EVANS VANODINE
PIG DISINFECTION PROGRAMME

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INTRODUCTION AND PRODUCTS

A rigorous and efficient disinfection programme is essential for the effective elimination of viral, bacterial and fungal disease-causing microorganisms.

Disease in pigs can result not only in mortality losses but in losses due to medication costs, poor feed conversion and low weights. The financial cost of these losses far outweighs the cost of implementing an effective cleaning and disinfection programme. Disinfection, used correctly, can also reduce the need for more expensive aspects of disease control, such as vaccination and antibiotic therapy.

The number of microorganisms on the surfaces of pig housing may be TEN THOUSAND MILLION or more PER SQUARE CENTIMETRE.

These must be reduced to an acceptable level of less than ONE THOUSAND PER SQUARE CENTIMETRE during the cleaning and disinfection programme.

Attention to detail is important and the programme must be carefully adhered to in order to obtain the optimum result.

It is essential to wear protective clothing when using chemicals to clean and/or disinfect, and in some situations the use of goggles is required.

This programme is divided into six different stages and each one should be completed thoroughly before moving on to the next.

GPC8™

Glutaraldehyde-based disinfectant

200 l
5l 25 l

- Powerful disinfectant which offers protection from a wide range of disease causing micro-organisms.
- Rapid action against bacteria, yeast and viruses in the presence of organic matter.
- Passes EN* 1656, EN 1657, EN 14349 and EN 14675.
- Suitable for livestock housing and associated equipment as part of a biosecurity programme.
- Can also be applied as a foam, at 1:50 with a foaming lance. Apply foam at a rate of 80 sqm per minute and leave to air dry.
- Prolonged residual activity.

FAM® 30

Iodophor disinfectant, BPR Approved

1000 l
25 l 200 l

- Authorised Biocide.
- Passes EN 1656, EN 1657, EN 14349 and EN 14675.
- Bactericidal, virucidal and yeasticidal.
- Active in the presence of organic matter.
- Extremely powerful and fast acting.
- Cleans and disinfects in one operation.
- Colour coded; colour fades as iodine diminishes.
- Biodegradable and stable.

PERADOX™

Peracetic acid-based disinfectant

1000 kg
25 kg 200 kg

- A clear, colourless, liquid terminal disinfectant.
- Kills bacteria within 15 seconds. Passes EN 1656.
- Formulated for disinfecting drinking water pipes and tanks.
- Removes biofilm.
- Fast acting formulation.
- Economical in use.
- Suitable for use in all water types.

TARGET™ POWERGEL

Alkaline foam/gel cleaner

25 l

- Powerful, concentrated gel detergent, for use with all types of high or low pressure machines.
- Increased surface contact time gives excellent organic soil penetration.
- Rapidly removes organic soil from all types of animal housing.
- Suitable for cleaning floors, walls, ceilings and equipment in piggeries.
- May also be used through a pressure washer as a cleaner for vehicles.
- Should be used with a suitable foam lance.

***EN = European Norm -Disinfectant test method**

CLEANING AND DISINFECTION STAGES

Ensure all cleaning procedures and in-place cleaning programmes are adhered to.

Personal protective equipment (PPE) must be worn during all stages of the cleaning process, including; Overalls, eye/face protection, safety footwear, gloves, respiratory equipment (where appropriate) etc.

STAGE ONE - PIGS, EQUIPMENT AND SOILING REMOVED FROM SITE

1. All pigs should be removed from site before cleaning begins, to eliminate any chance of disease transfer.
2. All portable equipment should be removed and taken outside ready to be cleaned.
3. Turn off all electrical circuits in the piggery, other than room lights.
4. Disconnect any electrical equipment from power supply and remove all equipment from the room.
5. Clean out and remove soiling using a shovel, brush and scraper. **DO NOT** remove heavy organic material using a power washer.
6. The removal of gross soiling is important as it makes the wash down with detergent more effective.
7. If the water is supplied from a header tank, turn off supply to the tank and drain the water system.

