



EUROPEAN COMMISSION  
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Veterinary control programmes

SANCO/10138/2010

**REPORT ON THE  
1<sup>st</sup> TASK FORCE MEETING  
OF THE  
“CLASSICAL SWINE FEVER”  
SUB-GROUP  
HANNOVER, GERMANY  
27-28 April 2009**

**REPORT OF THE 1<sup>st</sup> MEETING OF THE CSF SUB-GROUP OF THE TASK FORCE ON  
MONITORING ANIMAL DISEASE ERADICATION IN HANNOVER,**

**27-28 APRIL 2009**

**PARTICIPANTS:**

- Dr. Volker Moennig( DE – Chairman)
- Task force sub-group members: Dr. Pencho Kamenov( BG), Dr. Nicolae Lazar(RO), Dr. Miroslav Mojzis (SK), Dr. Jedrt Maurer Wernig ( SI), Dr. Willie Loeffen (The NL), Dr. Sandra Blome(DE)
- Dr. Tsviatko Alexandrov (BG)
- CRL: Dr. Stefanie Deike, Dr. Alexandra Meindl-Böhmer, Dr. Irene Greiser-Wilke
- Dr. Christoph Staubach (DE) privat expert
- EU-Commission: Dr. Olga Zorko, Dr. James Moynagh

Apologies : Dr.Deim Zoltán (HU)

**LOCATION:** Institute of Virology, School of Veterinary Medicine Hannover

**AGENDA:**

**Monday, April 27**

- 12:00 Registration, light lunch
- 13:00 Welcome (V. Moennig)
- 13:15 Introduction and purpose of the task force (O. Zorko)
- 13:45 CSF – a general introduction (V. Moennig)
- 14:15 Participants present overview of CSF situation in their home countries, Part I
- 15:30 Coffee break
- 16:00 Participants present overview of CSF situation in their home countries, Part II
- 19:00 Dinner

**Tuesday, April 28**

- 8:30 Genetic typing of CSF isolates and implications for CSF control (I. Greiser-Wilke)
- 9:10 The CSF wild boar data base (O. Zorko, C. Staubach)
- 10:00 Goals and procedures of the group
  - eradication strategies in wild boar and backyard pigs etc.
  - how can the task force promote national CSF eradication programmes
  - identification of experts outside the task force, who might contribute
  - next steps and tasks
  - date and location of next meeting
- 13:00 AOB
- 13:15 Lunch and final discussion
- 14:00 Closure of meeting and departure

## **OBJECTIVE:**

The objective of the first meeting was to review the situation regarding the CSF in Member States and decide for the further steps of the subgroup including the possibility to update and extend the availability of existing database for wild boar to all MS.

## **DAY 1**

### **1. Dr Olga Zorko briefly explained the purpose and the goals of the task force**

White paper on Food Safety (DOC/00/1-COM/99/719 published in January 2000) proposed more co-ordinated approach to the organisation of food safety to achieve the highest possible level of health protection. Animal health was recognised as an important factor in food safety. Existing eradication and disease control programmes such as those for tuberculosis and brucellosis as well as others, should be continued and re-enforced.

A number of actions were proposed in the Annex. ACTION 29 is for the Animal Health sector. It says that budgetary allocation for actions provided for in the Council Decision 90/424/EEC on the expenditure in the veterinary field should be increased with the objectives:

- To enable actions necessary to improve animal disease eradication (brucellosis, tuberculosis etc)
- To create a task force for monitoring disease eradication in the Member States

The task force for monitoring disease eradication was created in March 2000. For some diseases like sheep and goat brucellosis, bovine brucellosis and bovine tuberculosis subgroups have been created. Later on new subgroups were added for rabies and salmonellosis.

During the Task force meeting of February 2009 a subgroup for CSF was established. The goal of the group is to discuss all aspects (general and specific questions, and difficulties of the disease to be eradicated) related to the programme for eradication, monitoring and control of CSF in Member States. In this way it is possible to assist a MS having difficulties to find the best solution for its special problem. A very important issue is also the motivation of people involved in control the programmes, in particular local vets, industry, farmers. In order to boost this motivation it is planned to hold future meetings of the subgroup in the MS concerned and preferably in the most problematic areas.

