

A newsletter for pork producers



PigBytes

Issue 40 February 2019

In this issue

African swine fever	1
Reduce the spread of disease – wash your hands!	2
Trees – to plant or not to plant.....	2
Celebrating Women in Agriculture.....	4

African swine fever

Amanda Black

African swine fever (ASF) is a highly infectious viral disease of domestic and wild pigs of all breeds.

ASF does **NOT** affect public health or food safety, i.e. pork meat is safe to eat.

The detection of ASF virus in pork products seized at international airports and mail processing centres in Australia has many Australian pork producers expressing concern about how to keep their pigs safe.

The detection of the ASF virus in seized pork products at the border does not change Australia's ASF free status. Test results do however reinforce the importance of continued compliance with Australia's strict biosecurity requirements.

ASF could be introduced to the Australian pig herd by feeding ASF-contaminated pork products to pigs, with devastating consequences for pigs and pig farmers.

ASF can also be transmitted to pigs through contaminated clothing, equipment and vehicles. Pork producers are urged to consider their biosecurity arrangements, including the risks from overseas visitors and workers returning from overseas.

Regardless of whether you are a large scale pork producer or you have a pet pig in your backyard, you need to keep them healthy, and this includes providing them with good food that is safe.

Pigs **must not** be fed meat or any other food containing meat or food that has been in contact

with meat. This is known as swill feeding and it is prohibited in Australia because of its potential to introduce serious animal diseases like ASF and foot-and-mouth disease.

The NSW Department of Primary Industries (DPI) swill feeding primefact is available at <https://www.dpi.nsw.gov.au/animals-and-livestock/pigs/pig-nutrition/swill-feeding>.

There are a number of other practices pig owners and pork producers should implement to protect their pigs. The national farm biosecurity reference manual for pork production, available at <http://www.farmbiosecurity.com.au/industry/pigs/>, contains information and specific procedures for all pork producers to follow to help reduce the risk of disease entering their pig herds.

- Feed pigs balanced rations from [FeedSafe® accredited feed mills](#) if purchased feed is used. If you mix your own feed ask for vendor declarations with all ingredients – remember feed can be contaminated with the ASF virus
- Keep good herd records – to assist early detection of pig health issues and responses to biosecurity breaches
- Follow accepted good biosecurity practices (including controlled entry to piggeries, hand washing and/or shower facilities, visitors kept to a minimum, visitor register, provision of boots and clothing for visitors)
- Inspect your pigs daily for signs of ill health and unusual behaviour
- Recognise the clinical signs of ASF – fever, depression, loss of appetite, huddling together, seeking shade, weakness, vomiting, diarrhoea, incoordination, difficulty breathing, convulsions, abortions, red blotchy or black skin lesions, death
- Consult with your veterinarian regularly
- Know how to report suspect ASF (or other emergency animal disease) to authorities –

put the Emergency Animal Disease Watch Hotline number **1800 675 888** in your phone

In light of the ASF risk, NSW DPI has developed a suite of communication materials to assist in promoting biosecurity for pigs. These are aimed at veterinarians, pig producers, pig owners, travellers, retail food businesses, other producers of food waste, pig hunters, and others.

The NSW DPI ASF web page is available at <https://www.dpi.nsw.gov.au/biosecurity/seasonal-pests-and-diseases/other-high-risk-pests-and-diseases/african-swine-fever>.

More information

- Australian Pork Limited website - [African swine fever](#) information sheet
- [Press release from The Hon David Littleproud MP](#)

Reduce the spread of disease – wash your hands!

Jayce Morgan

A person's hands touch many different surfaces during the day. People working in agriculture can have quite dirty hands just by the nature of their work. Dirty hands can carry many different microbes.

It has long been recognised that hand washing is the single most effective control measure for disease prevention and spread.

Today there are many different products (alcohol based sanitisers, antimicrobial sanitisers) as well as plain soap and water.

Product selection and use depends on personal preference and time constraints to some extent but effective hand cleaning should be the primary goal when considering which to use.

An Australian hospital research trial that compared;

- no hand hygiene (control),
- non-medicated liquid soap and water (SW),
- antimicrobial hand gel with 61.5% ethanol and skin emollient,
- antimicrobial solution that contained 70% isopropyl alcohol plus 0.5%chlorhexidine
- an antiseptic hand rub with 70%ethanol plus 0.5%chlorhexidine plus skin emollient;

and the survival of the influenza H1N1 virus on hands, found that all the hand hygiene methods performed well.

