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What are the external biosecurity measures in French outdoor pig farms ?

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BACKGROUND & AIM

Outdoor pig farms are popular with consumers and citizens, particularly due to animal welfare concerns¹. Ensuring biosecurity is a significant challenge for these farms, but crucial to prevent the introduction of diseases relevant to both animal health and veterinary public health. The aim of this study is to provide an overview of the key external biosecurity measures, namely fencing and trapping, on 40 French outdoor pig farms.

RESULTS

Farm description:

- 32 farrow-to-finish farms and 8 farrow-to wean herds
 - 73% of the herds were organic, 6% were involved in the French quality program 'Label Rouge'.
 - As a whole, 59% of farms failed to fully comply with French regulations in terms of biosecurity and fencing to prevent wild boar contact² (Table 1). The level of non-compliance with national regulation differs according to the physiological stages:
 - 54% of farms with outdoor farrowing,
 - 29% of farms with outdoor mating and gestation,
 - 45% of farms with outdoor quarantine
 - 25% of farms with outdoor finishing pigs.
- The integrity of the electric fences was deficient in 23% of the mating-pregnancy areas and 19% of the farrowing stages. Proper weeding around the electric fences was carried out in 69% and 55% of the farrowing and mating-pregnancy areas respectively.

Table 1: Description of fencing systems in place in outdoor areas according to physiological stage

	Outdoor farrowing	Outdoor mating & gestating	Outdoor Nursery	Outdoor finishing pigs	Outdoor quarantine
Number of farms	26	31	1	4	11
A solid wall at least 1.3 m high between the outdoor area and the outside of the farm.	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
An external wire fence at least 1.3 m high, with fixed posts + a device to prevent wild boar from passing under the fence.	21 (81%)	22 (74%)	1 (100%)	4 (100%)	7 (64%)
Internal fencing, either wire fencing (strong enough to prevent pigs getting through), or electric fencing with several superimposed electric wires with permanent electrification to repel pigs.	12 (46%)	17 (55%)	0 (0%)	1 (25%)	5 (45%)
Simple electrified fence on 2 sides	4 (15%)	8 (26%)	0 (0%)	1 (25%)	3 (27%)
Farms outside the outdoor biosafety national regulations²	14 (54%)	9 (29%)	0 (0%)	1 (25%)	5 (45%)
Integrity of the electric fence	21 (81%)	23 (77%)	1 (100%)	4 (100%)	Not done
Functional electric fence	24 (92%)	28 (90%)	1 (100%)	4 (100%)	Not done
Any gaps in the external fence or damage to it	1 (4%)	7 (23%)	0 (0%)	1 (25%)	Not done
Weeding around the electric fence to prevent contact between the wires and the vegetation	18 (69%)	17 (55%)	1 (100%)	3 (25%)	Not done

Wild boars were observed in the vicinity of 30 out of 40 farms, and more than twice a year on 43% of farms. Wild boar came into contact with pigs in 20% of farms, resulting in the birth of pig-boar hybrids in two of them.

Other animals regularly seen on these farms include, in order of importance, foxes, hares, badgers, roe deer, cats, rabbits, martens and crows. Few farms (5%) set up protection systems against crows, while 28 out of 40 protect themselves against foxes by means of appropriate fencing and/or trapping.

Figure 1: Correct fences² - external fence at least 1.3 m high + internal fencing with several superimposed electric wires.



Figure 2: Incorrect fences² - simple fence with only electric wires.



Credit: Anses

CONCLUSIONS

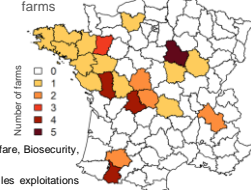
This study highlights the need to improve external biosecurity measures on outdoor farms, in order to prevent the introduction and spread of diseases from wildlife, foremost among which is African swine fever.

MATERIAL & METHODS

The study was conducted in 40 free-range pig farms (size > 30 sows), in continental France (Figure 3), from June 2020 to February 2022.

To be included, all or part of the farm had to offer the animals an outdoor rearing system, for at least one of the following physiological stages (farrowing, mating, gestation, nursery, finishing). On each farm, it was recorded the presence and type of fencing and its level of maintenance and operation. Exposure and contact with wildlife were also documented during a farmer interview. Data were collected during an on-farm visit.

Figure 3: Distribution of farms



¹ DELSART M., POL F., DUFOUR B., ROSE N., FABLET C. (2020) Pig Farming in Alternative Systems: Strengths and Challenges in Terms of Animal Welfare, Biosecurity, Animal Health and Pork Safety. Agriculture 10(7), 261
² MINISTÈRE DE L'AGRICULTURE ET DE L'ALIMENTATION (2018) Arrêté du 16 octobre 2018 relatif aux mesures de biosécurité applicables dans les exploitations détenant des suidés dans le cadre de la prévention de la peste porcine africaine et des autres dangers sanitaires réglementés. JORF, pp 1-6