### **2. Dr Volker Moennig introduced CSF and highlighted some critical areas in the epidemiology of the infection as well as in the control under unfavourable conditions. The most important factors promoting the spread of the disease are:**

- Late diagnosis
- Lack of awareness and knowledge
- "uncharacteristic" clinical signs
- Animal transports
- Intense animal trade
- No vertical structures
- High pig densities
- Poor hygiene, lack of managerial skills
- Inadequate control measures
- Insufficient preparation for the worst case

## Tools for CSF Control

- Legal basis & contingency plans
- Diagnostics
  - Diagnosis of virus
  - Diagnosis of antibodies
- Vaccines
  - Modified live vaccines
  - 1st generation of marker vaccines
  - 2nd generation under development

The most recent knowledge concerning CSF is summarised in two recent EFSA papers:

[http://www.efsa.europa.eu/EFSA/efsa\\_locale-1178620753812\\_1211902309158.htm](http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902309158.htm)

[http://www.efsa.europa.eu/EFSA/efsa\\_locale-1178620753812\\_1211902309281.htm](http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902309281.htm)

3. Task force experts- members of subgroup from the countries presented the situation in their respective countries:

### **Dr Jedrt Maurer Wernig** described the situation of Slovenia

Pig population in Slovenia depends on the season. In general there are 23.666 holdings with 466.169 animals some 17.000 holding with 1-2 pigs and only 6 large pig units with 800 – 7000 sows.

CSF situation: Slovenia is free from CSF. The last outbreak in domestic pig population was in May 1996 on a small farm. Preventive vaccination has been prohibited since 31 October 2000. A ban on swill feeding is effective since 1 October 2003 and a monitoring programme in the domestic pig population is in place since 2001:

### Monitoring 2007, 2008, 2009

- Two sampling schemes were implemented.
- Herd based sampling scheme to detect a 1% level of sero-positive herds with 95% confidence (149 pig herds) combined with the risk based approach
  - sampling in breeding herds
  - sampling in small breeding herds
  - holdings in the border region to Croatia
  - Investigation of fallen stock collected by VHS
- Detection of within-herd prevalence of 5% with 95% confidence also combined with risk based components:
  - purchased breeding pigs
  - pigs with health problems

In 2007 a total of 2.643 blood samples were tested (ELISA), 262 fallen stock (PCR); in 2008 a total of 3.499 blood samples were tested (ELISA), 65 fallen stock (PCR).

### Monitoring in wild boar:

- Random sampling was performed and sample size was designed to detect possible CSF infections in wild boar populations with defined accuracy (10% prevalence with 95% confidence). In densely populated areas 58 samples were collected – in less populated areas 29 samples were collected per year. Random sample size: 406 samples.

- Risk based sampling was performed in the neighbourhood of large pig farms; land fill sites and the disease situation in cross-border areas were also considered. All shot wild boars in the bordering region with Croatia and all found dead wild boars (e.g., road accidents) were examined.

Jedrt underlined most important factors in the preparedness of the country: training of all groups and individuals involved in eventual outbreaks of the disease and the regular performing of simulation exercises.

**Dr Niculae Lazar** from Romania presented the situation in Romania:

year	2005	2006	2007	2008	2009
Outbreaks domestic pigs	1504	803	168	0	0
Outbreaks Wild boar	43	18	25	0	0

The last outbreak in backyards was registered on 04 May 2007, the last outbreak in commercial holdings (Igriş I Farm – Smithfield) was on 22 August 2007. The last outbreak in free ranging domestic pigs was on 09 October 2007 in Insula Mică a Brăilei Natural Reservation.

For genotyping the Romanian isolates, both the 5' non translated region (5'-NTR) and the E2 glycoprotein gene were sequenced at the CRL - Hannover, Friedrich-Loeffler Institute and IDAH. The Romanian isolates are in subgroup 2.3. This cluster comprises isolates from different European countries like former Yugoslavia, Switzerland, Spain and other Eastern European countries. In the 5'-NTR fragment, sequence identities between the Romanian isolates were 98.6 and 100%.

For 2009 the programme is approved and ongoing. There is no more vaccination in commercial holdings, but continuation of vaccination in non professional holdings in the whole territory and wild boar vaccination in the whole territory of Romania.

