#### **Integrated Crop-Livestock Systems**

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#### **Outline**



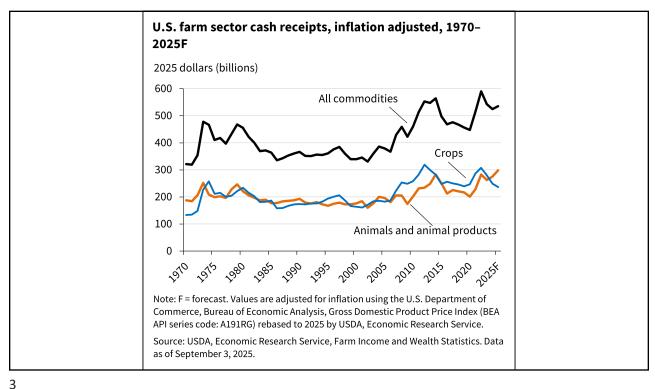
WHY? WHY NOW?



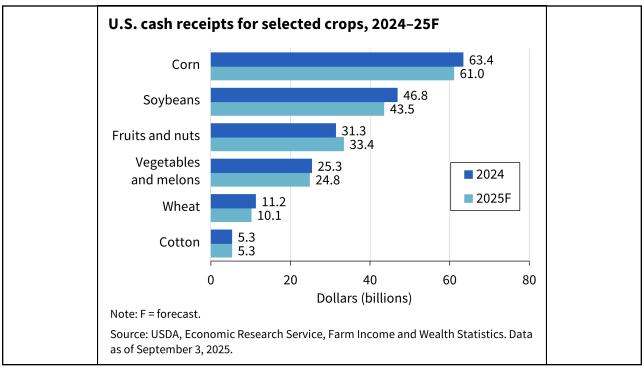
**PROFIT POTENTIAL** 

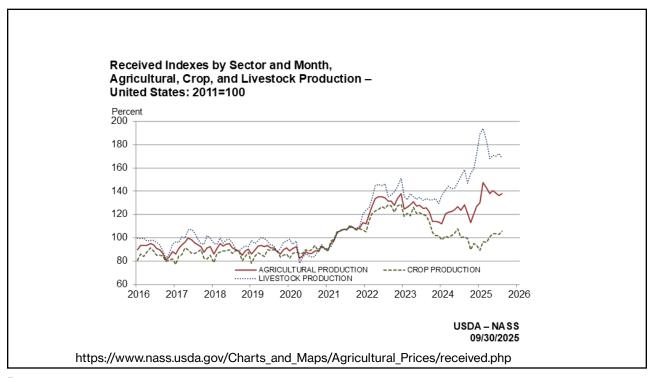


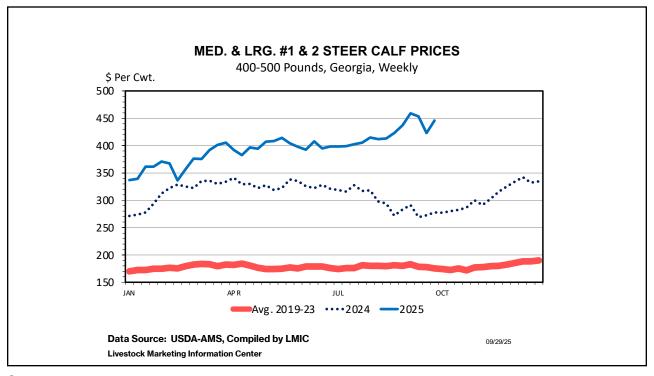
ROADBLOCKS AND ISSUES

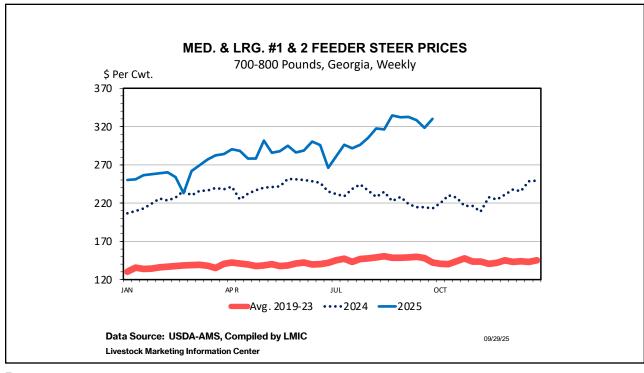


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# Considerations for integrated crop-livestock systems currently:

- · Cattle prices are at an all time high
  - Increased risk because of increased cost of stocker cattle
  - Profit potential because heavier weight feeders are also high
- · Traditional row crops prices are low
  - · Producers looking for alternative crops
  - · Most producers already plant cover crops
- · Production costs are high for both



#### **Winter Cover Crops**

- In-field conservation practice that can improve soil health and reduce nutrient loss from crop fields
- Typically planted around harvest and terminated prior to planting of cash crop
  - · Provide winter ground cover

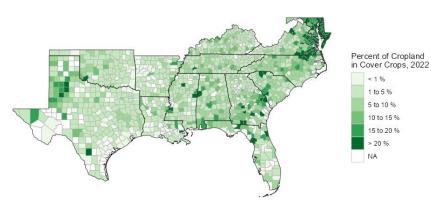


Source: Alabama Cooperative Extension System

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#### **Potential for Grazing Cover Crops in the South**



Source: Okonkwo, E., W. Sawadgo, and A. Plastina. "Cover-crop Acres up in Texas, Stagnant Across Rest of the South." Southern Ag Today. May 15, 2024.

