

**FRESH PRODUCE
SAFETY CENTRE**

AUSTRALIA & NEW ZEALAND

Guidelines on Exclusion Periods





The Business of Food

Costs

- Synthetic fertilisers
- Organic - High nutrient low cost
- Increased disposal costs

Availability of materials

- Increasing

Consumer trends

- Demanding ethical and sustainable food
- Demanding solutions re carbon footprint
- Soil security
- Circular economy focus

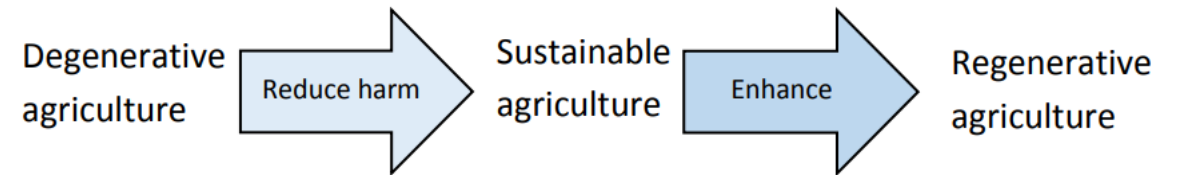


Regenerative Agriculture

Restore the soil – save the nation

- Seen as a solution by consumers and government

Growing movement





The scoop on poop

Food borne illness related to pathogens of animal origin

- Poultry shed *Salmonella* and *Campylobacter*
- Cows and sheep (ruminants) shed *E.coli*; *Listeria Monocytogenes*

Other pathogens include *Campylobacter spp.*, as well as viruses and parasites.



Survival of Pathogens

Factors include

- Time
- Temperature
- pH
- Moisture / relative humidity
- Tillage
- Sunlight
- Microbial competition in the soil



Why a problem

- Direct application
- Incorrectly treated
- Microbes can transfer directly onto fresh produce by contact or indirectly through wind or water
- Poor storage
- Leaching
- Animal grazing
- Surface runoff
- Water source contamination
- Particles spread via equipment or dirty surfaces



Incidents – Leafy Greens

Pathogens: *E.coli* O157:H7 and *Salmonella enterica*

- Leafy greens trap particles
- Open wounds in cut product
- Dirty water

USA

- Spinach (2006) *E.coli* O157:H7
- Romaine Lettuce (2018) *E.coli* O157:H7
- Spinach (2021) *E.coli* O157:H7

Australia

- Tripod Farms (2016) *Salmonella*



Incidents - Fruit

Pathogens: *E.coli* O157:H7; *Salmonella*; *Listeria monocytogenes*

Rough skin

Cut fruit

Not washed

USA

- Apple juice (1996) *E.coli* O157:H7
- Strawberries (2011) *E.coli* O157:H7
- Rockmelons (2011) *Listeria monocytogenes*

Australia

- Rockmelons (2018) *Listeria monocytogenes*