

## The Soil Association comments on Planning Application 9/2010/0311 - Foston pig farm

August 2010

1. UK farm assurance guidelines are not a guarantee of high farm animal welfare as is being suggested by the proposers of this application. The welfare codes of practice are very weak and in some respects flexible<sup>1</sup>.
2. The extremely high number of pigs housed in one location may increase the level of disease on the holding and over time that may pose a threat to the local community at the very least<sup>2</sup>. While it may be true that the diseases found would not themselves spread through the air it has been shown that antibiotic resistance genes from intensive farms can be spread by the air to people living several hundred metres away and can also pass to people in cars (even with the windows shut) when they have to travel behind lorries transporting such animals to other farms or to abattoirs<sup>3</sup>. The sheer number of pigs leaving the farm on a regular basis would mean that large fleets of lorries would be required and suggests that most local inhabitants with cars would have to remain behind such vehicles at times.
3. Many of the diseases of concern can be passed in other ways. About 25% of pigs in this country have salmonella and in addition to passing through food this can pass to humans via water run off, the spreading of manure on land or flies travelling from farms to local houses<sup>4</sup>.
4. Levels of campylobacter in pigs are also high and additionally often also carry resistance to one of the only two antibiotics that can be used to treat serious cases in humans<sup>5</sup> <sup>6</sup>, and in fact the only one of the two that can safely be used on children. This arises because the use of closely related antibiotics is widespread on large intensive pig farms
5. Another disease to be aware of is *Streptococcus suis*. This is widely found on pig farms, mostly in very young piglets. It is seen as an emerging human pathogen worldwide<sup>7</sup> and the second most common cause of streptococcal

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<sup>1</sup> Red Tractor, 'The Standards', <http://www.redtractor.org.uk/standards> (accessed August 2010)

<sup>2</sup> Silbergeld EK, Graham J, and Price LB, Industrial food animal production, antimicrobial resistance, and human health. *Ann Rev Pub Health* 29: 151-169, 2008

<sup>3</sup> Ana M. Rule, Sean L. Evans, Ellen K. Silbergeld Food animal transport: A potential source of community exposures to health hazards from industrial farming (CAFOs), *Journal of Infection and Public Health*, 2008, 1, 33–39

<sup>4</sup> Amy R. Sapkota, Frank C. Curriero,1 Kristen E. Gibson, and Kellogg J. Schwab (2007) Antibiotic-Resistant Enterococci and Fecal Indicators in Surface Water and Groundwater Impacted by a Concentrated Swine Feeding Operation, *Environmental Health Perspectives*, 115, 7, 1040-1045

<sup>5</sup> Antimicrobial susceptibility patterns of thermophilic *Campylobacter* spp. from humans, pigs, cattle, and broilers in Denmark, Aarestrup FM, Nielson EM, Madsen M, Engberg J, *Antimicrobial Agents and chemotherapy*, 2006, 41 (10):2244-50

<sup>6</sup> Siddhartha Thakur and Wondwossen A. Gebreyes, *Campylobacter coli* in Swine Production: Antimicrobial Resistance Mechanisms and Molecular Epidemiology, *Journal of Clinical Microbiology*, 2005, p. 5705-5714, Vol. 43, No. 11

<sup>7</sup> Lun ZR, Wang QP, Chen XG, Li AX, Zhu XQ, *Streptococcus suis*: an emerging zoonotic pathogen, *The Lancet Infectious diseases*, 2007 Mar;7(3):201-9

meningitis in humans. The fact that it has not been seen as a major problem in the UK, while it has been in e.g. The US, Thailand and the Netherlands, may be because we have not so far had such large pigs farms in the UK

