



Classical Swine Fever (CSF) in Europe - Detailed update

Note: Defra's International Animal Health Division (IAHD) monitors outbreaks of high impact diseases around the world. Classical swine fever is among those diseases of major concern that would have a significant impact if introduced into the UK.

1 Disease Report

This update provides an overview for the past few years and provides information on the past and most recent outbreaks in the EU and the countries neighbouring the EU. This update uses information from the OIE WAHID and HandiStatus II (OIE, 2007) and the European Commission (ADNS database) unless otherwise stated. This information was valid as of 17.00 hours on 14 March 2007. Further clarifications received from the European Commission have been included. The situation is still evolving and further developments are likely.

2 Situation Assessment

2.1 EU Member States

2.1.1 Wild boar

CSF in wild boar is being controlled in areas of France, Germany, Slovakia, Hungary and Bulgaria, under EU rules. In these Member States (except Hungary), EU rules allow for emergency vaccination including the use of vaccine baits. Sporadic cases have been detected during surveillance and testing for the presence of the virus in wild boar in France, Germany, Hungary, Romania and Slovakia in 2007. Belgium has not reported CSF in wild boar since November 2002 while Luxembourg last reported CSF (in domestic pigs but attributed to indirect contact with wild boar) in September 2003. It remains uncertain to what extent CSF may be present in wild boar in Romania.

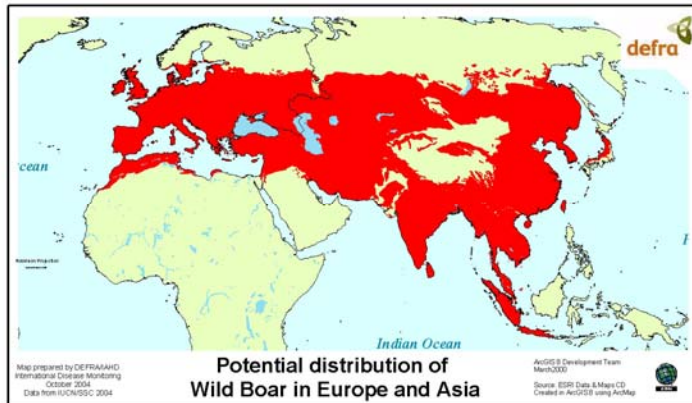
2.1.2 Domestic pigs

Sporadic outbreaks of CSF have been reported in domestic pigs in known CSF areas of the EU for the past few years. Certain of these were thought to be due to CSF virus strains known to be present in local wild boar, but incursions from external sources may have also occurred. Italy, Luxembourg and Germany each had one outbreak in 2003, Slovakia reported six outbreaks in 2003, five in 2004 and one in 2005. Germany experienced eight related outbreaks of CSF in 2006.

In domestic pigs, there were an outbreak in Slovakia in 2005 and an outbreak in Germany in 2006 that affected several commercial holdings. Currently, CSF has been reported in backyard pigs in Romania (803 outbreaks in 2006; 137 so far in 2007 (updated data from European Commission)) and to a lesser extent in Bulgaria (7 outbreaks in 2006; 3 so far in 2007) (see map below – section 2.2.2).

2.2 Countries neighbouring the European Union

2.2.1 Wild boar



In recent years, the disease has been reported in wild boar populations in some countries outside the EU (e.g., Switzerland, Croatia, Russia). The CSF situation in wild boar in many other EU neighbouring countries is still largely unknown.

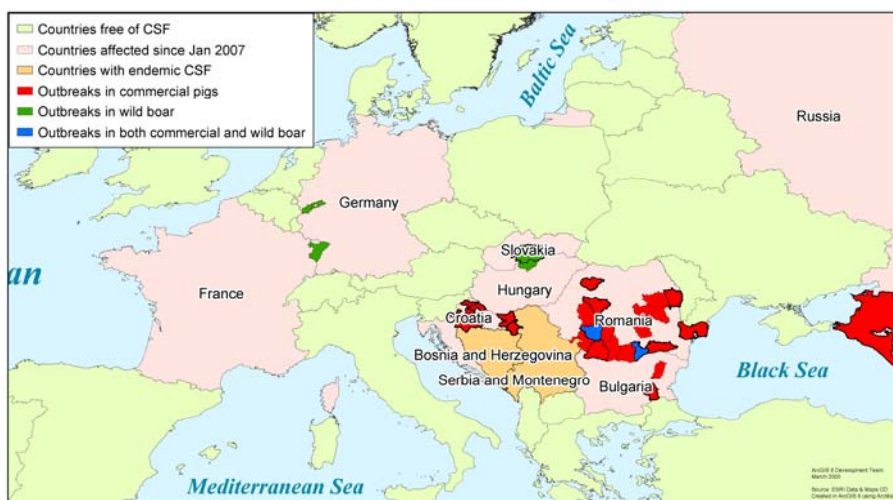
The adjacent map shows the potential distribution of wild boar populations in suitable habitat in Europe and Asia.

2.2.2 Domestic pigs

Croatia has reported several new outbreaks of CSF in domestic pigs since January 2007 (see map) (European Commission, 2007).