However the non-medicated soap and water hand washing was statistically better than all other treatments.

Proper hand washing, washing the wrists, front and back of hands, between the fingers and under finger nails, followed by use of disposable paper towels is a very effective personal hygiene control measure. It is also cheaper when done correctly.

Hand sanitisers do work and are time efficient for hands that are not heavily soiled or greasy. However if your hands are dirty it is best to wash with soap and water first to clean your hands and follow with hand sanitiser if that is part of your hand hygiene protocol.

Reference:

ML Grayson *et al.* "Efficacy of soap and water and alcohol-based hand-rub preparations against live H1N1 Influenza virus on the hands of human volunteers." Clinical Infectious Diseases 2009, 48; 285-291.

Trees – to plant or not to plant

Jayce Morgan

What's not to love about trees? They are beautiful, majestic, clean the air, make music with the wind and uplift our spirits!

The Japanese have developed '[Shinrin Yoku](#)' commonly referred to as 'forest bathing' which has become 'a cornerstone of preventive health care and healing' in Japanese medicine.

Trees are key features of ecosystems. They benefit the environment and agriculture just by their presence. On your farm, trees will:

- Reduce summer temperatures via shade and shelter for stock
- Provide warmth for stock in winter by providing shelter from wind and rain
- Increase biodiversity through food and shelter provision especially for birdlife, small animals and insects
- Provide windbreaks and help filter dust and odour from the air
- Act as a screen to hide ugly views or dull noise levels near roadways
- Reduce water tables and modulate dryland salinity
- Increase amenity values of the farm
- Provide wood for building, heating, fencing and artworks
- Store carbon

This article looks at how trees on your farm might contribute far beyond your farm boundary.

An ABC Science report back in September 2018 suggested that trees as part of forests could make it rain and asked the question ["When trees make rain: Could restoring forests help ease drought in Australia?"](#)

Land clearing has reduced Australia's forest cover by 40% over the last 200 years and remaining forests are fragmented.

The ABC segment quoted a 2013 International Journal of Development paper which claimed 50% of native forests in Western Australia's south west were cleared between 1960s and 1980s and that this coincided with a decrease of around 16% in inland rainfall. Dr Mark Andrich claimed that half of the rainfall decline up to 2000 was the result of land clearing.

It was also suggested by Professor McAlpine of the University of Queensland that clearing on the east coast of Australia has had impacts in the Murray Darling Basin.

"Trees are a micro-climate, they cool the land surface. We've done a little bit of work with satellites which show that temperatures are 2 to 3 degrees hotter in areas that have no trees."

But can trees as part of forests make it rain? It is complex.

In a [2009 Bioscience paper](#) it was stated that deforestation was implicated in reduced rainfall, reduced cloud formation and greater seasonality.

It was suggested that "even relatively localised clearing might ultimately switch entire continental climates from wet to arid with rainfall declining by more than 95 percent in the interior."

Most experimental investigations depend heavily on climate models to advance understanding.

Models imply "a local decline in rainfall after deforestation, along with regional and even intercontinental climate impacts."

The role of forests and rainfall is complex. Makarieva and Gorshkov described the action of forests as an atmospheric moisture pump.

Air currents near the earth's surface flow from high to low pressure areas. Low pressure areas have highest evaporation rates. In equatorial areas forests have the higher evaporation rates than other vegetation or open water. As a result moist air is drawn from elsewhere.

"When forest cover is sufficient, enough moist air is drawn in to maintain high rainfall inside continents."

Work by Professor Abigail Swann University of Washington has invoked a bit of rethinking of the role of vegetation in climate and how a forest on one side of a continent could affect a forest thousands of miles away. ([Quanta Magazine](#))

Swann investigated how US forest die-offs would affect forests elsewhere in the US. The results of the modelling were dramatic – when trees in the Pacific Southwest disappeared forests in the Midwest and eastern US suffered.

Douglas Sheil scientist at Norwegian University of Life Sciences Oslo asks whether we have our cause and effect for wet climates all wrong. Normally it is assumed "the forests are there because it's wet, rather than it's wet because there are forests. Could wet climates be caused by the forests?"

