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Southern Agricultural Economics Association

<https://www.saea.org/>

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PATCH-BURNING

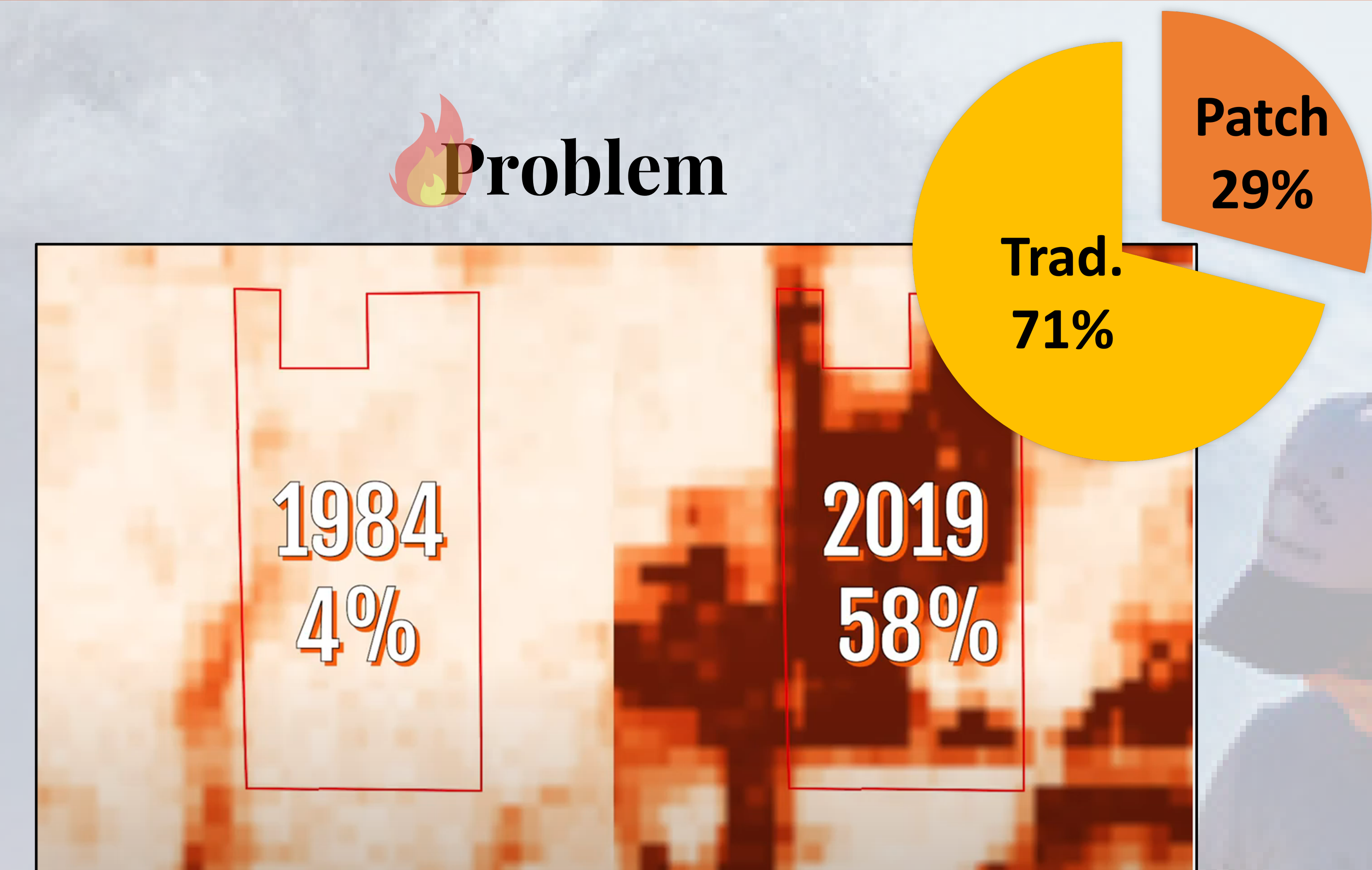
AN ECONOMIC ANALYSIS OF PYRIC-HERBIVORY IN OKLAHOMA



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Introduction

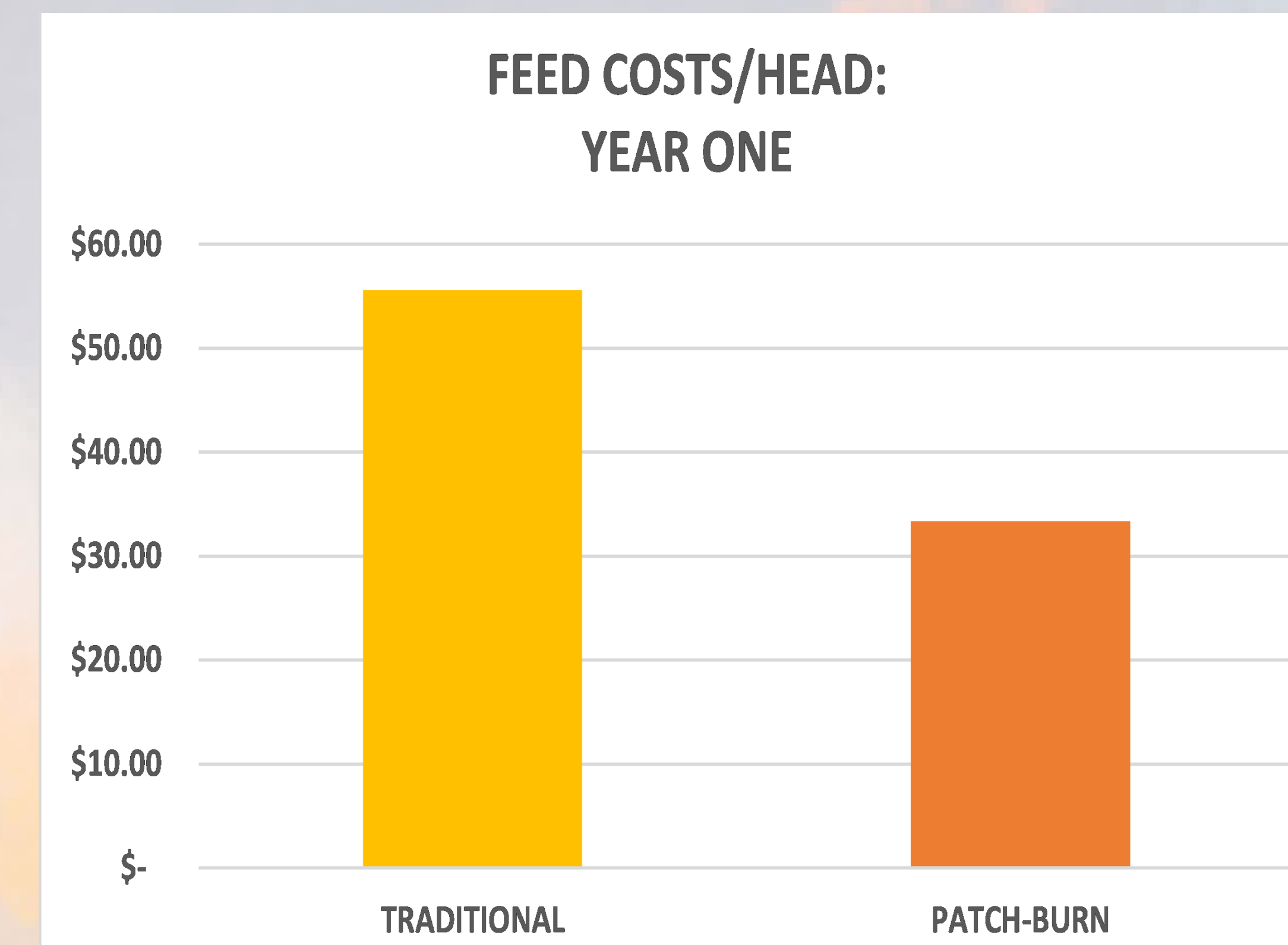
- Feed costs are a significant input for cattle production, which translates to a heavy reliance on grazing rangelands for producers trying to minimize costs.
- Rangelands account for 45% of land cover (25 million acres) in Oklahoma. Limited forages due to woody plant encroachment, drought, or overstocking lead to increased feed costs for producers. Prescribed burning has been available historically, but pyric-herbivory is a relatively newer alternative to traditional prescribed burning.
- Pyric-herbivory, commonly known as patch-burning and grazing, involves dividing a pasture into sections and burning a single section each year leading to better woody species control, improved range productivity, and forage stockpiles. These benefits of patch-burning have been studied for over 50 years.
- However, there has been little research discussing the implementation costs and long-term economic benefits of patch-burning for cattle producers.



Woody Plant Encroachment

Methods - Year 1 Budgets Estimated

- Costs collected from 2021 survey sent to cattle producers who participate in prescribed burning (N=37).
- Potential savings in feed costs due to patch-burning were calculated from a study conducted in 2011 comparing cow-calf pairs on both traditionally burned pastures and patch-burned pastures.



Results - Patch Burning can significantly reduce feed costs.

Patch Burning led to \$20/head savings in feed costs in Year 1

- High-quality forages allow for less time on feed on patch-burned pastures (Limb et al. 2011)
- 40% decrease in feed costs between patch-burning & traditional burning
- Initial patch-burn costs are higher by ~\$2, but justified by potential decrease in feed costs

Patch Burning led to \$20 per head savings.