Forage Risk Management: Decision Tools and Insurance Options

Jennifer Ifft
Flinchbaugh Agricultural Policy Chair and Associate Professor

2024 Kansas State University Agricultural Lenders Conference

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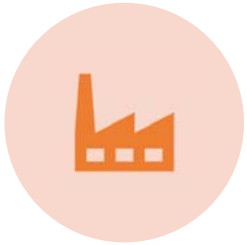
Topics



WHAT SAFETY NET PRODUCTS ARE AVAILABLE FOR FORAGE PRODUCTION?

HAY INVENTORY TOOLS

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Why?

- Declining water availability
- Drought concerns
- Demand from dairy and feed yards, other cattle producers
- Continued awareness gap

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The 'Federal Farm Safety Net'

Crop insurance

- MPCI (Multi-peril crop insurance)
  - Revenue or APH
    - Silage-specific products
  - Forage seeding
- Rainfall index products
- WFRP

Title 1 – Farm bill programs

- ARC (Agricultural Risk Coverage) and PLC (Price Loss Coverage)
- Eligibility based on historic production (base acres), flexibility to grow forage

Standing and ad hoc disaster programs

- Livestock Forage Disaster Program (LFP)
- Emergency Assistance for Livestock, Honey Bees, and Farm-Raised Fish (ELAP)
- NAP (Noninsured Crop Disaster Assistance Program)
- Forage isn't always eligible: for CFAP, only alfalfa hay was eligible

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Types of forage

- Hay
  - Alfalfa, grass hay, and other perennials
  - Annual forages
- Silage
  - Corn, sorghum, or small grains (triticale)
- Pasture and rangeland

"Regular" Crop Insurance

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Multi-peril products

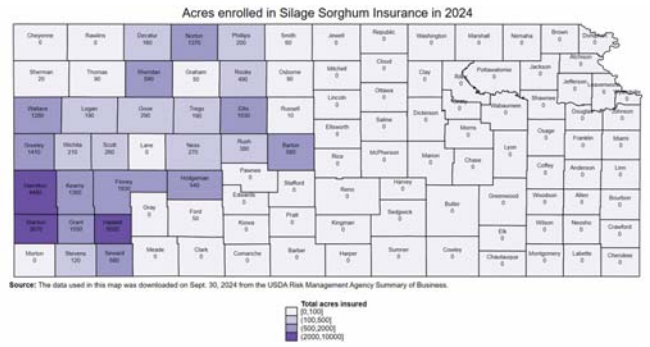
- Crop, wheat, or other MPCI-eligible crops
  - Near universal use for major crops
    - RP with HPO, 65-75% coverage level
  - If a crop is insured grain, must be appraised as grain
  - Silage endorsement
- Triticale - APH
- Forage seeding

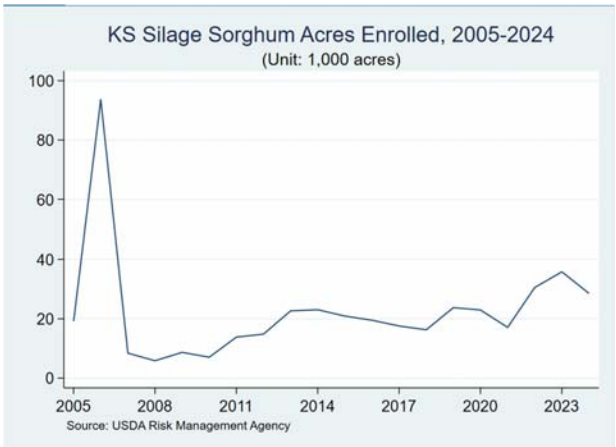
Silage-specific products

- Silage sorghum endorsement
- Corn can only be insured as grain in KS
  - Silage-only varieties generally must be insured as silage (BMR)
- Yield Protection
  - No HPO – effectively limits payouts during drought

https://www.flickr.com/photos/ksrecomm/50173737283/in/dateposted-public/

Silage sorghum enrollment is limited





Since 2009, 40K (2009) – to 110 (2013) acres harvested annually in KS (NASS)