In 2010 Romania will stop with vaccination in backyard pigs as well. ANSVSA reviewed the procedures for a possible approval of intracommunity trade with meat products and carried out the evaluation of the establishments that requested to be put on the list. Following these evaluations only 3 establishments comply with the approval requirements.

**Dr Miroslav Mojzis** from Slovakia presented detailed analysis of the CSF outbreak situation in Slovakia as well as very detailed data on sequencing the viruses in the laboratory.

All present CSF cases were detected outside the vaccination area. Last CSF case in the vaccination area was found in 30th January 2007 (The vaccination area was CSF free during the last 25 months). Sequencing results have shown that the strains found at the border of the vaccination area and Hungary on January 2006 might be predecessors of presently circulated strains. The presently circulating strains established distinct sub lineages depending on their region of origin. Occurrence of CSF in wild boar on the Slovakian side of the border, during last two years, was the result of repeated independent introductions from Hungary with no tendency to spread or perpetuate over an extended time. Obviously present situation is not a result the failure of oral vaccination (OV) but a consequence of bad logistic during OV. The occurrence of CSFV on the border of vaccination areas has not resulted in the enlargement of oral vaccination area.

**Dr Tsv. Alexandrov** from Bulgaria presented the situation in Bulgaria. For efficient implementation of the programme a new categorisation of pig farms has been implemented:

<b>Category of farm</b>	<b>Number of farms</b>	<b>Number of pigs</b>
Industrial	61	425 260
Family farms type A	79	24 331
Family farms type B	1 341	38 697
Backyard farms	50 487	97 535
East Balkan pigs	107	8 584
<b>TOTAL</b>	<b>52 375</b>	<b>594 407</b>
Wild boar		<b>63 963</b>

The approved 2009 programme for control and eradication of CSF includes:

- Active surveillance of the pig holdings to detect clinical cases of CSF as early as possible and submission of check list data into the national database;
- Passive surveillance by blood sampling for detection of CSF-specific antibodies ;
- Three vaccination campaigns with 2 bait distributions within a 40 km zone along the western and northern borders of the country.
- Surveillance of the wild pig population and testing of organ and blood samples from them - when shot or found dead - for the presence of CSF field virus and antibodies induced by vaccination.

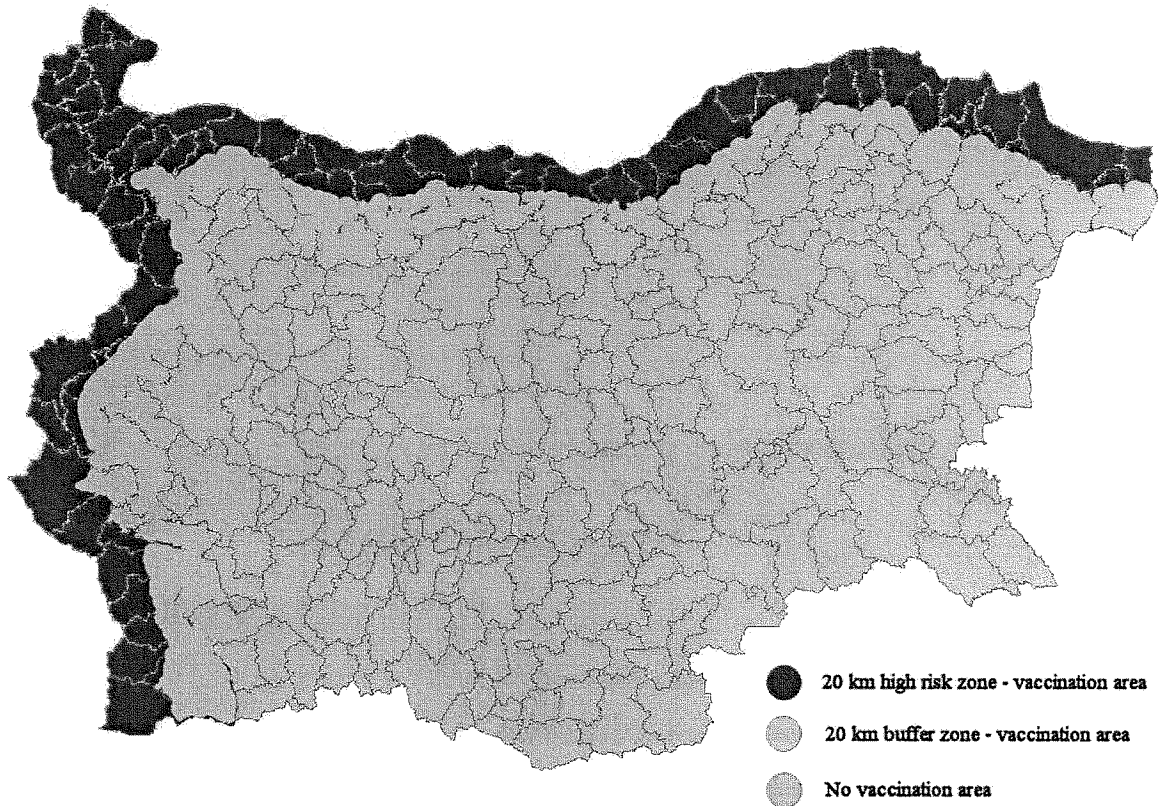
For active surveillance 13836 samples were taken (East-Balkan pigs 117, Backyards 8510, Family farms "B" 2891, Family farms "A" 518 and 1800 in Industrial farms. No change in the health status has been detected.