- Cover crops were used on 5% of US cropland in 2022
  - Southern states used cover crops at higher rates

## **Grazing Cover Crops Can Make Them Profitable**

- Row-crop producers often face short-term losses from using cover crops (Hughes & Langemeier, 2020; Plastina et al. 2018a; Plastina et al. 2018b; Sellars et al., 2023; Thompson et al., 2020)
- **\**

- Mostly due to cover crop planting costs (~\$40 per acre)
- Grazing cover crops or harvesting forage can offset these losses

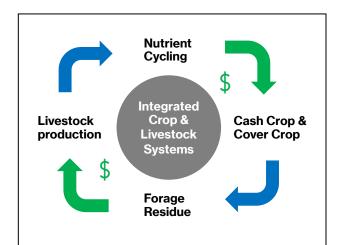


- \$20-\$80/acre additional revenue from grazing cover crops found in lowa (Plastina et al., 2018)
- Many row-crop producers do not have livestock, so arrangements between crop and livestock farms could benefit both parties



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#### **Integrated Crops & Livestock**



- Sustainable grazing still allows for soil health benefits from the cover crop
- Livestock grazing provides nutrients to subsequent cash crop, while forage provides value to livestock

#### **Leases for Grazing Cover Crops**

- Contract Considerations
  - · What type of contract
    - \$/acre/month rental payment
    - \$/head/month (or animal unit month)
    - \$/lb. gain
    - · Split cost of cover crop seeding and some other specification
  - · Are facilities available? (e.g. water and fencing)
    - · If not, who will provide them?

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#### **Leases for Grazing Cover Crops**

- 2. Cover Crop Considerations
  - · Who is responsible for planting/terminating the cover crop? Who covers the cost?
    - · May depend on whether the crop farmer currently uses cover crops
  - When and how is it planted? Is there a planting date deadline?
    - The planting date impacts available forage
    - · Flying on seed ahead of cash crop harvest can prolong the cover crop grazing season
  - · Cover crop seed mix and seeding rate
    - A simple cereal grain cover crop costs less than a mix but may provide less grazing value
  - Make sure to avoid toxins (certain herbicides or cover crop species)

#### **Leases for Grazing Cover Crops**

- 3. Cattle Considerations
  - · What is the allowable stocking rate?
  - Who will be responsible for cattle management? (e.g. water, minerals, fence repair)
  - · Who is liable for losses?
  - When do livestock need to be removed?

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### Effect of Grazing Cover crops on steer and cotton/peanut performance in the Wiregrass Region of Alabama

		Cattl	e Removal Date		
	Non-grazed	February	March	April	P-value
Grazeable Forage Mass, lb DM/acre		2,3550a	1,793b	1,820b	0.02
Final BW, lb		688a	717a	772b	< 0.01
ADG, lb/hd		2.6	2.6	3.1	0.05
Gain per acre, lb/acre		178a	247a	368b	<0.01
Forage Allowance lb DM/lb BW		1.1	1.2	1.0	0.47
Stocking Rate (hd/acre)		1.4	1.4	1.3	0.72
Grazing Days (d/acre)		85a	132b	3161c	<0.01
Length of grazing Season (d)		36	58	72	
Cover Crop Biomass at Planting, kg DM/ha	6,299a	3,033b	1,615c	1,294c	<0.01
Cotton Lint Yield (2-years data), kg/ha	1,517a	1,561a	1,347b	1,445ab	<0.01
Peanut Yield (2-years data), kg/ha	5,237	5,103	4,809	4,809	0.18

#### **Grazing Cover Crops in the South**

- Small grains, legumes, and forbs provide excellent forage yield and quality to provide cattle grazing from November through early April
- While an excellent forage, annual ryegrass should be avoided due to large root biomass causing issues during crop planting and later growing season requiring greater termination costs
- · Grazing initiation date is largely dependent on fall planting date
  - Can greatly reduce grazing season, especially in late harvested crops such as cotton and peanut
- Proper grazing management should be used to prevent negative impacts (do not graze below four inches)
- Later cattle removal dates (i.e., mid-April) can reduce cover crop regrowth and reduce weed suppression of biomass at crop planting
- The longer the grazing season, the more economical grazing cover crops becomes, however, sufficient cattle gains can be achieved in as little as 40 days

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#### **Summary**

- Integrated crop and livestock systems can offer an opportunity for row crop producers to generate additional income/profit potential
- High cattle prices (even on heavier feeders) can lead to profit opportunity, but also leads to a higher level of risk
- Management is key to efficiency and increased profit potential

#### **Resources**

- Practical Farmers of lowa <a href="https://practicalfarmers.org/wp-content/uploads/previous/2013/07/Cover-crop-lease-work.pdf">https://practicalfarmers.org/wp-content/uploads/previous/2013/07/Cover-crop-lease-work.pdf</a>
- Southern Cover Crops Council <a href="https://southerncovercrops.org/cover-crop-resource-guide/grazing/mountains-ridge-valley-piedmont/planting-and-managing-cover-crops/grazing-management/">https://southerncovercrops.org/cover-crop-resource-guide/grazing/mountains-ridge-valley-piedmont/planting-and-managing-cover-crops/grazing-management/</a>