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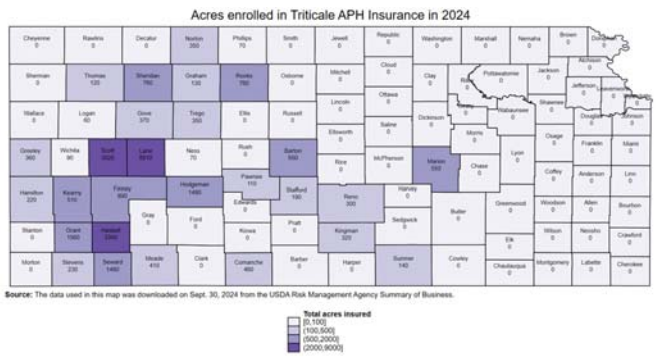
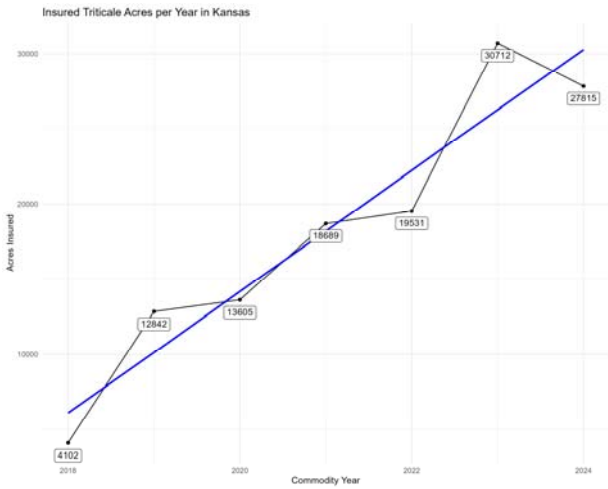
Triticale APH





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USDA NASS estimated 20,000 acres of triticale were harvested for grain in 2022 (up from 11,000 in 2017)

Source: USDA Risk Management Agency

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Forage seeding

- Fall or spring-seeded alfalfa blends only, 7 counties
- No policies attached in 2023
- 95 acres covered in 2024 for 2 policies earning premium
- 20 policies sold for 2025 (19 in 2024)
- Dollar Amount: max $177-$283

https://www.flickr.com/photos/ksrecomm/14423102856

Notes on MPCI for forage

- There is currently no option to insure corn as silage, (likely) due to lack of demand from industry
- Triticale APH has a contract price option
- Only RP policies have the harvest price option (HPO) – which improves drought protection
- Alfalfa Revenue MPCI product is under development
  - https://hayandforage.com/article-4838-input-needed-for-forage-revenue-insurance.html

Single-peril index products

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Rainfall index: PRF

- Pasture, Rangeland, and Forage Insurance
  - When it rains less than usual in your area within a 2-month period, you get paid
  - Covers shortfalls in *precipitation*
  - Hay or grazing
- Currently 5.5 million acres enrolled in Kansas in 2024
  - 3 million acres in 2022
  - 5 million acres in 2023
- Large payouts in drought years
- Deadline December 1

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https://www.ksre.k-state.edu/news/stories/2023/05/cattle-chat-rotational-grazing-fence.html

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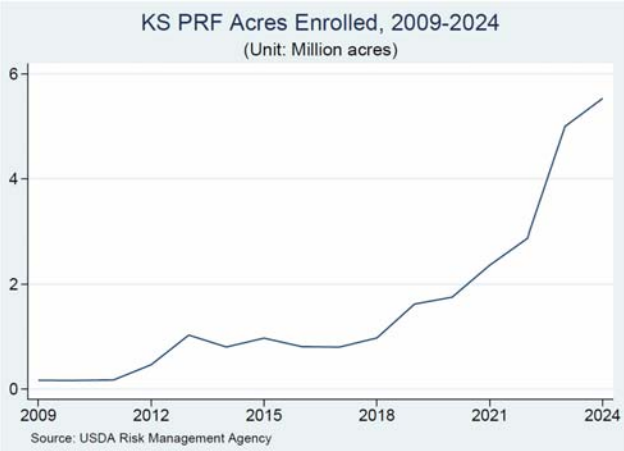
PRF increases after drought years



