

Design of a Radial System for Pigs on Sheepdrove Organic Farm.

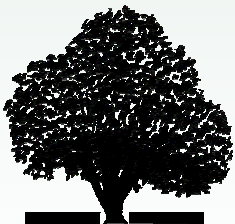
Fergus Clark.

**Final Report
August 2003.**

Sheepdrove



Organic Farm



**ELM FARM
RESEARCH CENTRE**

RADIAL SYSTEM FOR PIGS.

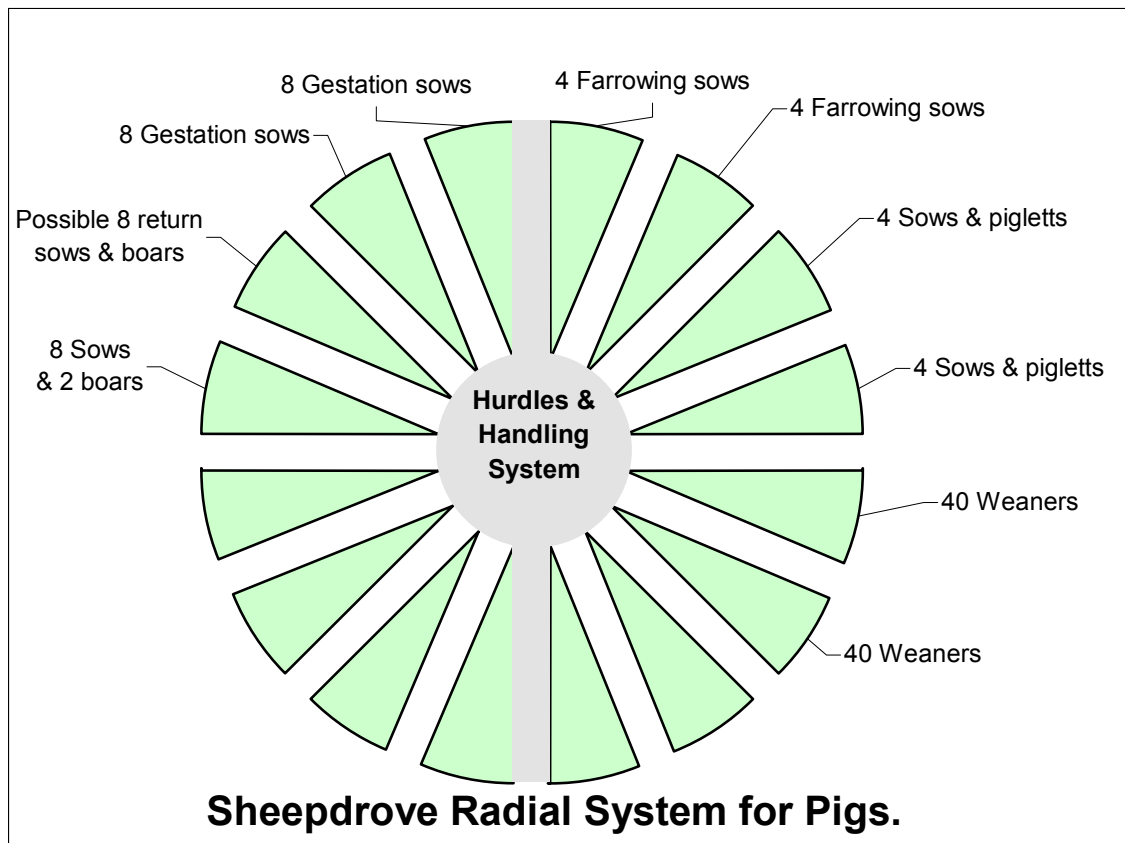
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1. Objective.

- 1.1. To design a new radial system for pigs on Sheepdrove Organic Farm.

2. Plan.

- 2.1. Aim to farrow 8 sows per month with two litters per year. The sows to be split between two paddocks, with four arcs in each.
- 2.2. Sows to move to farrowing paddock two weeks prior to parturition to acclimatize, four sows with four arcs per paddock. The sows to then suckle piglets for 8 weeks therefore being in the paddock for 10 weeks.
- 2.3. At a month old piglets and sows to be moved to paddocks with large arcs to get used to being in large groups.
- 2.4. At two months the sows to be removed leaving weaned piglets in large arcs.
- 2.5. Sows to be put in paddock with two boars for service.
- 2.6. Sows moved to next paddock again with sweeper boars for returns and to rest.
- 2.7. Sows then into gestation paddocks.
- 2.8. From introduction to the system two weeks prior to parturition to weaning is 14 weeks. This gives us a minimum requirement of 10 segments, paddocks in the radial. Weather conditions, slips and other general disasters means that there should be at least 12 ready paddocks and an option for another four available. A central track for access to the hub is also necessary, with a through route to reduce damage during wet periods.
- 2.9. There should be the existing radial in use and the next should be set up ready to receive pigs in next area.
- 2.10. The radials should be on pasture land consisting of white clover leys rather than red. After consultation with Pete Bown and Christine Leeb there is a danger of reducing fertility of the sows on red clover.
- 2.11. All pig movement will be effected through the central hub of the circle. Boars sows and gilts can be moved easily with the help of gates and hurdles. Sufficient room should be allowed around the system for tractors etc., to limit the damage to soil structure.
- 2.12. Ideally a separate farrowing paddock should be made available for gilts to farrow in. The aim is to reduce the risk of bullying by older sows. These gilts can then join the main breeding herd after weaning.
- 2.13. In this system there will be the opportunity to carry out faecal worm samples. This should be done as routine in order to manage the flock effectively.



