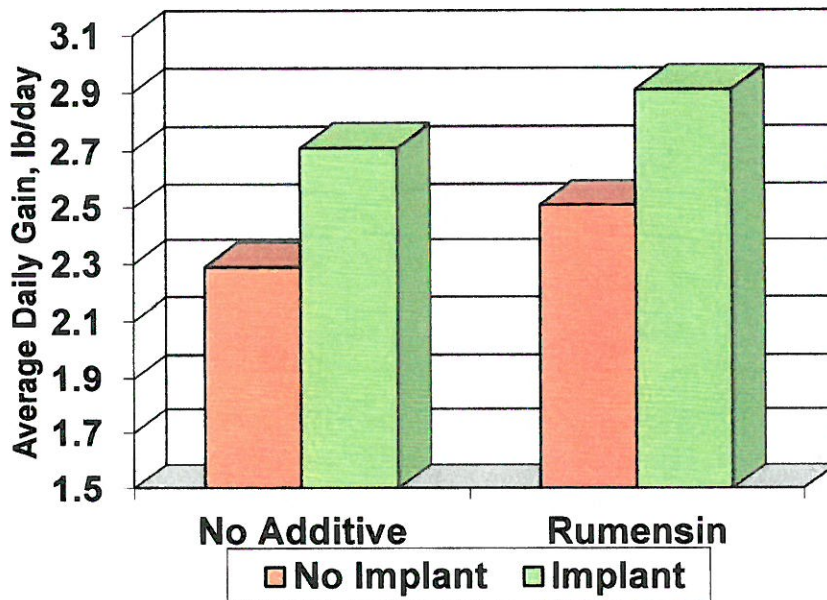


Forage Based Stocker Research at the Livestock and Forestry Research Station

Paul Beck

Increasing Stocker Calf Gains on Wheat Pasture

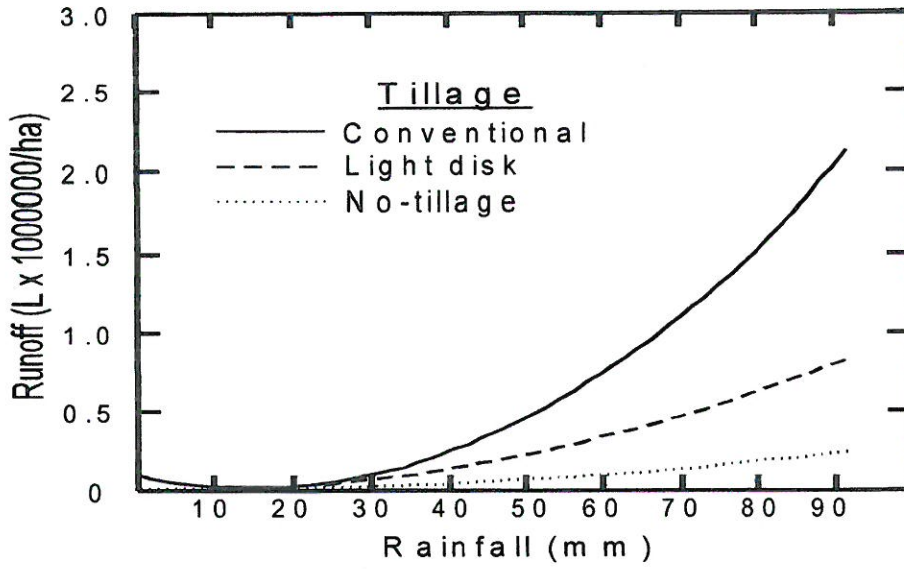
- Small grain pastures offer nutrient dense forages and high potential gains.
- Grazed from November to May
 - Stocking rates of ½ to 1 calf per acre during fall and winter
 - Stocking rates of 2 calves per acre during spring
- No-till establishment of wheat pasture has been shown to
 - Decrease establishment costs by \$44 per acre
 - Increase stocker calf gains by 48 pounds per acre
 - Increase net return by \$89 per acre
- Using growth promoting implants and ionophores (rumen metabolism modifiers) increases gains of calves on pasture



Rumensin = + 0.2 lb/day (\$20/calf)

Implant = + 0.4 lb/day (\$24/calf)

Combination = + 0.6 lb/day (\$44/calf)



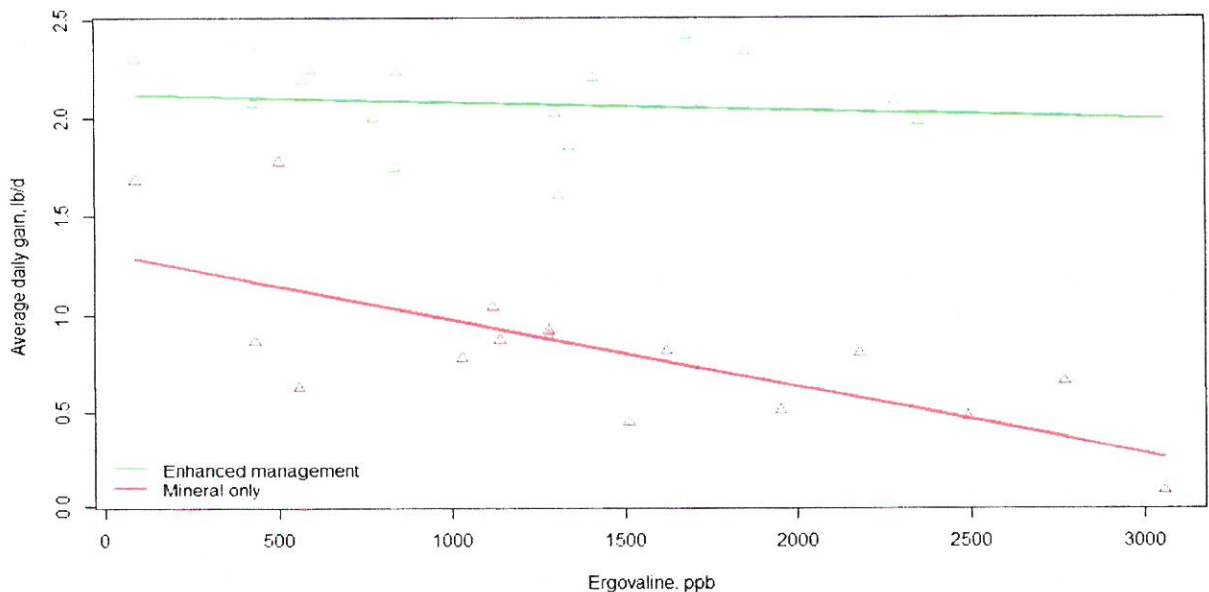
Total runoff leaving 4-acre wheat fields by rainfall accumulation per event.