Outbreaks of CSF have also recently been reported in backyard pigs in Krasnodar near the Black Sea in the Russian Federation (see map below) where vaccination against the disease is carried out. CSF is considered to be endemic in domestic pigs in Bosnia and Herzegovina, Serbia and Montenegro. Sporadic outbreaks have also been reported from Albania. Small-holder livestock plays a key role in the rural household economy in many of the countries in eastern Europe where home slaughter is common. These holdings may also include many free range pigs which may possibly have contact with wild boar.

The map below summarises a number of outbreaks of CSF that have been reported in wild boar and domestic pigs in Europe since January 2007. The countries where outbreaks have



Produced by Abina Rogem,
IAHD, February 2007
Robinson Projection
www.defra.gov.uk

**CSF reported in Europe
January to March 2007**

occurred are indicated by pink shading with the provinces affected by outbreaks indicated as to whether the outbreaks were in wild boar (dark green), domestic pigs (red) or both (blue). Countries where the disease is endemic with on-going outbreaks and those where CSF is not currently reported are also indicated by light

orange and light green respectively.

3 Commentary

3.1 *European Union*

Retrospective studies in Germany demonstrated that the outbreaks of CSF in domestic pigs in 2006 were caused by the CSF virus strain Gustrow 2.3. The last time this strain was found in Germany was in wild boar in the eastern part of the country in 2000. This outbreak was initially very difficult to recognise as CSF based on clinical signs which may have contributed to subsequent spread to other herds.

The prevention and eradication of CSF remain two of the major animal disease control objectives within the EU. Different strategies are followed for its eradication in wild boar using vaccination and special hunting strategies and in domestic pigs where stamping-out and a non-vaccination policy are in force. The EU has previously approved the purchase of one million doses of conventional live vaccine in the context of emergency vaccination. Two marker vaccines for CSF are already licensed for use in the EU. The EU has also approved a discriminatory serological test which could be used in association with such vaccines in CSF control.

Romania is the only EU Member State that is currently allowed to carry out emergency vaccination against CSF in domestic pigs.

3.2 *Countries neighbouring the European Union*

Outbreaks of CSF in Russia were also attributed to a new strain of the virus causing high morbidity and mortality in vaccinated pigs.

A retrospective study of CSF field isolates in Croatia between 1997 to 2001 indicated that these all belonged to two different subtypes (2.1 and 2.3) within group 2. The subgroup 2.1 isolates were genetically closely related to CSF isolates obtained from domestic pigs in Germany during 1989, Switzerland during 1993, the Netherlands, Italy and Germany during 1997 and Great Britain during 2000 and from wild boar in Austria (isolated in 1993). Viruses of this genotype had previously been the cause of sporadic outbreaks in Europe since 1989, including the 1997/1998 CSF outbreaks in west and central Europe. It was suspected that this subtype was introduced from Asia on the basis of its close genetic relationship to isolates obtained from pigs in Malaysia during 1986 and in China during 1993 (Jemerisic and others, 2003).

The subgroup 2.3 isolates from domestic pigs in Croatia also show a genetic relationship with CSF isolates obtained from domestic pigs in Hungary during 1993, Czech Republic during 1996 and Yugoslavia (Serbia & Montenegro) (isolates confirmed in 1999) and CSF Isolates obtained from a wild boar in Germany (isolated in 1996) and Slovakia (isolated in 1998). All CSF isolates from wild boar in Croatia were also found to belong to 2.3. subgroup and to be genetically related to the 2.3. subgroup isolates obtained from domestic pigs (Jemerisic and others, 2003).

Most Balkan countries and western Russia are known to have high density pig and wild boar populations. CSF control in such situations is very difficult. Furthermore, this may be exacerbated by certain differences in veterinary systems depending on the legacies of the past.

4 Conclusion

The overall risk of the introduction of CSF from Europe to the UK remains low to increased. This again emphasises the importance of strict compliance with EU rules for trade in live pigs and their products, and appropriate enforcement at the border and compliance with swill feeding ban in the UK.

There is a low risk that sporadic cases of CSF in the EU will result in the introduction of the disease to the UK. Except for the 2006 outbreaks in Germany mentioned above, no major outbreaks of CSF have been recorded in commercial pigs in the EU since the beginning of the 2000s. This highlights the effectiveness of the appropriate implementation of EU rules. On the other hand, sporadic cases of CSF may continue to be reported from the known affected areas of the EU, both in wild boar and in domestic backyard pigs. This highlights two issues of the effectiveness of vaccination in wild boar and sporadic cases in domestic pigs, most likely as a result of breaches or lack of appropriate implementation of biosecurity measures. The EU continues with non-vaccination policy in domestic pigs, with the exception of Romania where emergency vaccination of non-commercial pigs is allowed.

There is an increased risk that CSF may be introduced to the EU from certain countries neighbouring the EU. The extent of CSF in the countries neighbouring the EU still remains unknown. While these countries practise vaccination (with the exception of Croatia), the uncontrolled or illegal movement of pigs and their products and the largely unknown status of CSF in wild boar populations makes any attempt to control the disease almost impossible.

Further development are likely and we will continue to monitor the situation.

5 References

- Jemersic L, Greiser-Wilke I, Barlic-Maganja D, Lojkic M, Madic J, Terzic S, Grom J. (2003)
Genetic typing of recent classical swine fever virus isolates from Croatia. *Vet Microbiol.*,
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