



# Understanding Marketing Assistance Loans and Loan Deficiency Payments

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# History of Cotton Commodity Loan Programs

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Cotton commodity loan programs started in 1933.

- Originally had two options for closing out the loans:
  1. Repaying the loan principal plus accrued interest charges
  2. Forfeit pledged cotton and keep the loan



The 1985 U.S. Farm Act added marketing loan provisions.

- Allow farmers to repay cotton commodity loans at less than the original loan rate (plus interest) when market prices are low.



# 2018 U.S. Farm Bill

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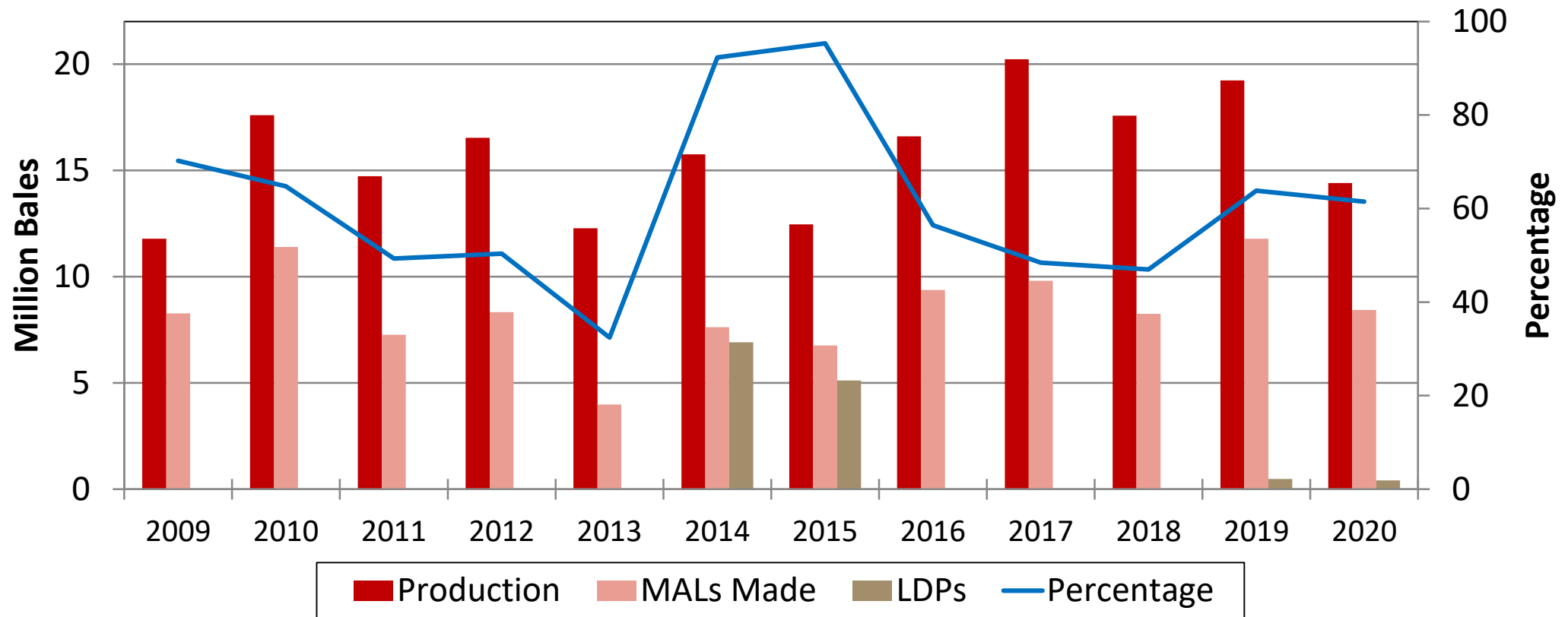
Marketing assistance loans (MALs) and loan deficiency payments (LDPs) are marketing tools available during harvest or shearing.