But as with all things; there are differing points of view.

An article in [The Conversation by Brett Bennett June 2018](#) suggested that we should learn from history. People have long been inspired by forests and the better rainfall.

Apparently in the 1860s to 1890s foresters were inspired to plant trees in arid places in the hopes of making it rain. The efforts failed and Bennett points out that the trees made a bad situation worse by consuming the meagre water available adding further to problems of lack of water availability.

Bennett believes that "people should not simply assume that all trees are good everywhere and all the time."

Bennett does acknowledge the role of transpiration from trees and atmospheric recycling of this water as having a major role in rainfall in rainforests as well as deserts. "In parts of Western China an amazing 80-90% of rain occurs because of recycling."

"Striking a balance between the need to create rainfall and to conserve water in catchments should be a key to formulating any new policies."

There was also an "op-ed" in the New York Times by a Nadine Unger with a headline ["To save climate, don't plant trees"](#) leading to a guest commentary by Abigail Swann ["How do trees change the climate?"](#).

These articles make interesting reading and the divergent opinions that surround climate change and climate drivers such as trees are quite thought provoking.

Ultimately trees and forests are part of ecosystems which can be small and local as well as part of

ecosystems of much greater scale which work together for life on planet earth.

Trees through their sheer size and the persistence of wood play a major role in fixing carbon from the atmosphere.

Fifty percent of the dry weight of plant biomass is carbon with one tonne of carbon representing 3.67 tonnes of CO₂. The carbon dioxide is only released again when the plant is burnt or decomposes.

Think about planting some trees – I believe the advantages outweigh the disadvantages.

References:

ABC Science September 2018

[“When trees make rain: Could restoring forests help ease drought in Australia?”](#)

Douglas Sheil and Daniel Murdiyarso 2009 [“How forests attract rain: An examination of a new hypothesis”](#) Bioscience Vol 59, no4, pp 341-347.

Gabriel Popkin 2018 [“Forests emerge as a major overlooked climate factor.”](#) Quanta Magazine

Brett Bennett 2018 [“History teaches us that careful thought must go into planting trees.”](#) The Conversation June 27 2018.

Celebrating Women in Agriculture

Sara Willis

To celebrate International Women's Day 2019, the Department of Agriculture and Fisheries invites you to join a selection of Queensland's inspiring agricultural women and share in their achievements and stories.

Date: Wednesday 6 March 2019

Time: 10.00 am to 3.30 pm

Venue: Toowoomba Golf Club, 235-323 Rowbotham St, Middle Ridge

Cost: Free

RSVP: Friday 1 March

Contact: Sara Willis 0423 027 053

NSW Department of Primary Industries (NSW DPI) Pig Industry Group

Jayne Morgan
Development Officer Pigs02 6763 1257

Dr Amanda Black
Senior Veterinary Policy and Project Officer (Pigs)
.....0417 316 918

Alex Russell
Manager
Intensive Livestock Industries02 6881 1212

Victorian Department of Economic Development Jobs Transport and Resources (DEDJTR) – Pig Industry Group

Youssef Abs El-Osta
General Manager-Pig Centre.....03 5430 4590

Patrick Daniel
Manager Pig Health Monitoring Service
(PHMS)03 54304570

Queensland Department of Agriculture and Fisheries (DAF)

Sara Willis
Principal Extension Officer.....07 4529 4214

PigBytes is a newsletter from the pig industry team at NSW DPI, Queensland DAF and Victorian ECODEV.

Editor: Jayce Morgan
jayce.morgan@dpi.nsw.gov.au

To subscribe to an email version of this newsletter email the editor, or subscribe on the website.

<http://www.dpi.nsw.gov.au/newsletters/pigbytes>

ISSN 1836-974X

© State of New South Wales through the Department of Industry, Skills and Regional Development 2019. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2019). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

Your email address will be collected NSW Department Primary Industries and recorded for the purpose of providing an email newsletter service for you. This information will not be distributed to any other parties. The supply of your email address is voluntary. However, the email newsletter service cannot be effected without storage of this information on our databases. You may update or unsubscribe from these services at any time by sending an email to the editor shown above.

Published by the Department of Primary Industries.

Reference number PUB 19/72