6. There is an additional reason to be concerned about *Streptococcus suis*. In the past intensive pig farmers used to attempt to control it by adding penicillin to pig feed. However, penicillin is no longer very effective. As a result pig farmers now use one or other of two products called Naxel and Excenel. These contain the antibiotic ceftiofur. Ceftiofur as a modern cephalosporins. These are the most modern penicillin-type drugs and closely related cephalosporins are the mainstay of hospitals where they are widely used to treat serious infections that have defied successful treatment in the community by GPs. Resistance to such drugs especially in strains of *E.coli* that cause cystitis and other urinary tract and kidney infections in humans has increased dramatically in recent years and 12% of all blood poisoning and urinary tract infections caused by *E.coli* are now resistant, not just to all cephalosporins but almost all other antibiotics as well. Strains of *E.coli* carrying such resistance have been found now on more than 100 cattle and pig farms in the UK and while still not conclusively proven large numbers of scientists now believe the evidence indicates that via food, farm animals such as pigs contribute to this problem<sup>8</sup>. The most recent government figures in the UK show that about 30,000 people contract such infections every year and that up to 4,000 of these people die.

7. Yet another potential problem is farm-animal MRSA. To date this has not been found in British pigs, though it has been found in a small number of horses in the UK. This is a new strain of MRSA that lives equally well in farm animals and humans. It has become widespread in continental Europe, the US, Canada and parts of South East Asia. In the Netherlands 40% of pigs are colonised, as are half of all pig farmers. Most scientists believe it is only a matter of time before it reaches the UK. The most significant aspect is that farm-animal MRSA spreads from pigs to people who work with pigs and then to their close family members<sup>9</sup>. There are examples of it then spreading further but these are relatively rare at present. A large number of workers will be needed on a farm of this size and that most of them will need to live locally. If and when MRSA arises in the UK pig herd it is highly likely that many people in the local vicinity will be at a high risk of MRSA colonisation and significant risk of MRSA infection as a result.

8. This is by no means a complete list of pig diseases of concern to humans, most of which will have enhanced potential to cause problems due to the very large number of pigs to be housed together<sup>10</sup>.

9. Another concern is the fact that much of the protein included in non-organic pig feed is now genetically engineered<sup>11</sup>. This is not the case with poultry production in the UK. Typically it come from crops of GM soya grown in the US, or South America where it is increasingly grown on former rain forest land that has

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<sup>8</sup>A. G. Mathew, A. M. Saxton, W. G. Upchurch, and S. E. Chattin, Multiple Antibiotic Resistance Patterns of *Escherichia coli* Isolates from Swine Farms, *Applied Environmental Microbiology*. 1999; 65(6): 2770-2772

<sup>9</sup>, Xander W Huijsdens, Beatrix J van Dijke, Emile Spalburg, Marga G van Santen-Verheuvél, Max EOC Heck, Gerlinde N Pluister, Andreas Voss, Wim JB Wannet and Albert J de Neeling, Community-acquired MRSA and pig-farming, *Annals of Clinical Microbiology and Antimicrobials* 2006, 5:26

<sup>10</sup> Jessica H. Leibler, Joachim Otte, David Roland-Holst, Dirk U. Pfeiffer, Ricardo Soares Magalhaes, Jonathan Rushton, Jay P. Graham and Ellen K. Silbergeld, Industrial Food Animal Production and Global Health Risks, *EcoHealth*, Volume 6, Number 1, 58-70,

<sup>11</sup> Food Standards Agency (2010) , ' GM material in animal feed', <http://www.food.gov.uk/gmfoods/gm/gmanimal>

been cleared for agriculture, or the tropical savanna known as the Cerrados which is amazingly rich in biodiversity and indigenous cultures, but which is being ploughed for agriculture twice as fast as former rain forest land, at enormous environmental and human cost. In Brazil alone, approximately 10,000 hectares of Cerrados are irreversibly lost every day, along with 5,000 hectares of rainforest.

10. There is also reason to be concerned about the build up of antibiotic resistance genes in local wildlife, soil and pig workers, and potentially everyone living locally, due to the frequent inclusions of antibiotics in pig feed to control wide range of conditions on intensive farms. Approximately 50% of all antibiotics used in the UK and 64% of all antibiotics used on farms are given to pigs. All but one of these are the same as, or closely related to medically important antibiotics used in human medicine.

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