2018 U.S. Farm Bill extended MAL and LDP for the 2019 through 2023 crop years.





# Cotton Production, MALs, and LDPs





## Upland Cotton Loan Rate for the Base Quality

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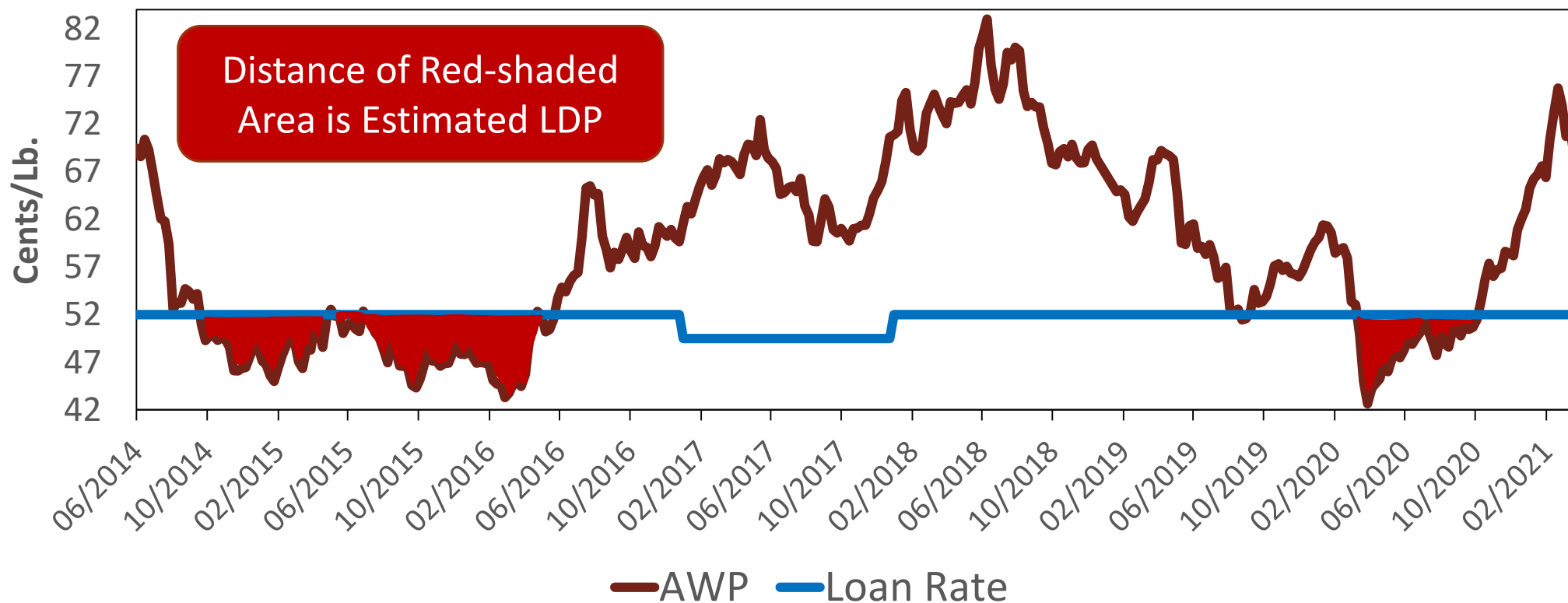
2018 U.S. Farm Bill: the base quality loan rate of upland cotton cannot be less than 45 cents per pound, greater than 52 cents per pound, or less than 98% of the previous year's loan rate.

The base quality loan rate of upland cotton is based on the simple average of the adjusted world price (AWP) for the two marketing years preceding the sowing of the ensuing year's crop.

- The base quality loan rate for 2019 is based on the marketing year AWP for 2016 and 2017.



# Historical AWP, Loan Rate, and LDP



Slide from Ms. Amanda R. Smith, University of Georgia



# Fiber Quality Premiums and Discounts

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USDA Agricultural Marketing Service (AMS) classify the quality of cotton based on physical attributes of cotton fiber.

- Color, staple length, leaf, micronaire, length uniformity, strength, and extraneous matter

When producers put cotton in the loan, the cotton loan rate reflects the differences in prices for different fiber quality. Premiums are added and discounts are subtracted from the base quality loan rate.



# Adjusted World Price (AWP)

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The weekly AWP is derived from the CotLook A Index, which is referred as the Far East (FE) price by USDA.