STAGE TWO - CLEAN AND DISINFECT ROOMS, PENS AND WATER SYSTEMS

1. Make up a solution of ***Target™Powergel*** at 1:50, to apply through a foam cleaner, pressure washer or knapsack sprayer to cover the entire room. Start at the furthest point from the door, working from floor to the ceiling, back to front. Ensure grease or ingrained organic soil is removed as this can adversely affect the action of the disinfectant. Leave for 30 minutes then rinse off using a low pressure washer. The pressure washer spray must be kept back from the surface and allowed to wash/flood the soiling from the walls down to the floor. as creating overspray can potentially propel any contamination into the air. Pay particular attention to corners, cracks and the underside of crates and gates. Allow to air dry before disinfection.
2. Pressure wash the header tank, re-connect to supply and fill with clean water. Add ***Fam®30*** at 1:200 or ***Peradox™*** at 1:50 and leave for a minimum of 30 minutes.
3. Drain the disinfectant from the water system, making sure it is flushed through every drinker and washed out of the room.
4. Fill the water system with fresh water and drain, making sure water is flushed through every drinker.
5. Fill a sprayer with ***GPC8™*** disinfectant solution (1:50 if there is a known disease problem or 1:200 if no known problem). It is preferable to use warm or hot water, as this increases the effectiveness of the disinfectant. ***GPC8™*** can also be applied as a foam, at 1:50 with a foaming lance. Apply foam at 80 sqm per minute and leave to air dry.
6. Apply disinfectant solution to all surfaces of the room, starting at the apex of the roof at the furthest point from the door, working down the walls to the floor. Ensure extra coverage on corners and cracks and the underside of equipment. **DO NOT RINSE OFF**.
7. Allow room to dry overnight and then replace clean and disinfected equipment before re-stocking.

STAGE THREE - CLEAN AND DISINFECT ELECTRICAL EQUIPMENT

1. As per Stage One, all electrical equipment should have been disconnected from the electricity supply and removed from the room.
2. With a stiff brush remove as much dust and organic material as possible.
3. Make up a solution of ***Target™Powergel*** at 1:100 in a bucket.
4. Using a cloth, clean all surfaces of the equipment.
5. Make up a solution of ***GPC8™*** disinfectant at 1:200 in a hand held sprayer/mister. Using warm or hot water will increase the effectiveness of the disinfectant.
6. Place equipment in a clean area then apply the disinfectant to all surfaces using a fine spray.
7. Leave equipment to dry overnight, protecting from re-contamination.

STAGE FOUR - CLEAN AND DISINFECT OTHER EQUIPMENT USING A WATER BATH

1. As per Stage One, all portable equipment should have been removed from the room.
2. Using a stiff brush, remove as much dust and organic material as possible.
3. Immerse equipment in a water bath filled with a solution of ***Target™Powergel*** at 1:100 for a minimum of 30 minutes.
4. Remove equipment from the water bath and rinse off, using a pressure washer if necessary.
5. Immerse equipment in another water bath, filled with a solution of ***GPC8™*** disinfectant at 1:200 for a minimum of 30 minutes.
6. Remove equipment and allow to dry overnight, protecting from re-contamination.

VOLUMES OF WATER AND PRODUCT REQUIRED TO GIVE DILUTION RATES OF 1:50 FOR ***TARGET™POWERGEL*** AND 1:200 FOR ***GPC8™***

WATER (LT)	**TARGET™ POWERGEL** (ml)	**GPC8™** (ml)
10	**200**	**50**
20	**400**	**100**
30	**600**	**150**
40	**800**	**200**
50	**1000**	**250**

CLEANING AND DISINFECTION STAGES

STAGE FIVE - SITE BIOSECURITY

FOOT BATHS AND VEHICLE TYRE BATHS

1. Fill the foot bath with a solution of ***Fam®30*** at 1:100 (see chart below). Foot baths must be kept clean by changing the disinfectant regularly, otherwise they can be a potential source of bacterial contamination.
2. Place foot baths at all entry points to the farm, at the loading ramp and outside farrowing houses, nurseries and hospital pens.
3. Always dip feet when entering these areas. If boots are soiled, clean with water, detergent and a stiff brush prior to using the foot bath.
4. Replace solution in foot baths every 3 days (72 hours), or sooner if the colour of the solution fades.

