



“While before it was costing me a fortune on poison that wasn’t working, now I’ve got the weed under control and I can sell the sheep” – Bill Davies NSW

Working with Weeds ChemFree

Sydney 30th March
2015



Outline

- Overview of workshop
- Context: you are a limited resource
- Nurturing and fostering ecological balance & health
- Understanding weeds and the value of ChemFree methods



Personal context: Children about to dig in a site sprayed with glyphosate, Yarra Valley, Victoria.



Institutional context: Monash University, Clayton .

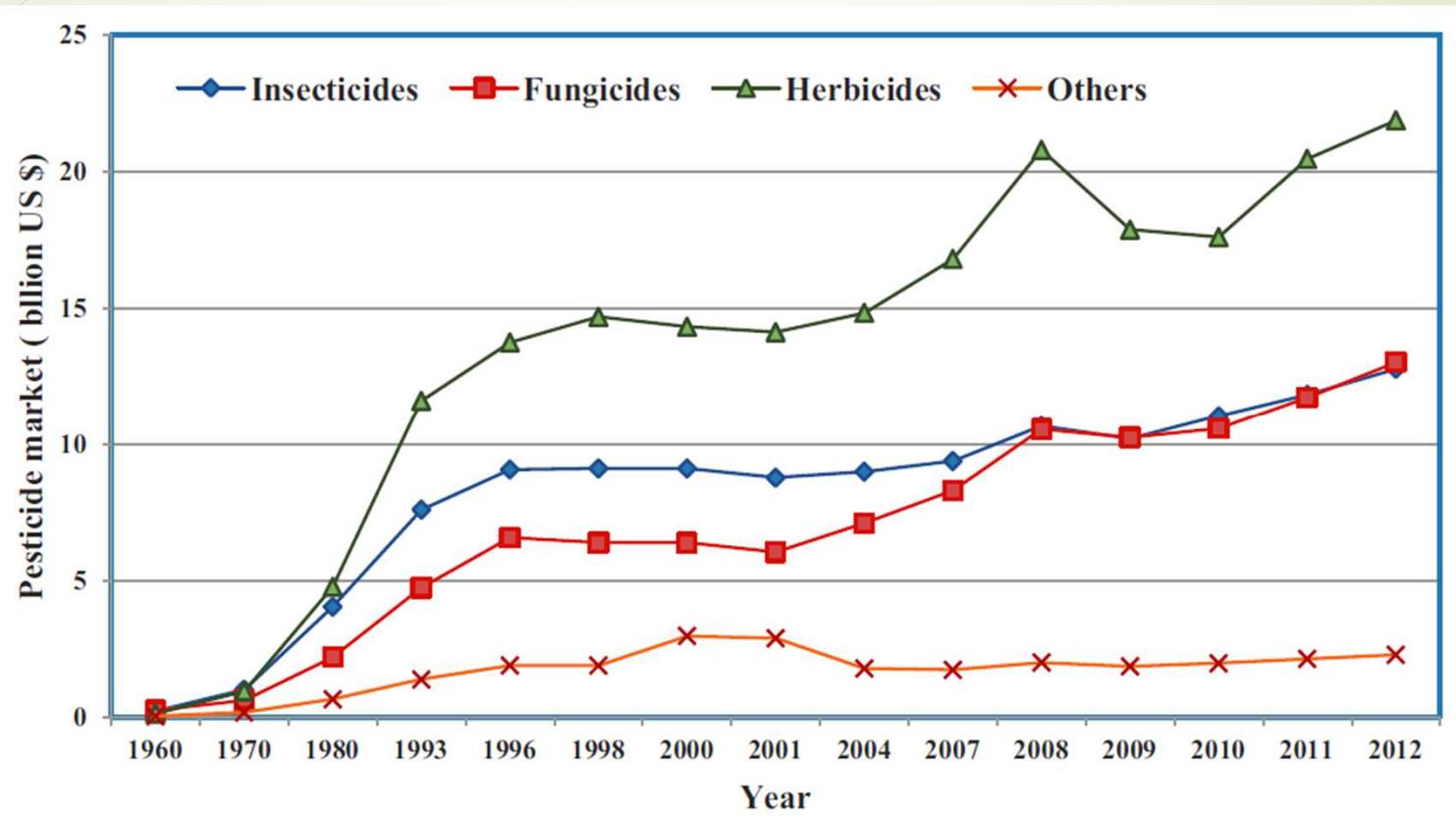


Glyphosate: “probable carcinogen”

- ▶ This month, 17 experts from 11 countries met in France to assess the carcinogenicity of glyphosate for the United Nations International Agency for Research on Cancer (IARC) – The finding was that glyphosate is a “probable carcinogen”.