For passive surveillance 9886 blood samples from domestic and East-Balkan pigs were taken.

Surveillance in wild pigs during the hunting season 2008/2009

- **3132** blood samples tested of shot wild pigs with 80% antibodies induced by oral vaccination;
- **5965** organ samples tested – no circulation of CSF virus.

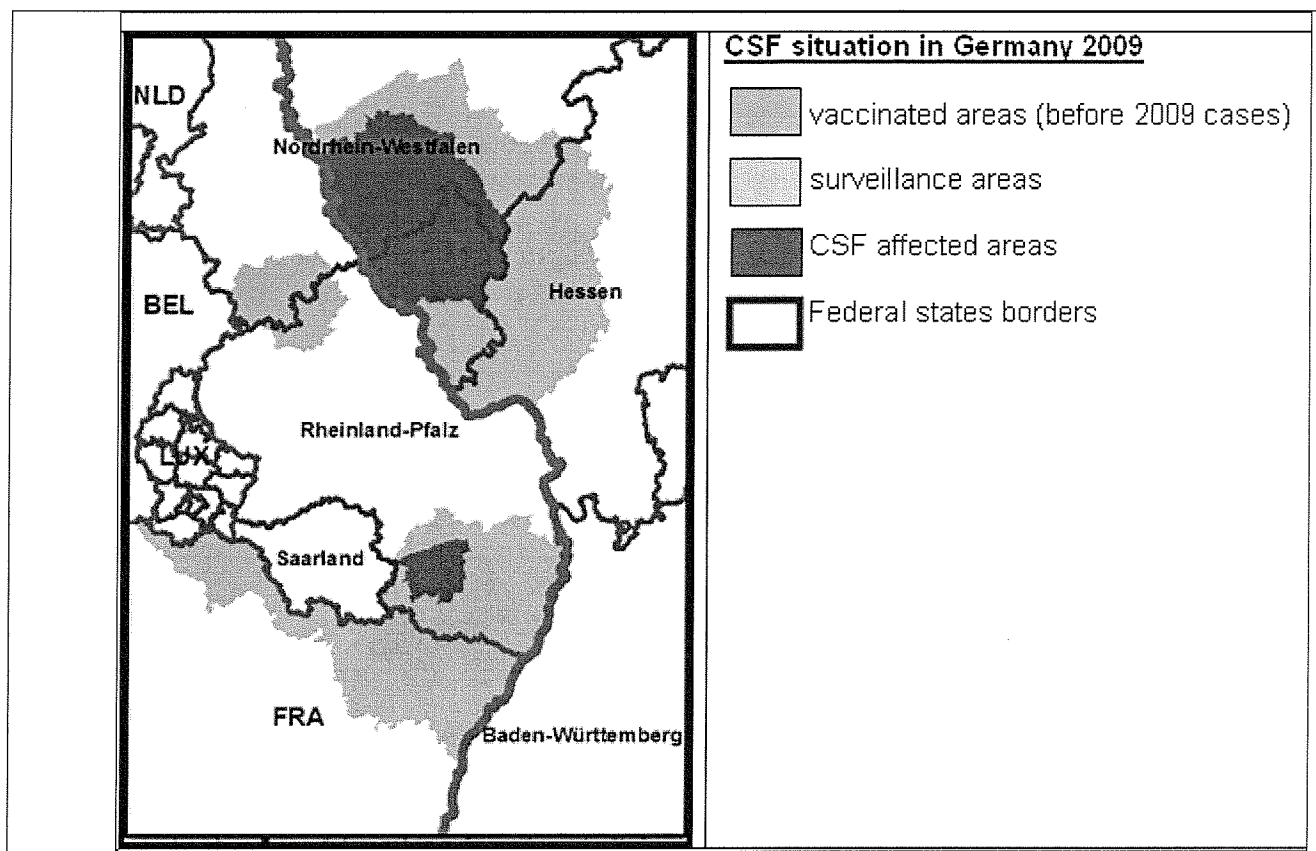
## The vaccination area in Bulgaria



In February 2009 the first vaccination campaign was carried out with two distributions of baits (in 14 days in 955 hunting areas 31490 baits were distributed).

**Dr Sandra Blome and Dr Christoph Staubach** presented the situation in Germany mainly in the 2 federal states: Northrhine-Westfalia and Rhineland-Palatinate since a case of CSF in wild boar found in January 2009.

After the first case of sick wild boar piglet shot near the city of Rösrath, cases were confirmed in the surrounding areas of North-Rhine-Westphalia (total 23) and in the North-Eastern part of Rhineland-Palatinate (total 14). In March 2009 a second but independent cluster of positive cases occurred in Pirmasens in South Western part of Rhineland-Palatinate (total 8).



Various samples were tested in RT-PCR at the FLI for confirmation and after beginning of vaccination numerous samples were found positive due to genome of the C-strain vaccine. Therefore a period of 5 days of hunting rest was installed and a quantitative RT-PCR for differentiation of C-strain and wild-type CSFV was introduced. Sequence analysis of RT-PCR positive samples revealed two main clusters of isolates could be found within the genotype 2.3. Surveillance results in the initial CSF infected and surveillance area on the right side of the Rhine before last expansion of the CSF infected and vaccination area:

	No restriction area	CSF infected area	Surveillance area
Virological prevalence (%)	0,00	0,99	0,36
Serological prevalence (%)	10,69	49,46	16,48

Measurements to control the disease in the wild boar population and to prevent spread into domestic holdings were put in place:

- Vaccination of wild boar was started in February 2009.
