

Pasture improvement: How do you know it will pay?



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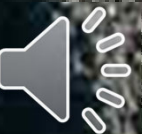
Implementing MiG: What will it do for you & what will it cost?



You may need to add lime or nutrients



You may need to reseed a pasture



You may need to build more fence



You may need to develop more stock water



MiG is touted for.....

- Increased pasture productivity
- Improved animal performance
- Reduced wintering costs
- Less fertilizer use
- Eliminate clipping & mowing
- and many other wonderful things



What are the benefits?

- Increased productivity
 - Are you prepared to change your management to capture the benefit?
- Duration of effect
 - Some practices have an ongoing benefit
 - Some practices have a limited lifetime



How do you project those benefits?

- Have you done this before?
 - On the same type of land & forage
 - In the same environment
 - Have you changed your management in other ways?
- Rely on someone else's experience?
 - On the same type of land & forage
 - In the same environment
 - Similar management style
- WAG?



Cost:Benefit Analysis:

Response to change in operation

Comments	year	annual % increase above current	annual increased AUD benefit
Some improvement practices have shorter or longer response periods. Anything that provides a benefit beyond 20 years of implementation still needs to pay for any cash outlays in a much shorter period of time. Degree of response may increase or decline over time. Another pattern is increasing response for a few years with peak yield increase coming a few years after implementation followed by a declining annual response. You need to have some idea of the response pattern to effectively use this worksheet.	1	20%	32
	2	30%	48
	3	40%	64
	4	45%	72
	5	50%	80
	6		0
	7		0
	8		0
	9		0
	10		0

What will it cost?

■ Materials

- Fertilizer, seed, equipment
- Stock water
 - Wells, pumps, pipeline, tanks, geotextile, rock, concrete
- Fence
 - Quality material vs. doing on the cheap

■ Labor

- Hired labor vs. 'doing it yourself'



What will it cost to operate?

- Additional labor
 - Will this save you time or will it add more work?
 - Hired labor vs. your labor
- Repair & Maintenance
 - Quality materials vs 'doing it on the cheap'
 - Generally figured as some % of capital cost



What will it save?

- Reduce hay feeding ?
- Reduce fertilizer needs ?
- Reduce labor ?
- Reduce clipping costs ?
- Reduce livestock health care costs ?



Cost:Benefit analysis:

What is the expected return

- Livestock prices change over time
 - Increasingly difficult to project over more than a couple of years
 - Short term payouts are easier to project with any level of confidence
- Different livestock products have different value
 - Higher value products can pay for more improvements
 - Food vs. commodities?



Cost:Benefit analysis: Most profitable grazing enterprises

- Value added dairy products
- Pasture finished lamb
- Pasture finished beef
- Burger cows
- Commodity dairy products
- Dairy replacement heifers
- Commodity ewe-lamb
- Beef stockers
- Commodity cow-calf



Cost:Benefit analysis:

Gross margin value of product

	<u>Cow</u>	<u>Yearling</u>	<u>Ewe</u>	
Animal live weight	1200	750	140	lb/hd
Target utilization rate	2.6%	2.8%	3.0%	as % of weight
Daily forage consumption	31.2	21	4.2	lb/hd/day
Days on ranch	365	150	365	
Grazing season forage consumption	11388	3150	1533	lb/hd/year
Additional stocking per 780 lb of forage	0.07	0.25	0.51	animals/year
Gross return per animal	\$ 1,100	\$ 225	\$ 325	\$ /animal /year
Operating cost per animal	\$ 730	\$ 135	\$ 135	\$ /animal /year
Gross margin / animal	\$ 370.00	\$ 90.00	\$ 190	\$ /animal /year
Added value per 780 lb of forage	\$ 25.34	\$ 22.29	\$ 96.67	\$ / added AUM
Added value / AUD	\$ 0.84	\$ 0.74	\$ 3.22	\$ / added AUD



Cost:Benefit Analysis: Return on investment

Base yield	50	<i>expected AUD/acre yield before implementing the new practice</i>
Additional AUD to be harvested	296	<i>Calculated in lower part of worksheet based on response expected</i>
Value of an additional AUD to your ranch	\$ 1.20	<i>fair market value for output of one standard animal unit day</i>
Total value of added forage	\$ 355	<i>added value of total additional forage produced for life of practice on 1 acre</i>
One time per acre cost for practice	\$ 160	<i>one-time cost/acre to implement the practice</i>
APR	4.0%	<i>interest charged or expected return on money invested</i>
Capital recovery period	5	<i>years of benefit from the practice</i>
Annual cost of practice	\$35.94	<i>annual cost + interest or standard rate of return on investments</i>
Annual R & M as % of initial capital cost	6%	<i>enter a % of the original capital cost to assign for annual R & M</i>
Additional Repair & Maintenance	\$9.60	<i>original capital cost (B10) x annual operating cost (B14)</i>
Total cost for the practice	\$ 228	<i>recovery period X annualized cost</i>
Benefit of the practice above cost	\$ 127	<i>total value - total cost</i>
Cost:Benefit ratio	1.56	<i>This is your added return per dollar invested on the practice</i>
Annualized return on investment	11.2%	<i>Annualized return on investment</i>

