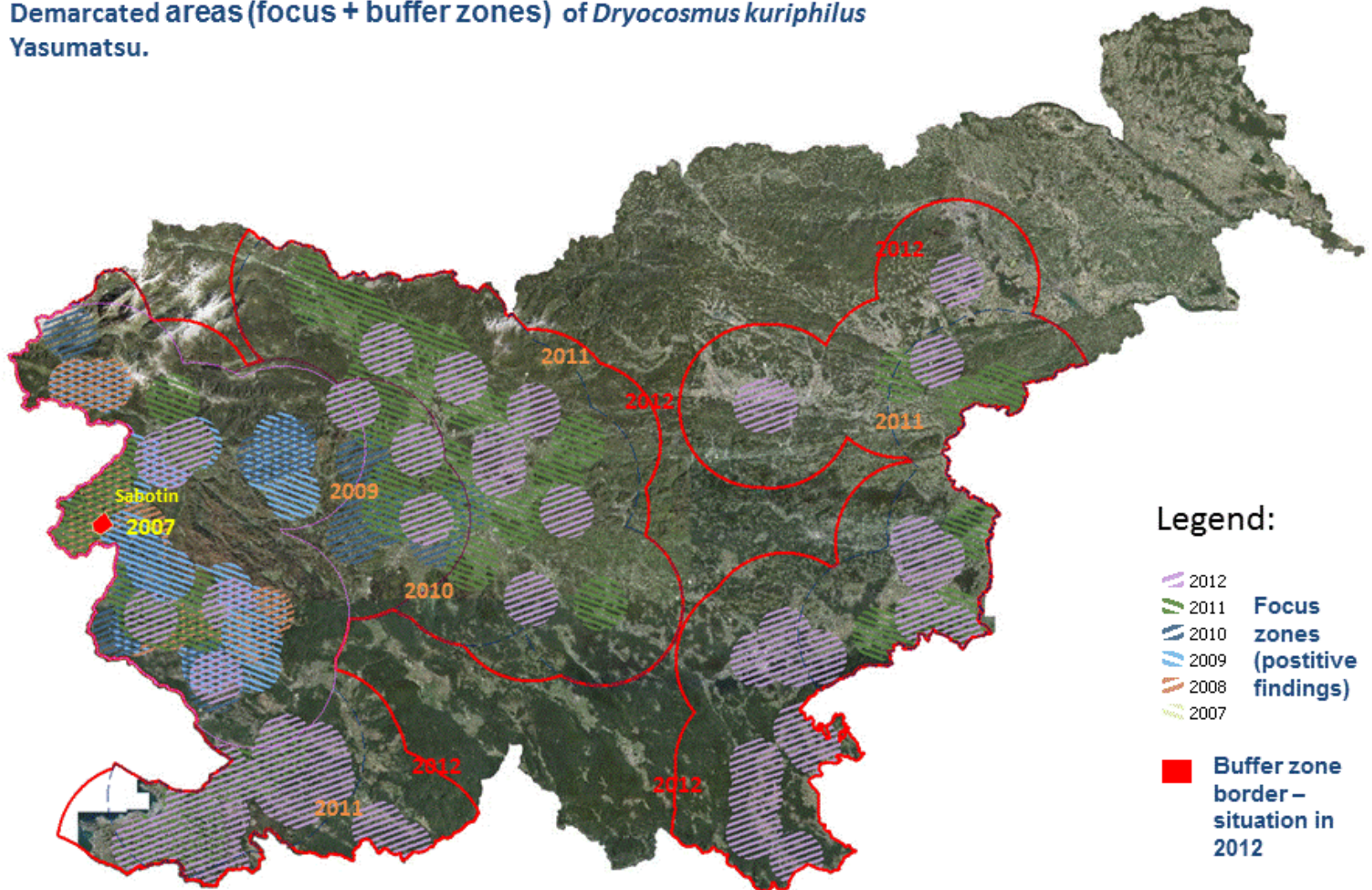
- Despite the rigorous eradication measures taken on the location Sabotin the pest has become established in Slovenia in the period 2007-2012;
- Natural spread (adult dispersal by flight) and spread by traffic means from infested area was up to 36 km per year
- Till 2010 the direction of spread was from western to eastern part of the country
- As a consequence of the outbreak of D.k. discovered in Croatia in 2010 the spread of the pest was recorded in the eastern and south eastern part of Slovenia in 2011 (new outbreaks along the border with Croatia)
- Until 2012, chestnut gall wasp invaded the major part of the country



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## Current distribution in Slovenia

Demarcated areas (focus + buffer zones) of *Dryocosmus kuriphilus* Yasumatsu.





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**Damage recorded in Slovenia**



**High infestation rates (numerous galls per leaf/shoot)**



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## Damage recorded in Slovenia



Leaf area of high infested trees is greatly reduced.



# **Chestnut gall wasp - *Dryocosmus kuriphilus* Yasumatsu**

## **Damage recorded in Slovenia**



**In the western part of the county in the infested chestnut orchards up to 70 per cent yield loss was recorded in 2012.**



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## Damage recorded in Slovenia



Chestnuts threatened by *Dryocosmus* and drought.



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## Conclusions

- *Dryocosmus kuriphilus* is very harmful and aggressive pest which is difficult to control
- Monitoring and early detection are essential to prevent establishment and spread of the pest
- The first outbreak of *D.k* in Slovenia occurred in 2007 on the location Sabotin (West Slovenia)
- Plants for planting represent the main pathway for introduction of *D. kuriphilus* in new areas
- After finding prompt phytosanitary action is necessary;
- Eradication of the pest is difficult or even impossible in case when the pest escapes into the woodland;
- The most suitable options to reduce the damage are resistant varieties and biological control by parasitoids (indigenous or introduced- *Torymus sinensis*)
- The production of plants for planting inside the infested area is possible only under insect proof net;

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## Acknowledgements

Thanks to all Slovenian experts involved in official survey of *D.k.*





**THANK YOU FOR YOUR  
ATTENTION!**