The Life and Times of *Themeda triandra*

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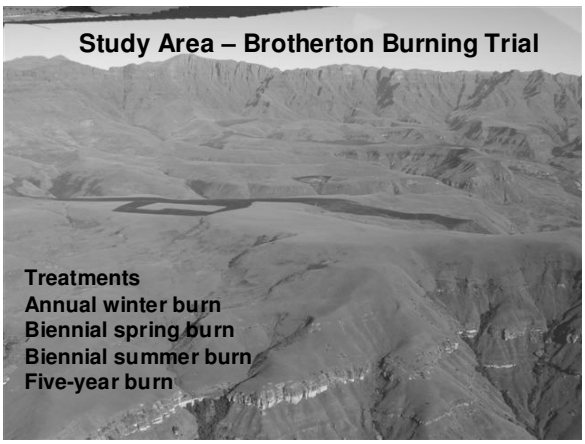
The other side of the fence

Eragrostis curvula successfully used in erosion control

Objective:

To quantify the seed dynamics of *Themeda triandra* under different burning regimes to determine its potential for rehabilitation

Study Area – Brotherton Burning Trial



Treatments
Annual winter burn
Biennial spring burn
Biennial summer burn
Five-year burn

Mean annual seed production of *Themeda triandra*

Treatment burn	N° of seeds m^{-2}	se
Annual winter	38	17.7
Biennial summer	52	36.5
Biennial spring	274	29.0
Five-year (4yrs after burning)	287	94.8

Dispersal distance of *Themeda triandra* seeds

Distance	Mean # of seeds	Total (%)
0.00 - 0.25	6.7	58.0
0.25 - 0.50	4.2	36.2
0.50 - 0.75	0.5	4.4
0.75 - 1.00	0.2	1.4

Dormancy/Viability

- Dormancy : 9 -10 mths
- Viability : fresh seeds - 90%
  10 mths - 60%
  15 mths - 37%

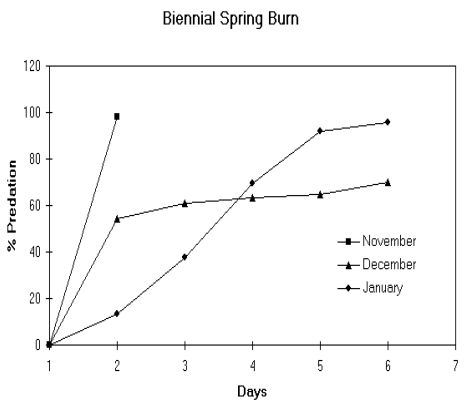
Need to research ways to maintain viability during storage

Seed bank

Spp	Biennial Spring Burn		No Burn	
	Above-ground veg	Seed bank	Above-ground veg	Seed bank
T. triandra	25.5 %	0.0%	18.9%	1.2%
E. curvula	0.2%	15.0%	0.0%	32.7%

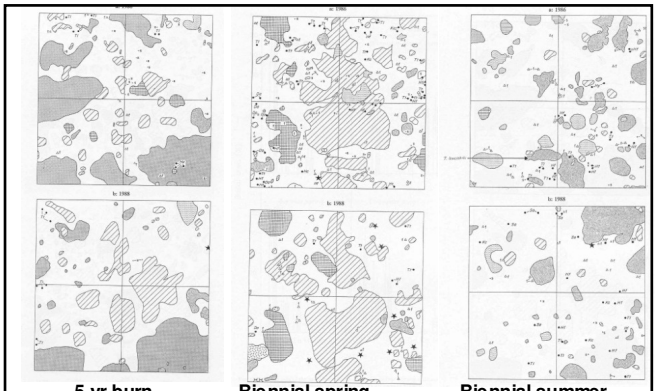
Restoration of degraded grasslands cannot rely on the soil seed bank

Predation



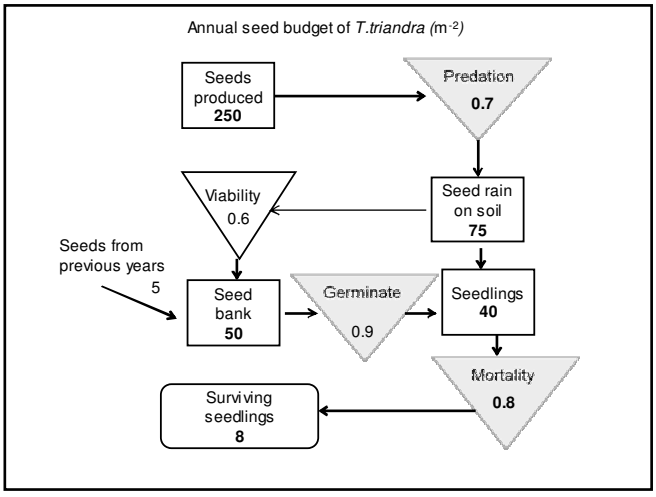
Life table for cohorts of seedlings of *T. triandra*

Year	N_x	l_x	e_x
1	321	1000	0.74
2	67	209	0.69
3	7	22	1.35
4	6	19	-



5 yr burn | **Biennial spring burn** | **Biennial summer burn**

***Themeda triandra* = cross hatch**



Conclusion

- Seeds of *T. triandra* have low potential for rehab.
- Need to research ways to reduce high loses to predation –e.g. seed plugs
- Why is seedling mortality so high?

  Need more research on competitive ability of seedlings