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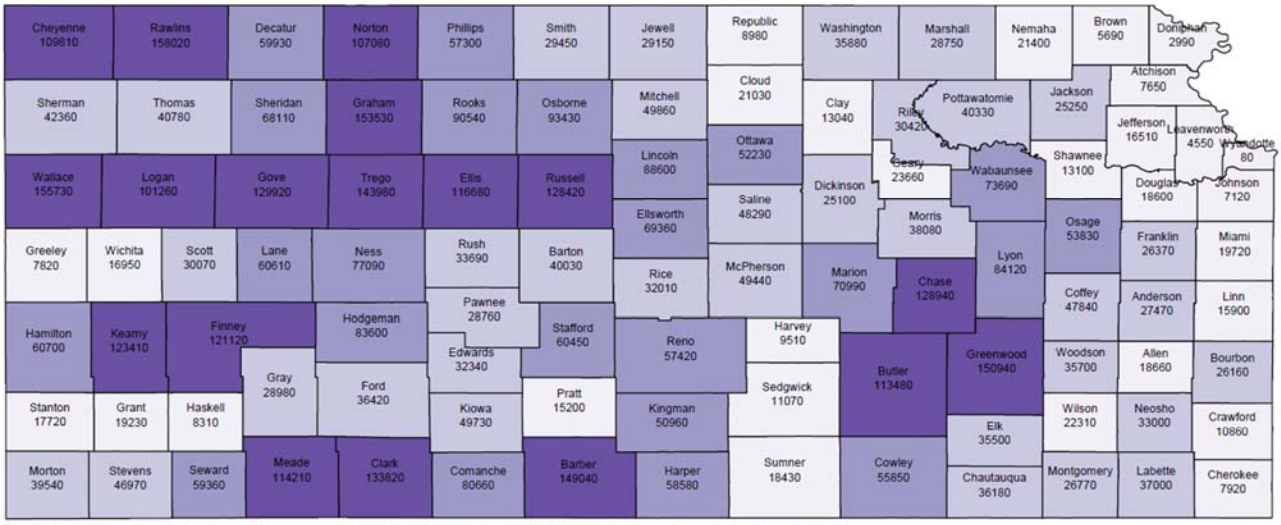
Acres enrolled in Pasture, Rangeland, and Forage Insurance in 2024



Source: The data used in this map was downloaded on Jan 28, 2024 from the USDA Risk Management Agency Summary of Business.

Rainfall index: Annual Forage

- "PRF for annually-produced forage crops"
- When it rains less than usual in your area within a 2-month period during the USDA-defined growing season, you get paid
- Low but increasing use
- Deadline: July 15

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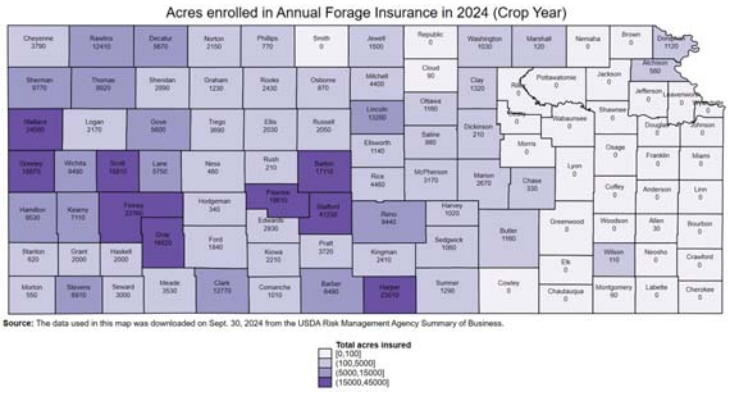
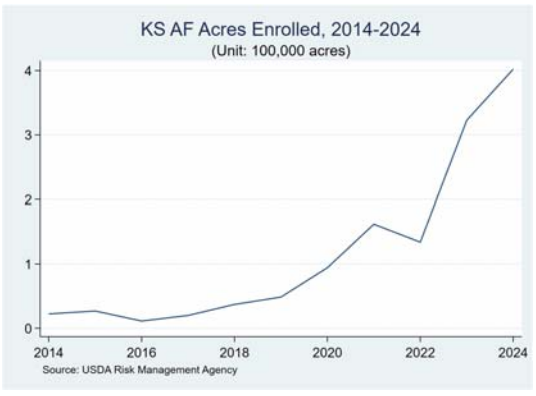
Annual forage trends