Global scope of issue:



Global insecticide, herbicide, fungicide, and other pesticide markets over time.

Source: Pimental 2014

Financial cost of herbicides

Wholesale cost of
herbicides
Australia

– at least A\$1.4b
pa in Australia

(APVMA 2013-14)



Health

Cost of illness and injury linked to herbicides and pesticides in small scale farming in sub-Saharan Africa is estimated to be in excess of \$A7 billion each year. (UNEP 2012)



Health impacts and related health costs from exposure to 133 herbicides and pesticides in European countries (representing about 50% of the herbicides and pesticides applied) found to be A\$115 billion each year. (Fantke *et al.* 2012)

Environmental costs

Soil damage

Decreased ability to
hold water

Decreased nutrients
& Microbes

Erosion & landslides

Increased water need

Increased fertiliser need



Waterways and wetlands

Be **careful!** Many herbicides can cause damage to waterways and wetlands. Check the herbicide label directions carefully before use near waterways and wetlands. For more information see [Guidelines for Safe and Effective Herbicide Use Near Waterways.](#)



Off-site consequences



Loss of forage



“Yield losses due to weeds (livestock) – at least A\$1.9b”

Soil and crop damage



Equipment, time, labour & energy



Super weeds - resistance

Increased use of herbicides
increases costs

Increased toxicity of herbicides
increases health and
environmental damage



Compliance costs



Loss of market access



Fighting Weeds With Chemicals

Is this the battle you want to take on?

Herbicidal **“warfare”** mentality ...
the ‘enemy’ is difficult to control
because of the natural vigour
and competitiveness of the plant
(P&C).



Can we really 'eradicate' weeds?



Are weeds really to blame?



Design

Rethinking how we do things

We know that:
weeds love bare &
disturbed soil



Partnering with Nature



Build ecological resistance by increasing biodiversity

Goats love to eat weeds



Sheep will eat weeds



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Ducks
eat
weeds



Camels eat weeds



The pricklier the better ...

- Cats claw creeper
- Prickly pear
- Saffron thistle
- Galvanised burr
- Lantana (not their first preference)

*Dean & Tracey Rockemer –
Graziers, Boobyjan*

Cows eat weeds

*"We love to eat
African Lovegrass"*

– Local cow, North Burnett, Qld.



Chickens eat weeds

Chickens, are known to effectively digest (and destroy) all weed seeds passing through their crops and they can thoroughly graze back vegetation in areas up to one acre in size. Releasing chickens into an area after the mature plants are removed allows them to scratch and peck out weed seeds and potentially reduce the weed seed bank in the soil (Andres 1979).