2.14. The positioning of the radial system in the future should be somewhere where there will be access to mains electricity. The existing pig system has trouble keeping pigs in the paddocks with battery pulsers. The sows who are the main culprits should be culled as soon as they are weaned. If they stay in the herd they will pass on their behaviour to the new gilts.

2.15. The most effective electric system is to use two strands of wire (16 gauge) attached by insulators to steel posts. Insulators will allow adjustments to take into account uneven ground. The two wires should be put up at 200mm and 500mm above the ground. It would be advisable to use three strands in the farrowing and gilt paddocks at 100mm, 250mm and 500mm above the ground.

2.16. The smooth running of the system will depend on the vehicles for moving the pigs and equipment. The unit must have unlimited access to a materials handler/loader for feeding, moving arcs, bedding and removing muck. A tractor and link box would be adequate for moving individual pigs but a pig trailer is necessary for moving whole litters and fattening stock.

3. Fattening System.

3.1. The present fattening system will work well in conjunction with the radial system for the sows. In the future it should be possible to finish the pigs outdoors with them only coming in for the last few days in inclement weather.

3.2. For ease of management the finishing unit should be nearby the breeding unit but split by a permanent stock-proof fence.

- 3.3. There is some concern that the existing trailer used for moving the pigs is a risk to the operators. The doors are narrow and so can cause blockages when loading. The pigs could easily turn on the staff. The problem comes in that there are no easy escape routes for the staff if this happens.

4. Herd Health.

4.1. Parasites

4.2. Lice:

- 4.2.1. There has been a recent problem with lice among the pigs. This was treated with Tactic, which needed a derogation from the Soil Association. In future the arcs should be cleaned before the next batch of pigs arrives in. Any bought in replacements must be kept in quarantine to eliminate the risk of importing lice.

4.3. Worms:

- 4.3.1. Start off with clean ground and follow up with a rotational system. This system will be flexible enough to encompass variations in the weather etc. There will be a regular programme of faecal egg counts in order to monitor the worm situation in groups and individuals.
- 4.3.2. Where problems are encountered it may well be necessary to treat by individual or group dosings.

4.4. Mange:

- 4.4.1. Mange should not be a problem as long as any bought in stock comes from a clean source. If mange is encountered then a wash approved by the Soil Association will be used.

4.5. Diseases.

- 4.5.1. It should be noted that pigs carry a widely varying range of infectious agents. Careful acclimatization and integration of new breeding stock should reduce the risks of infection. This will be backed up with specific veterinary advice.

4.6. PMWS

- 4.6.1. The disease that has been a problem in the past has been Porcine Multisystemic Wasting Syndrome (PMWS). This is caused by excessive contact with infectious agents, which in this case was almost certainly proximity to the compost yard. To avoid the problem in the future the pigs will not be sited near the compost and must not be put on land that has had compost spread on it.

4.7. Coccidiosis.

- 4.7.1. There is some concern over cross contamination of coccidiosis from the poultry units to the pigs. To avoid this in future the sharing of labour between the two enterprises must stop. If coccidiosis is found treatment with Baycox is the only allowable treatment for pigs.

4.8. Seasonal infertility.

- 4.8.1. This will be of some concern to the unit. Newly weaned sows must be in adequate condition. A thorough check on feed amounts, nutrient content and distribution will be made.

4.9. Vices.

- 4.9.1. There will be few vices displayed by outdoor pigs. There have been cases of cannibalism, usually amongst gilts. The offending animal should be removed and the litter cross fostered.
- 4.9.2. Stone chewing and carrying is sometimes a problem as the offending animals tend to fill up water troughs with stones. This is more of a nuisance than anything else.

5. Disease avoidance.

- 5.1. Imported stock will be quarantined.
- 5.2. Disinfectant foot dips will be at the entrances to both breeding and finishing units.
- 5.3. Stockmen will not work on other at risk enterprises.
- 5.4. Arcs will be washed and disinfected between batches.
- 5.5. Faecal egg counts will be monitored.
- 5.6. Rations for pigs will be constantly monitored to ensure the herd has the best nutrition for optimum health.
- 5.7. Paddocks will be constantly rotated to reduce risk of infection or parasite build up.
- 5.8. Stockmen will regularly check stock with health and welfare at mind.
- 5.9. Careful acclimatization and integration of stock to reduce risk of infection and stress.
- 5.10. Immunity through colostrums will raise piglets resistance to pathogens.
- 5.11. Wallows will be available for pigs at all times.
- 5.12. Artificial shade will be provided when necessary to reduce risk of sunburn, big bales of straw will be used.