2,212 policies sold for crop year 2025 vs. 1,757 for crop year 2024

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Value of Protection

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Crop insurance vs actual expected revenue

- Crop insurance liability or guarantee = producer selected coverage level X ER
- Expected revenue (ER)
  - MPCI: approved/APH yield X price
  - Rainfall index: County base value (CBV)
- Does insurance ER match actual ER?

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Alfalfa guarantee under PRF: Finney County

PRF – 90% coverage

Non-irrigated hay: $138/acre ($69-$207)

Irrigated hay: $100/acre ($50-$150)

Current expected revenue

SW KS Non-irrigated: $768/acre ($240/ton for 3.2 tons per acre)

Western KS Irrigated: $1300/acre ($237.50/ton for 5.5 tons per acre)

KS 10-year average non-alfalfa hay revenue: $174 per acre (1.77 tons/acre X $98/ton)

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https://agmanager.info/farm-budgets/2024-farm-management-guides-non-irrigated-crops
https://agmanager.info/farm-budgets/2024-farm-management-guides-irrigated-crops
USDA RMA AIB

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Alfalfa guarantee under PRF: Scott County

PRF Guarantee -90% coverage

Non-irrigated hay: $169/acre ($85-$254)

Irrigated hay: $94/acre ($47-$141)

Current expected revenue

SW KS Non-irrigated: $768/acre ($240/ton for 3.2 tons per acre)

Western KS Irrigated: $1300/acre ($237.50/ton for 5.5 tons per acre)

KS 10-year average non-alfalfa hay revenue: $174 per acre (1.77 tons/acre X $98/ton)

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https://agmanager.info/farm-budgets/2024-farm-management-guides-irrigated-crops
USDA RMA AIB

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Grass hay under PRF

Saline County PRF - hay

2024 CBV - $227

2023 CBV - $227

90% coverage range:

$102-$306

2023 KS Hay Production

1.8 tons/acre average yield

X

$162 / ton

= $292 revenue per acre

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USDA RMA AIB; USDA NASS

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Sorghum hay or silage under AF

Annual Forage guarantee

Hodgeman Co. 2024 CBV: $252

Guarantee at 90% coverage level:

$113-$339/acre

Forage sorghum hay

SW KS Non-irrigated: $69/acre expected revenue

($34/ton for 2 tons per acre)

Silage sorghum APH

BMR $32.5 X (8.5/16.9 tons/acre) = $276-$549/acre

Non-BMR $32.5 X (8.5/19.1 tons/acre)= $276-$621/acre

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https://agmanager.info/farm-budgets/2024-farm-management-guides-non-irrigated-crops
http://af.agforceusa.com/ri
USDA RMA AIB

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Triticale under AF

Annual Forage Guarantee

2024 CBV: $286

Guarantee at 90% coverage level:

$129-$387/acre

Triticale APH

T-yield Lane County:

- Summerfallow 40
- Continuous 28
- Irrigated 47

2024 RMA established price: $5.57

Expected revenue:

$156-$262

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Federal Crop Insurance: what isn't protected

- Price increases, unless using RP
  - HPO would cover (more of) replacement cost
- Rainfall index
  - High value forage (especially alfalfa)
  - Non precipitation related losses
  - Precipitation that
    - Is different from grid
    - Doesn't influence yield