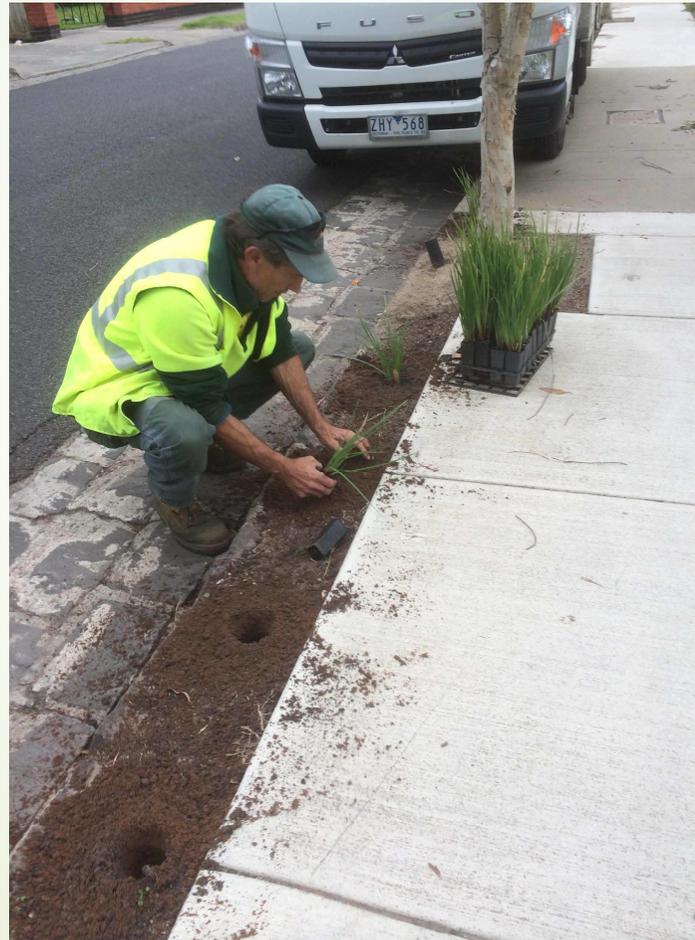


Grazing



Colin Seis - Winona

Urban herbicide pollution reduction



Fostering and nurturing ecological resistance

First step to working with Nature is understanding each other.

Change of thinking from what one 'Wants' to what one can 'Have'.



If you only want sheep but your landscape better supports goats, then you either work with what you Have, or endlessly battle trying to get what you Want.

“Pick Your Poison”



Joseph Phelps

Working with nature is easier and achieves desired results



The Weed's Network

The screenshot shows a Mozilla Firefox browser window displaying the Sustainable Weeding Guide website. The address bar shows the URL: `invasivespecies.org.au/rs::sustainableweedingguide newspage`. The page title is "The Sustainable Weeding Guide".

The website layout includes a navigation menu on the left with categories like "Home", "The Weed's News", "Sustainable Weeding Guide", "Weed Identification A-Z", "Products and Services", "Weed's Jobs", "Publications", "Discussion Space", "Our Sponsors", "About Us", and "Join the Network".

The main content area is titled "The Sustainable Weeding Guide" and contains the following text:

Living sustainably involves recognising ecology and the feedback processes between ecological systems and our participation in these systems. Ecological thinking – from the Greek *ecos* for home – refers to what it is that sustains our shared *home*.

The business and political world has taken the term *ecos* and applied it to human activities such as "economics" and "industrial ecology". We sometimes forget that human ecosystems are dependent for their existence on natural ecosystems. Natural ecosystems have aspirations and expectations of their own. Living sustainably involves recognising and respecting a wide range of human and non-human priorities.

The Weed's Network recognises and respects the changeability of all of the above. The process by which we recognise the need to change is itself open to change. To achieve sustainability, therefore, we must nurture and protect the interrelationship of human needs and desires with those of the natural world.

The Sustainable Weeding Guide aims to be a leading resource for learning about sustainable options for living with and working with weeds.

Below the text is an image of a snail on a green leaf with water droplets.

On the right side of the page, there is a "Contents" section with a list of links:

- Cultural Weed Management Methods
- Direct Weed Management Methods
- Revegetation Weed Management Methods
- Aquatic Weed Management Methods
- Organic Weed Management
- Biodynamic Weed Management
- Weeds as Resource/Beneficial Weeds
- Crop Specific Weed Management
- Species Specific Weed Management
- Weeds and Herbicides
- Products and Services Directories

At the bottom of the browser window, the taskbar shows the system tray with the date and time: 9:51 PM, 4/08/2013.

The Weed's Network:



Australian Government

National
Landcare
Programme



- Strategy for Reducing Herbicide Pollution in Australia
- Working with Weeds Guide

Herbicide Pollution Reduction Strategy



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PhD



Working in harmony

“I can see just the change that comes upon us when we make some mental changes in our attitude... what we are doing changes... And it's pretty rewarding when you can work with the land and the animals and the people in harmony.”

(Lindsay 2001, in Rangan, et al., 2013)



Questions



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