There is growing consumer awareness about the issue and a growing market for ethically produced, chemical-free food and wine. People increasingly want to know the provenance of their food and how it was grown. There is a shift towards more sustainable and environmentally friendly practices in agriculture, which includes reducing the use of harmful chemicals.

The use of chemicals in agriculture can have negative environmental impacts. Chemicals can lead to the reduction of soil fertility, contamination of water and air, and harm to non-target species. They can also contribute to the development of resistance in pests and pathogens, making it more difficult to control them in the future.

However, the judicious use of certain chemicals can be necessary for the control of pests, diseases, and weeds, which can help to maintain soil fertility and crop yields. It is important to weigh the potential benefits and risks of chemical use, and to consider alternative methods such as integrated pest management.

Rural areas, especially those with high agricultural productivity, are particularly vulnerable to pest invasions. Feral cats and pigs are two common invasive species that can cause significant damage to native vegetation and agricultural crops.

Efforts to control feral cats and pigs tend to fluctuate: as their numbers decline (due to environmental conditions or decreasing economic impact leading to decreasing interest in their control), allowing them to rebound. In some cases, the reduction of one pest species can lead to an increase in the population of another species, which can have unanticipated consequences.

Feral cats, in particular, are notoriously difficult to control. They are adaptable and intelligent, and can learn how to negotiate traps. The use of traps and the release of Judas cats (cats with tracking devices) are some methods that are being used to control feral cat populations.

The presence of intact native vegetation is likely to offer the best, free, passive defence in resisting the spread (and hence economic impact) of new weeds, animal pests and diseases. This is particularly important on Kangaroo Island, where the island movement or trading can facilitate the spread of invasive species.

Climate change will cause higher temperatures, changed rainfall patterns, increased atmospheric CO2, and/or the most potentially damaging pest species that might reach our shores so that we can take steps to prepare for them.

Many agricultural species including crops and pasture grasses are also potential weeds and may pose a risk to the natural environment. In a world that is based upon industry that is based upon innovation and productivity, and people that are used to increased choice, the desire for a more sustainable and environmentally friendly approach to agriculture is becoming more widespread.

Weeds are commonly found in native vegetation. However, beneficial insects such as parasites and predators of pests are often found in native vegetation. Ants could also cause inconvenience or direct harm to people should they become established. Ants are pests that have the potential to negatively affect the natural environment.

There are currently some 26,000 introduced plant species in Australia. Most of these are garden plants and relatively harmless. However, some of these species can be problematic if they escape into the wild. The ability of some species to become invasive is linked to their adaptation to new environments and their ability to reproduce and spread.

Weeds can infest this productive land. They can reduce the productivity of the land, thus reducing its value. Fuel reduction burns may have unfortunate side effects in future if they contain few weeds. These unfavourable interactions.

Efforts to control feral cats and pigs tend to fluctuate: as their numbers decline (due to environmental conditions or decreasing economic impact leading to decreasing interest in their control), allowing them to rebound. In some cases, the reduction of one pest species can lead to an increase in the population of another species, which can have unanticipated consequences.

The main focus of the Kangaroo Island pest animal program is on eradicating feral fallow deer and goats. Expanding feral peacock populations are also being targeted through a trial eradication program. The potential cost of a pest invasion far outweighs the cost of leaving significant areas of native vegetation uncleared.

Community Partnerships

Working with partners, facilitate a strategic and coordinated response to the eradication of feral animals and vegetation. The potential cost of a pest invasion far outweighs the cost of leaving significant areas of native vegetation uncleared.

Promote the value of healthy native vegetation to reduce pest problems and work with primary sectors to implement better pest and biosecurity practices. Identify and work with stakeholders that may unwittingly be spreading weeds and disease (e.g. work with Council to reduce the spread of weeds and disease through road maintenance activities).

What are your thoughts?
**SHOCKS**
Legislative changes

**HIGH LEVEL DRIVERS**
- Climate change
- Land use change
- New industries
- Wind and ocean dispersal
- Cultural legacies (including practices and attitudes)

**1. PREVENTION**
- Weeds not present
- Healthy, functional landscape
- Effective biosecurity
- Low cost management
- High stakeholder awareness

**2. ERADICATION**
- Weeds present but not established
- Healthy functional landscape threatened
- Biosecurity compromised
- Low-medium cost of control

**3. CONTAINMENT**
- Weed well established
- Prevent further spread
- Impact localised
- Ecosystem structure and function altered
- High cost of control
- Primary production compromised

**4. ASSET BASED PROTECTION**
- Weed widespread — has reached limit of potential spread
- Degraded landscape — biodiversity, tourism and primary production extremely compromised
- Chemical resistance likely
- Cost dependent on desired outcomes

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**MANAGEMENT RESPONSE (1:100 return on investment)**
- Monitoring and surveillance
- Reporting mechanisms
- Awareness and education
- Suitable legislation, policies and protocols
- Risk assessments
- Best practice implemented
- Suitable signage
- Suitable governance arrangements

**MANAGEMENT RESPONSE (1:25 return on investment)**
- Monitoring and surveillance (sleeper weeds and possible new incursions)
- Reporting mechanisms
- Enforcement — control of declared weeds
- Response plans — treatment, dispersal and plant biology
- Awareness and education
- Certified seeds
- Containment at farm fence of planted species
- Risk assessment before introducing new crop/pasture species (no legislative requirement)
- Diligence, tools, information and flexibility to address particular weeds
- Coordinated blitz across land tenures, based on “good neighbour” principles.
- Flexible approach to address particular weeds they threaten a landscape/region.

**MANAGEMENT RESPONSE (1:5-10 return on investment)**
- Eradicate outliers
- Identify boundaries map
- Understand methods of dispersal
- Awareness and education
- Enforcement — control of declared weeds
- Monitor and adapt management accordingly
- Long-term coordination across tenure based on “good neighbour” principles
- Social process and co-ordination, to establish new social norms about a set of weeds.
- Adaption of farming systems to provide long term protection from weeds

**MANAGEMENT RESPONSE (1:1:5 return on investment)**
- Prioritise high value areas to work on or protect
- Property level management depending on implications
- Adaptation of farming systems to provide long term protection from weeds
- Diligence, tools, information and flexibility to address particular weeds
- Awareness and education
- Monitor
- Investigate biological control

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**REGIONAL THREATS**
- Introduction of weeds e.g. transport, stock, vehicles, machinery
- Increased visitation (tourists, freight, off island landholders)
- Nursery, garden plants
- Infected soil movement
- New pasture and crop species introduced
- Lack of awareness/care

**REGIONAL THREATS**
- Pasture and crop species not controlled once past farm fence
- Disturbance to native vegetation
- Senescing vegetation
- Salinity
- Changing fire regime
- Increased flooding
- Overgrazing
- Lack of resources
- Lack of awareness/care
- Lack of follow up after control
- Road works and quarry/building materials
- Suitable conditions for weed establishment

**REGIONAL THREATS**
- Changing fire regime
- Increased flooding
- Salinity
- Fire/flood
- Overgrazing
- Lack of resources
- Lack of awareness/care
- Lack of follow up after control

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**THRESHOLDS**
Thresholds exist between states. Specific thresholds relating to the controlling variable vary across the region.

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**CONTROLLING VARIABLES**
- Awareness of the problem
- Ability to act (financial and other resources)
- Willingness to act
- Knowledge about what to do

*The controlling variable is the particular aspect of a system that controls whether or not it will move towards or away from a threshold point*