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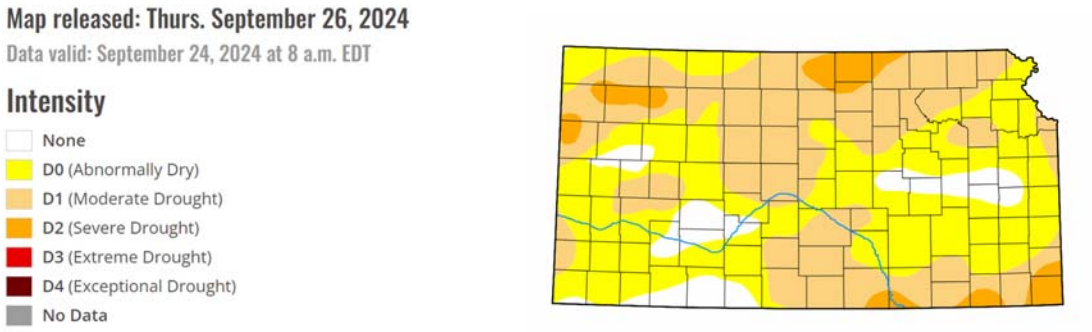
Other programs to be aware of

- Whole Farm Revenue Protection (WFRP)
  - Still niche in KS, potentially good value for small-ish and diversified operations, operations with high value crops/livestock
- Livestock Forage Disaster Program (LFP)
  - FSA payments to operations with grazing animals when drought is severe or worse during the grazing season
- ELAP
  - FSA payments for hauling water or hay during droughts
- NAP
  - Catastrophic coverage for forage crops, may be free (ish?) for underserved producers

The bottom line

- The safety net for forage producers (and cattle) is growing
- PRF + LFP + ELAP would jointly likely provide substantial payouts for pasture during more severe droughts
- (Nearly) all forage crops can be insured
  - Sometimes multiple insurance options with different deadlines
- New programs, especially crop insurance, are continuously being introduced
  - Awareness gap
- Learning curve for rainfall index products
  - Many producers report good experiences, but there are pros and cons that it helps to understand
  - Many agents offer decision tools

Hay inventory tools



https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?KS

Hay inventory tools

- Basic tools
  - Spreadsheet
  - Online tool
  - Quick and simple estimate
- Advanced tool
  - Spreadsheet
  - More flexible
  - More inputs required

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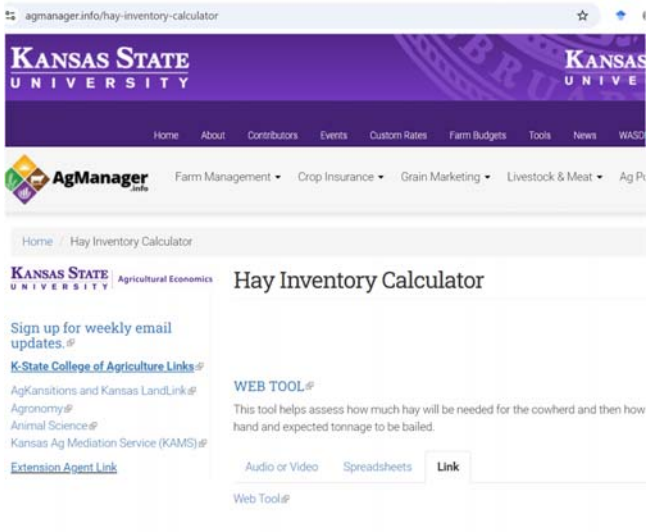
Online tool

Visit AgManager.info

Tutorials, spreadsheets, online tool link

Examples and any new information and tools will be regularly posted



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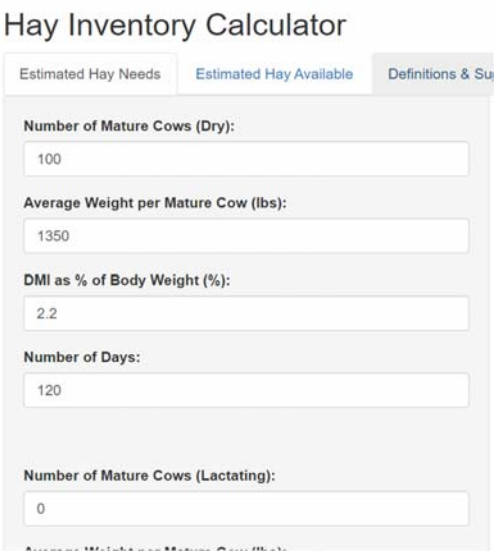
Online tool: Step 1