- The owners of small scale domestic pig holdings in the affected area were asked to close down. So far 127 holdings had been closed and 111 owners had received compensation.



## DAY 2

4. **Dr Irene Greiser-Wilke** introduced the CRL's virus data base and described the typing procedure and the potential of this methodology for molecular epidemiology. Her basic statements:

- Genetic typing of isolates from new outbreaks has to be performed with (at least) two fragments of the genome.
- The Roesrath isolate is closely related (but not identical) to isolates mainly from wild boar which were found in Rhineland- Palatinate in 1998/2001, and in Luxembourg 1992.
- Identical isolates would have identical sequences in both fragments analysed (like many of the older German isolates).
- Sequencing of longer fragments or of the whole genome may be necessary

The database has for the moment more than 200 **new** isolates

### ***Genetic typing using 190 nt of the E2 gene:***

- Inclusion of Eastern European isolates revealed a new sub cluster within Subgroup 2.3.
- Subgroup 2.3 will have to be divided into 2.3a and 2.3b.
- The standard set of sequences in the typing module will have to be adapted.

### ***Genetic typing using 150 nt of the 5'-NTR fragment:***

- Due to the growing diversity of isolates (large numbers of new isolates expand diversity) the standard set of sequences will have to be adapted.

5. The CSF wild boar data base

Regarding the epidemiological situation at the borders between Belgium, France, Luxembourg and Germany, the EU Commission funded the establishment of a surveillance data base for CSF in wild boar for Belgium, France, Germany, Luxembourg and The Netherlands in 2003 (Commission decision 2003/257/EC). This data base is located at the Friedrich-Loeffler-Institute and has been proven as very valuable in the control of CSF in wild boar. Christoph Staubach presented the creation and function of the database. The background for the creation was outbreaks of CSF in wild boar in 2002 (North Rhine-Westfalia 57, Rhineland-Palatinate 366, Saarland 1, Belgium 1, Luxembourg 65 and France 28).