- Based on the average of the daily A Index for the week beginning on a Friday and ending the following Thursday.
- The AWP is announced for the following week every Thursday by USDA.

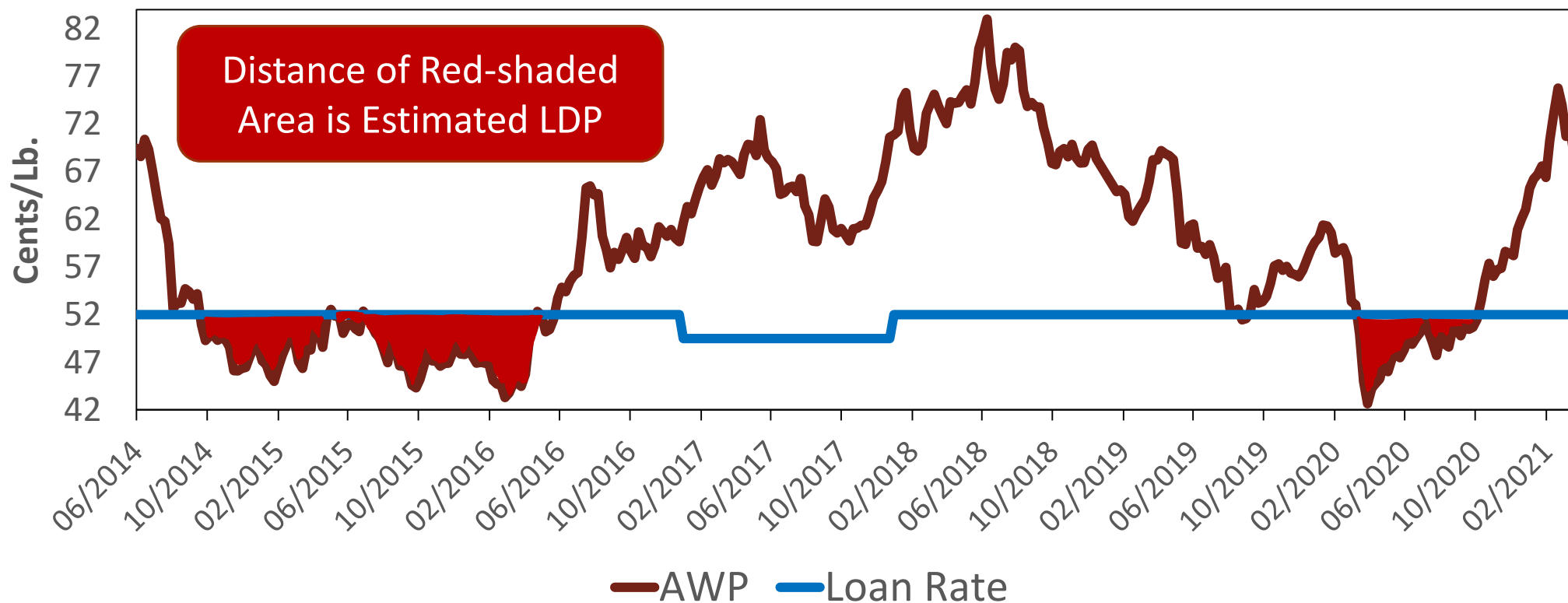
The AWP adjusts the A Index for Transportation and Quality.

- Transportation and Quality adjustment used to calculate the AWP is 19.25 Cents/Lb for 2020 Marketing Year.