Estimating hay needs

Options to enter for different cattle types and "other"

DMI guidelines provided under definitions



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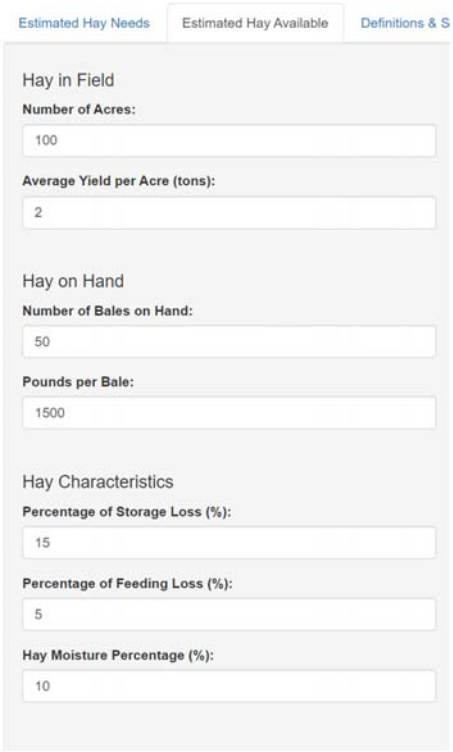
Online tool: Step 2

Estimating hay available

Hay in field

Hay on hand

Hay characteristics (tables with sample storage and feeding loss provided on definitions and suggestions tab)



Online tool: Output

Estimated hay available (both in field and on hand)

Hay characteristics (tables with sample storage and feeding loss provided on definitions and suggestions tab)

Will say shortage (in red) or surplus (in black) depending on what is entered

Personalized calculator

Requires data collection

More useful if producer can accurately estimate storage, feed loss, moisture

Can be saved and updated

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Advanced Hay Inventory Calculator

Before Beginning:
This is a detailed spreadsheet tool to help producers calculate their hay needs, potential shortages or surpluses, and required budget. If you are looking to quickly calculate your hay needs and availability, please refer to our online or basic spreadsheet tool at https://agmanager.info/hay-inventory-calculator.

Step 1: **Hay Inventory- Estimated Hay Needs**
Insert data for the cells below the light purple highlighted columns that apply to your operation. The light green highlighted columns are optional. The first row will be an example and will not be calculated in your estimated results.

Step 2: **Hay Inventory- Estimated Hay Available- Hay on Hand**
Insert data for the cells below the light purple highlighted columns that apply to your operation. The light green highlighted columns are optional. The first row is an example, please do not make changes to this row as it won't be included in the calculations. There is a separate section in the table for silage. Silage will be included in the final calculations. Please refer to the given tables if you do not know your exact feeding and storage loss or crude protein content.

Step 3: **Hay Inventory- Estimated Hay Available- Hay to be Harvested**
Insert data for the cells below the light purple highlighted columns that apply to your operation. The

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Advanced Hay Inventory Tool

- Multiple entries for cattle/livestock, hay on hand, hay in field, silage
- For all hay on hand / in field / silage
  - Feed loss, storage loss, moisture loss, bale weight individualized
- Approximate crude protein balance option
- Additional tools/tabs for budgeting for hay purchase and estimating value of hay on hand are also provided

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Advanced Hay Inventory Tool

Total crude protein available: 0.00

Hay to be Harvested

Field Name:	Hay Type	# of Acres	Tons per acre	Storage Loss (%)	Feed Loss (%)	Hay Moisture %	Crude Protein (%)		Tons to be Harvested	Crude Protein to be Harvested (tons)
EXAMPLE	Triticale	40	4.00	5.00%	4.00%	18.00%	10.00%	=	116.80	11.68
								=	0.00	0.00
								=	0.00	0.00
								=	0.00	0.00
								=	0.00	0.00
								=	0.00	0.00
								=	0.00	0.00
								=	0.00	0.00
Field Name: (Silage)	Silage Type	# of Acres	Tons per Acre	Storage Loss (%)	Feed Loss (%)	Silage Moisture %	Crude Protein (%)		Tons to be Harvested	Crude Protein to be Harvested (tons)
Example	Triticale	50	3.50	20.00%	15.00%	50.00%	16.00%	=	24.25	4.2
								=	0.00	0.00
								=	0.00	0.00

