



How to facilitate faster uptake / acceptance of Vetiver Grass Technology (VGT)

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Introduction

- *Chrysopogon zizanioides* (vetiver) has numerous beneficial uses.
- Personal research revealed impressive results in mitigating soil erosion, water pollution, coral reef destruction, soil contamination, agricultural challenges, and bush fire devastation.
- Why is Vetiver Grass Technology (VGT) not universally embraced despite its effectiveness compared to costly and challenging alternatives?



Background

- Lack of scientific data initially, but progress is being made.
- Farmers relied on anecdotal evidence and observed results.
- Goal: Provide scientific data to convince bureaucrats and insurance companies.
- Vetiver has a long history of use and gained global attention in the last century.
- Challenges in convincing bureaucrats about vetiver's effectiveness.
- VGT is sustainable, promotes biodiversity, and serves as a pioneer plant.



CHALLENGERS - *WHO are they?*

Major blocks

- Conservationists
- Bureaucrats
- Insurance companies
- Engineers

Engineers sometimes face obstacles due to other 'major blocks'.

*The favoured approach on Waiheke Island:
Soil nails combined with geotextiles.*

Soil nails and geotextile combined with VGT

Property with landslide,
engineers' design with
geotextiles, and later
extended vetiver
planting for stability.



Ollie Hawes marks out
rows for vetiver



Failure of soil nails and
geotextile



Vetiver growing around engineers' soil nails and geotextile

Threats

- Conservationists - *zealots with limited knowledge*
- Bureaucrats - *unknown agendas*
- Insurance companies - *quantified assurance*
- Engineers - *understand facts and data*



Auckland floods: Why storm caused so ma <https://www.nzherald.co.nz/nz/auckland-floods-why-storm-caused-so-many-landslides-and-what-can-be-done-about-it/QLCUPBV2BDWTF3VWLHG2N7ZGO/nv> landslides – and what can be done about it - NZ Herald



“ . . . at \$5 slip you will get every cowboy in Hawaii getting into the business, especially when vetiver is the easiest plant in the world to propagate in a nursery or the field. And do people know what they are actually buying from the cowboys, do they know what vetiver grass looks like? We should get into registering growers and contractors somehow for the Vetiver System, or they will plant it any way and give it a bad name.”

John Greenfield

LESS VISIBLE CHALLENGES

- **Recklessness:** Attempts to change the sterile status of *Chrysopogon zizanioides*.
- **Greed and deceit:** There are those who are looking at the bottom line in money terms – not the best environmental and economic option.
- **Ignorance:** VGT cannot be learned by looking online, there must be a genuine understanding of its strengths and weaknesses before advising others.

"functional simplicity obscures the complexity of design"



Photo by C Carbajal

SHORTCUTS

- A client's desire to save money led to employing contractors unfamiliar with VGT.
- A shallow landslide occurred within two months. The yellow line shows the shape of the top row of vetiver.

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ENVIRONMENTAL DESTRUCTION

- Risks to farmers , forestry and rural areas
- VGT combined with native planting can prevent or mitigate these risks
- Urban rain gardens using vetiver grass helps with stormwater
- Poor stormwater designs lead to problems elsewhere
- VGT can reduce damage caused from flooding and slash

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Dead sheep



Forestry slash



Scarred landscape



Washed out bridge



Photos by Steph Milligan

VETIVER THE PIONEER

- Non-native concerns are a reason often given for not using VGT
- Vetiver is a pioneer plant that helps with native vegetation regeneration
- Vetiver can regrow from dormant roots after bushfire



SOME SOLUTIONS

- List the merits of the plant
- Embrace weaknesses in VGT
- Back up claims with data
- More nurseries
- Educate



Photo by C Carbajal



STRATEGIES

- Address each point
 - Be helpful
- Be prepared for the tough questions
- Be honest and gracious
- Know your audience

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MY QUESTIONS

1. What happens to the root system of vetiver when it is shaded out?
 - Is it dormant or rotting?
 - How long is it viable?
 - What effect does dormancy have on tensile strength?
2. How can we measure root strength?
3. How can we make VGT quantifiable to compare with engineers' results?



Thank You



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