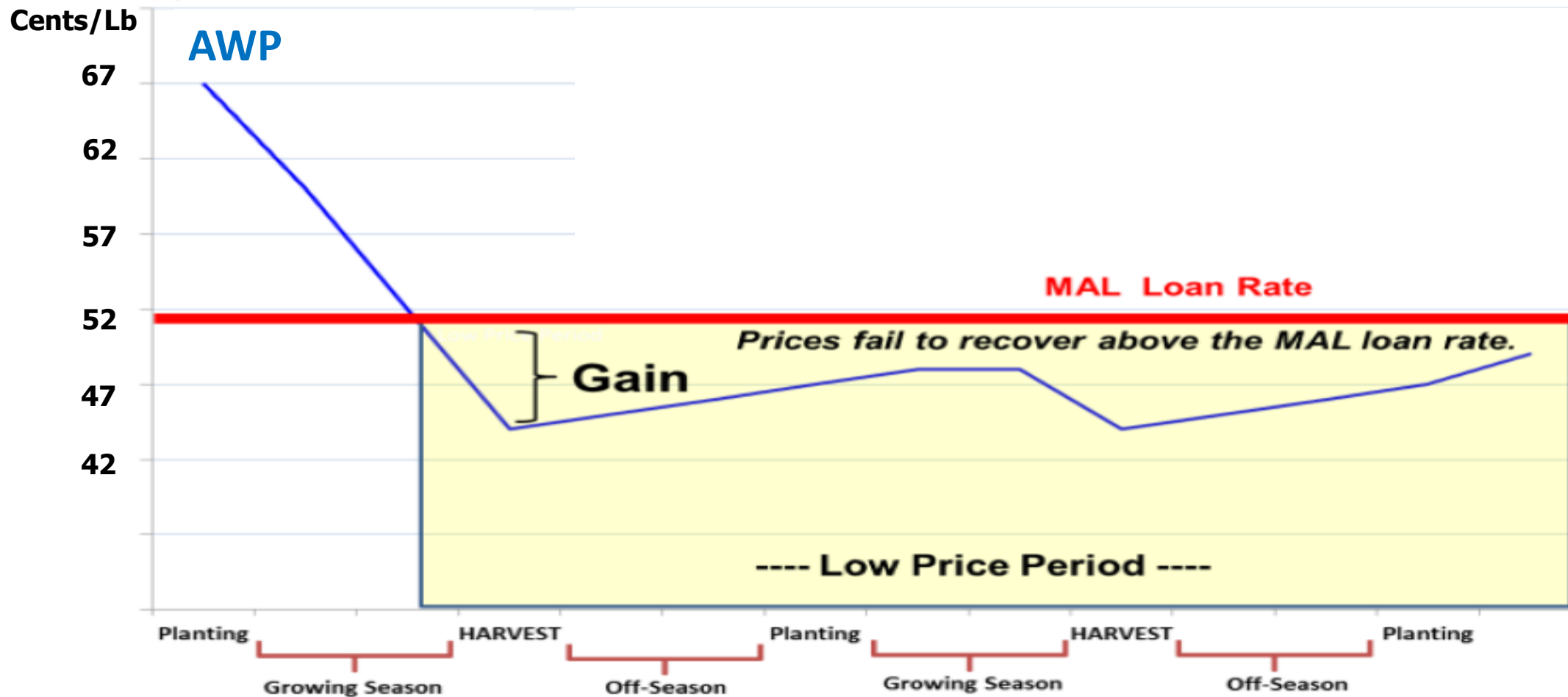
# Historical AWP, Loan Rate, and LDP



Slide from Ms. Amanda R. Smith, University of Georgia

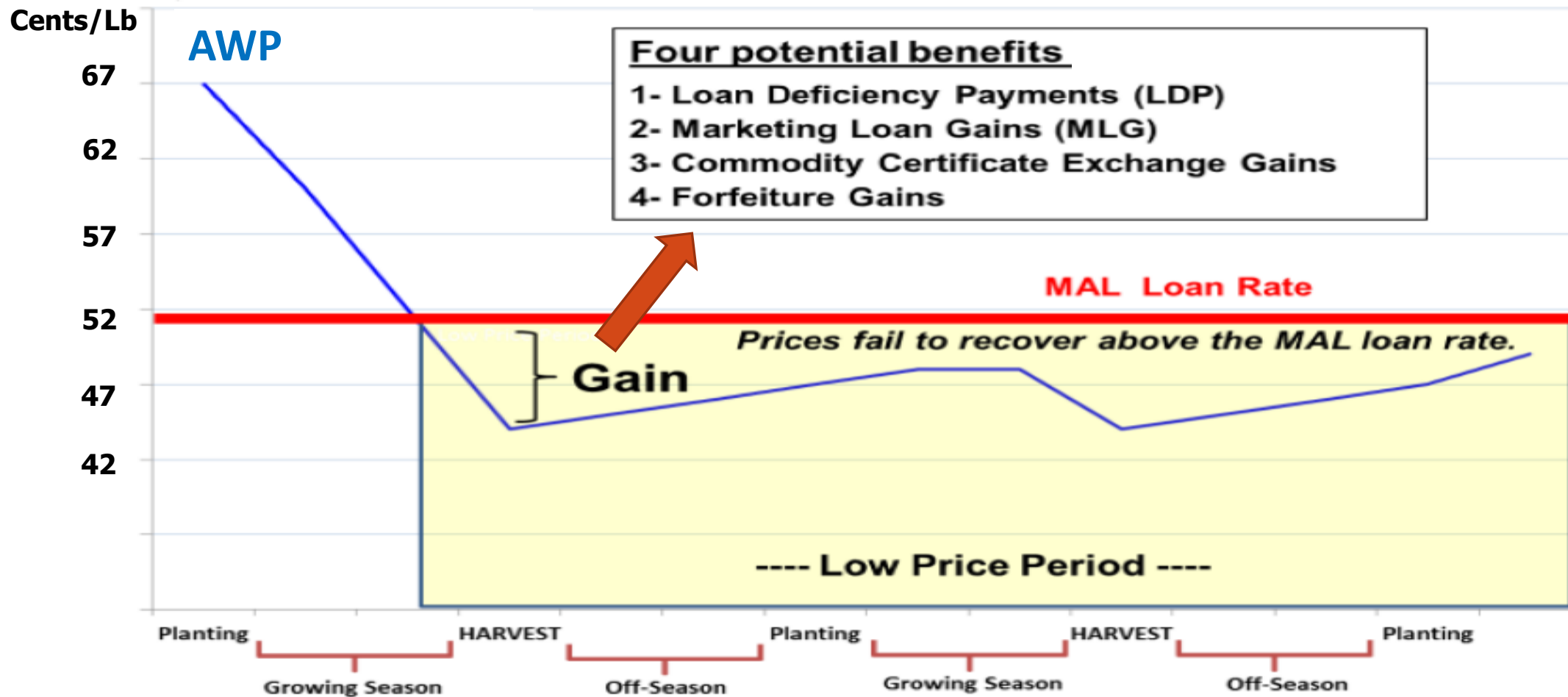


# Four Types of Benefits





# Four Types of Benefits





# Marketing Assistance Loan (MAL)

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Provides both a floor price and interim financing for cotton producers

Harvested cotton serves as the loan collateral, and the loan rate establishes a price floor

Allows farmers to receive some money upfront to meet cash flow needs while delaying sale of cotton





# Loan Availability Period

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**Producers can put cotton in the loan on all or part of their production anytime during the loan availability period, which runs from harvesting until May 31 in the following calendar year.**

**The maturity date of the loan is on the last day of the ninth month following the month in which the loan is made.**

USDA extended the loan repayment period from 9 to 12 months for the 2018, 2019, and 2020 crops.



# Redeem the Loan in Four Ways

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1. Forfeiting the loan at the end of the loan period and deliver the pledged crop to CCC as full payment

2. Redemption of the loan at the loan repayment rate

3. Accepting a merchant equity offer

4. Purchasing and exchanging the commodity certificate for loan collateral



# Commodity Certificate Exchange (CCE)

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Producers with a commodity pledged as collateral for a MAL can purchase a commodity certificate.

- Certificates can be exchanged for their outstanding loan collateral = pay off the loan.

Commodity certificates are available only in situations where the loan rate  $>$  CCE rate.

- The CCE rate is the same as the alternative loan repayment rate
- Realized gains, also called certificate exchange gains, equal the amount by which the loan rate exceeds the CCE rate.



# Which Redemption Option to Use?

## Loan rate plus interest

### Loan rate

If the **AWP** is below the **loan rate**, the farmer has economic incentives to use all four MAL choices.