Total tons to be harvested: 0.00
Total crude protein to be harvested: 0.00

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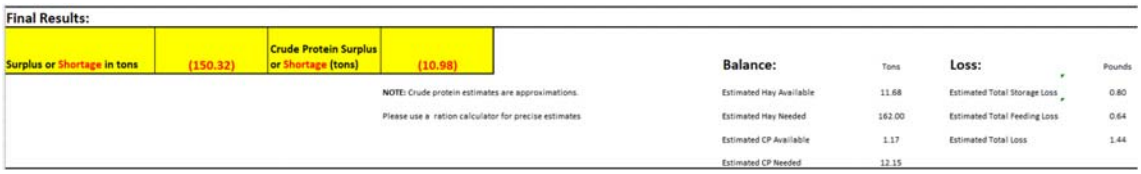
Advanced Hay Inventory Tool



Final Results:

Surplus or Shortage in tons	(150.32)	Crude Protein Surplus or Shortage (tons)	(10.98)

NOTE: Crude protein estimates are approximations.
Please use a ration calculator for precise estimates

Balance:	Tons
Estimated Hay Available	11.68
Estimated Hay Needed	162.00
Estimated CP Available	1.17
Estimated CP Needed	12.15

Loss:	Pounds
Estimated Total Storage Loss	0.80
Estimated Total Feeding Loss	0.64
Estimated Total Loss	1.44

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Hay budget

			If you don't have price information available, recent prices for multiple hay types in different parts of Kansas are available from the USDA.		
Surplus or Shortage in TONS	(150)				
			USDA Hay Price Report:		
			https://mymarketnews.ams.usda.gov/viewReport/2885		

Source	Hay Type	Crude Protein (%)	Quantity (tons)	Estimated Price/ton	Cost
Example	Triticale	10%	5	$ 215.00	$ 1,075.00
Source 1	Triticale	10%	50	$ 215.00	$ 10,750.00
Source 2					$ -
Source 3					$ -
Source 4					$ -
Source 5					$ -
Source 6					$ -
Source 7					$ -
				Total Tons Purchased	**50.00**
		Total CP (tons)	**5.00**	**Total Cost**	**$ 10,750.00**
		CP Shortage/ Surplus After Purchase (tons)	**-5.98**	**Surplus or Shortage After Purchase (tons)**	**(100.32)**

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Value of hay on hand

May be useful for producers trying to use up 2023-harvested hay

Populations tons automatically from primary sheet

Value of Hay on Hand and Hay to be Harvested

Instructions: The Source and Quantity columns are automatically linked to entries from the Hay Inventory tab. If a cell is blank it will appear as a "-". Only the estimated price/ton needs to be entered.

Source/Hay/Silage Type	Quantity (tons)	Estimated Price/ton	Value
Triticale	21.90	200	$ 4,380.00
Hay on Hand			
-	-		-
-	-		-
-	-		-
-	-		-
-	-		-
-	-		-
-	-		-
Silage on Hand			
-	-		-
-	-		-
Hay to be harvested			
-	12	150	$ 1,752.00
-	-		-
-	-		-
-	-		-
-	-		-
-	-		-
-	-		-
Silage to be harvested			
-	-		-
-	-		-
		Total Value	**$ 1,752.00**

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Wrap up

- Will regularly update hay inventory tools based on producer feedback
- Webinars and short videos
  - Social media?
- Discussion
  - Awareness gaps?
  - Product attributes?

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Questions?

Comments?

Thank you!

Dr. Jennifer Ifft
Flinchbaugh Agricultural Policy Chair
Associate Professor
Email: jifft@ksu.edu
Phone: 785-532-4468

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