The structure of Data Base:

#### **• Central CSF data base**

- One record for each wild boar shot or found dead
- Division into 3 parts:
  - identification of wild boar, municipality, age and date of shooting/finding
  - laboratory results
  - official judgement
  - (option to confirm this result by competent authority)

#### **• Central region data base**

- 1 record for each region and each period
- Division into 3 parts
  - number of wild boar, wild boar shot and vaccination date respectively
  - identification of region and period for which data are valid
  - geographical data (in ESRI shape file format)

All information is uploaded and different possibilities of presentation of situation in charts, maps...It allows:

- a transparent representation of the epidemiological situation on CSF between the participating member states,
- Up-to-date report of the course of infection in the different countries,
- Evaluation of the data in time and space considering the restriction and vaccination areas,
- Advantages in the scientific assessment of the disease situation in different regions,
- Easing the production of official reports.

Olga Zorko and Christoph Staubach presented also plans for the enlargement of the data base. The purpose of the enlargement would be to enable more/ all Member States to enter their data and coordinate their control efforts.

## Summary and Conclusions:

- In Romania the backyard pig population was identified to be a major problem for a sustainable CSF eradication. A crucial step will be the intended ban of vaccination at the beginning of 2010. Piglets that will be restocked in backyards in spring and early summer will be fully susceptible to CSF virus infection, after waning of their maternal immunity. New outbreaks may occur. Another problem that might pop up with the intention of ceasing the vaccination is the proper identification of pigs since the piglets are only marked at the time of vaccination.
- The present CSF situation on the Slovakian and Hungarian side of the border is originally the result of spreading of CSF virus outside the vaccination area from Slovakia to Hungary. The previously endemic picture of infection observed on the Slovakian side most probably has shifted to an epidemic situation on the Hungarian side (naïve wild boar population on Hungarian side) and during the following two years two counties in Hungary have been infected (Nograd and Pest). On the Slovakian side of the border CSF occurred in wild boar during last two years in three districts ( LV, NZ, KM), most probably as the result of repeated and mostly single re-introductions from Hungary with no tendency to perpetuate (last positive wild boar case in Slovakia found in May 2008). A trilateral meeting took place in March 2009 (representatives from Slovakia, Hungary and the Commission). The minutes of this meeting will be attached as Annex I. It seems to be crucial to harmonize approaches on both side of the border.
- Germany: In the CSF infected area surrounding the district of Euskirchen it is likely, that the chain of infection was not interrupted between now and the occurrence in 2005 and 2006. Because of insufficient monitoring and small sample sizes the likelihood of the detection of infected animals was very low. However, the actual results of the monitoring in 2007 until April 2009 indicated a possible interruption of the infectious cycle. Regarding the outbreaks on the right side of the Rhine neither reintroduction nor re-emergence can be excluded as the cause. But the first cases were detected in routine serological surveillance before the first virological cases and clinical sick animals were confirmed. An intensified surveillance in the surrounding of the primarily infected areas would have improved the capability to distinguish between re-emergence and new introduction. Sampling and sample size in populations of wild animals have a crucial impact on the significance of the results. Nevertheless it is inevitable that the sampling is equally distributed in time and space in the whole restriction, vaccination and surveillance areas to get a general overview over the spread of the infectious disease
- In Bulgaria there are no recent CSF outbreaks. However, the situation is critical at the borders to countries with CSF. Measures have been taken to prevent the introduction of the infection into the country.
- It was concluded that the present wild boar database is a useful tool in the analysis of the CSF situation in wild boar populations.

**Recommendations:**

- The wild boar data base should be extended and should be made available on a wider scale for other Member States. FLI and the CRL for CSF are asked to make a proposal.
- Future meetings of the Task Force should take place in Member States affected by CSF.
- The situation in Slovakia and Hungary should be scrutinised in detail (vaccination strategies, funding of vaccination etc.).
- In Romania the vaccination “exit scenario” should be analysed in detail.
- The procedures of the IPA Project on Eradication and control of CSF and Rabies in Western Balkan should be made available to the Task force subgroup for CSF.

Dr. Volker Moennig