	No-Till	Light Disk	Conventional Till
Total Solids, ppm	353	630	3,975
Ammonia-N, lb/acre	0.1	0.2	0.3
Phosphorus, lb/acre	2.8	2.3	4.3

Increasing Stocker Calf Gains on Tall Fescue

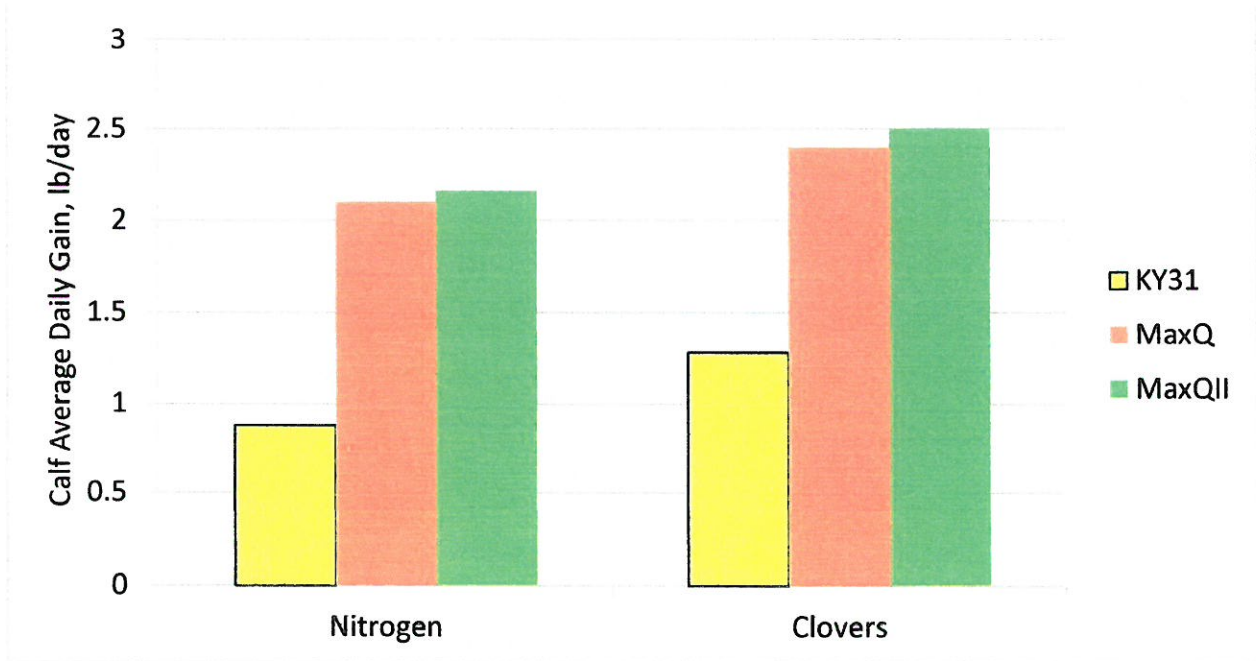
- Endophytes infect most tall fescue in Arkansas
 - Provide plants with persistence to adverse conditions
 - Drought, grazing, insects, nematodes
 - Endemic endophytes are toxic to livestock (as Dr. Looper mentioned earlier)
 - Decrease stocker cattle gains by 0.5 pounds per day in fall and 1.0 pounds per day in the spring
 - Non-toxic tall fescue increases gains of stocker calves, but is costly to establish (especially on rented ground or fragile areas).
 - Dr. Shane Gadberry is conducting research to look at stacking technologies (supplementation, ionophores, and implants) to reduce impacts of tall fescue toxins on growing calves



Stocker calf value increased by \$75/calf at 0 parts per billion ergovaline (increase gains by 0.7 lb/day), and increased by \$183/calf at 3,000 parts per billion ergovaline (increase gains by 1.7 lb/day).

Replacing Nitrogen Fertilization of Pasture by Interseeding Legumes

- Legumes increase quality of diet of grazing livestock
 - Increase diet digestibility and protein
 - Dilutes tall fescue toxins



Effect of N Fertilization Rate of Bermudagrass or Interseeding Clovers or Alfalfa on stocker calf performance.

Treatment	Ending BW	ADG	Total Gain
Unfertilized	642	1.2	110
50 lb N/acre	664	1.4	131
100 lb N/acre	691	1.7	152
Alfalfa	691	1.5	157
Clovers	698	1.6	159