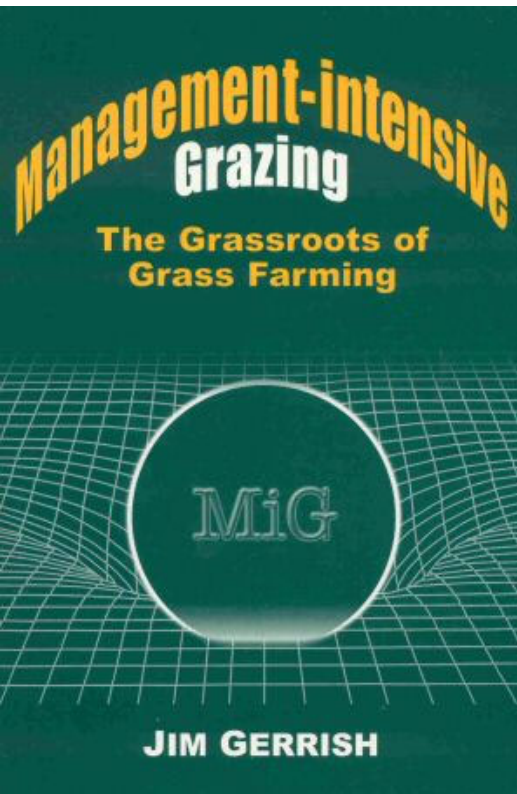


Cost:Benefit Analyzer:

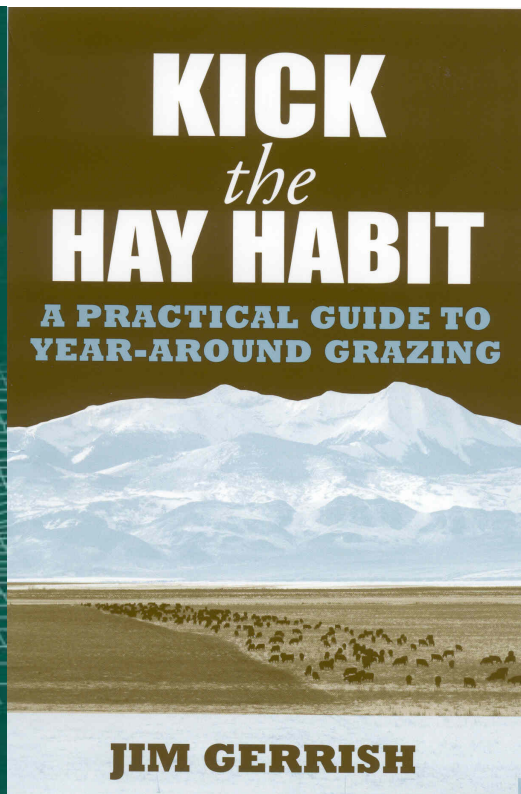
- This tool can be used for any farm or ranch improvement practice that can be valued on a per acre basis
- To be meaningful, every blue-font cell in the worksheet needs to have your ranch specific information entered
- Remember...
 - Accurate information in, accurate information out
 - Garbage in, garbage out



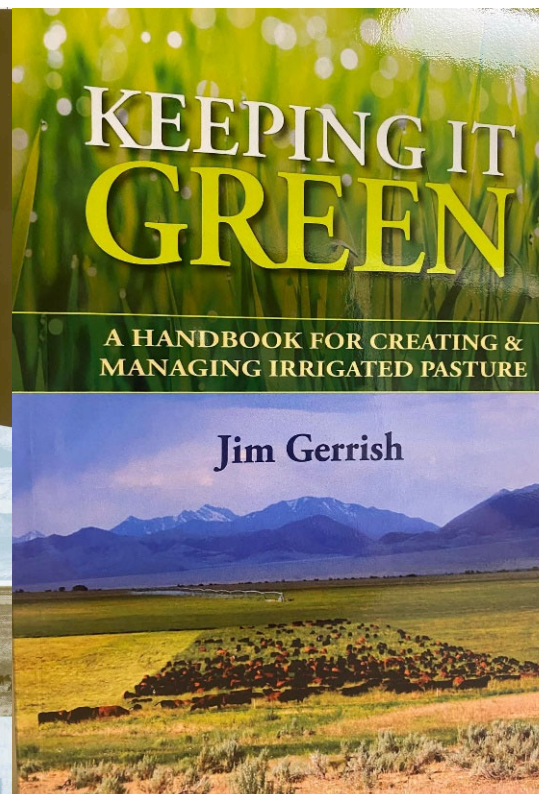
Books by Jim Gerrish



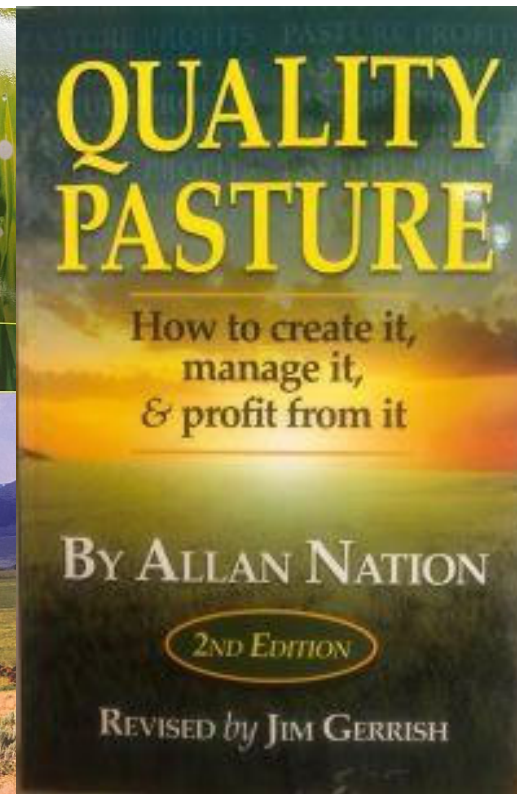
\$31



\$27



\$20



\$30

<https://www.americangrazinglands.com/collections/books-more>

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