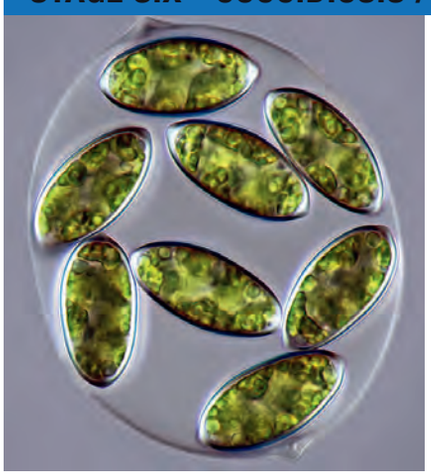
FOOT BATH DILUTION RATES

WATER (LT)	FAM® 30 (ml)	WATER (LT)	FAM® 30 (ml)
10	100	40	400
20	200	50	500
30	300	60	600

DISINFECTION OF PATHS, ROADWAYS AND AREAS AROUND HOUSES

1. Keep paths and public area as clean as possible, as litter and refuse are a potential source of contamination.
2. Spray or brush down these areas regularly with a solution of ***Fam®30*** at 1:100, at a rate of 300ml per square metre.

STAGE SIX - COCCIDIOSIS / CRYPTOSPYRIDIUM REDUCTION



1. Remove pigs from pens and stalls.
2. Remove all portable equipment.
3. Remove organic material by hand.
4. Apply ***Target™Powergel*** at 1:14 through a foam cleaner or a low pressure washer (less than 70 bar).
5. Allow 1 hour contact time before rinsing off thoroughly with clean water using a low pressure washer (less than 70 bar).
6. Allow to air dry.
7. Spray all areas thoroughly with a solution of ***GPC8™*** at 1:35, at a rate of 300ml per square metre. For best results apply as a foam.
8. Refit portable equipment and re-stock.
9. Allow to air dry.

EFFECTIVE DILUTIONS

Effective dilutions of GPC8™ and FAM® 30 against major diseases affecting pigs.

(See microbiological profiles for full list).

Disease	Pathogenic organism	GPC8™	FAM® 30
BACTERIAL DISEASES			
Atrophic rhinitis	Bordetella bronchiseptica	1:200	1:200
Atrophic rhinitis, Pasteurellosis	Pasteurella multocida	1:400	1:100
Colibacillosis, Bowel Oedema	Escherichia coli	1:200	1:100
Cystitis/Pyelonephritis	Pseudomonas aeruginosa	1:50	1:100
Salmonellosis	Salmonella spp	1:200	1:100
Tuberculosis	Mycobacterium spp	Not Tested	1:100
Enzootic pneumoniae	Mycoplasma hyopneumoniae	1:64000 Bacteriostatic dilution	1:4000
VIRAL DISEASES			
African swine fever	Iridovirus	1:800	1:200
Aujeszkys disease	Herpes virus	1:250	Not Tested
PRRS (Blue ear disease)	Artervirus	1:200	1:200
Swine fever (Hog Cholera)	Togavirus	1:100	Not Tested
Porcine parvovirus	Parvovirus	1:200	Not Effective
Swine Vesicular Disease	Picornavirus	Not Effective	1:100
Foot & Mouth disease	Picornavirus	1:200	1:550
Transmissible Gastroenteritis (T.G.E.)	Coronavirus	1:200	1:50
FUNGAL DISEASE			
Piglet diarrhoea	Candida albicans	1:100	1:50

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FAM® 30 is authorised under The European Biocidal Products Regulation for specific uses at a dilution of 1:100.

Fam® 30 UK-2019-1179-02

In the UK **FAM® 30** is approved by DEFRA under The Diseases of Animals Act for use in the event of a notifiable disease outbreak at the following dilutions:

Diseases of Poultry order	1:100
Foot and Mouth order	1:550
General orders	1:49
Swine Vesicular order	1:100
Tuberculosis order	1:20

In the UK **GPC8™** is approved by DEFRA under The Diseases of Animals Act for use in the event of a notifiable disease outbreak at the following dilutions:

Diseases of Poultry order	1:50
Foot and Mouth order	1:80
General orders	1:44

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