1. **Forfeiture of the crop**
2. **Repay the loan at the AWP**
3. **Accept a merchant equity offer**
4. **Purchase CCE**

If the **AWP** is above the **loan rate**, but below the **loan rate plus interest**, the farmer has economic incentives to use the following three MAL choices:

1. **Forfeiture of the crop**
2. **Repay the loan at the AWP**
3. **Accept a merchant equity offer**

If the **AWP** is above the **loan rate plus interest**, the farmer would benefit from the following MAL choices:

2. **Repay the loan at the loan repayment rate (loan rate plus interest)**
3. **Accept a merchant equity offer**





# Loan Deficiency Payment (LDP)

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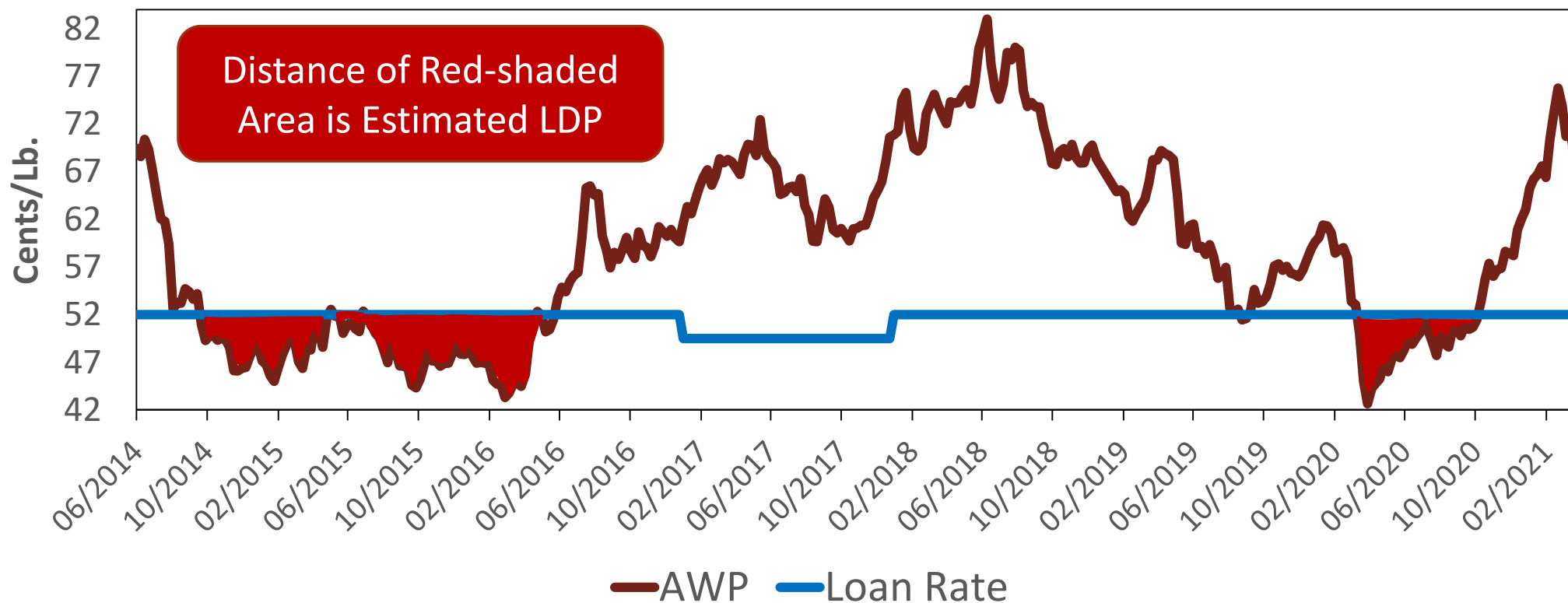
A payment issued to producers for the harvested commodities when AWP is below the base quality loan rate

- If the AWP is less than the loan rate, the difference equals the Loan Deficiency Payment
- If the AWP is greater than the loan rate, the LDP is Zero

Producers must forgo their option of putting the commodity into the loan to apply for LDP



# Historical AWP, Loan Rate, and LDP



Slide from Ms. Amanda R. Smith, University of Georgia



# Marketing Options

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Farmers generally use a two-step marketing process using the commodity loan programs:

Step 1. The farmer decides whether to put cotton in the loan or apply for an LDP, when available

Step 2. The farmer decides either forfeit the upland cotton to USDA or redeem the upland cotton from the loan, and when to sell the crop





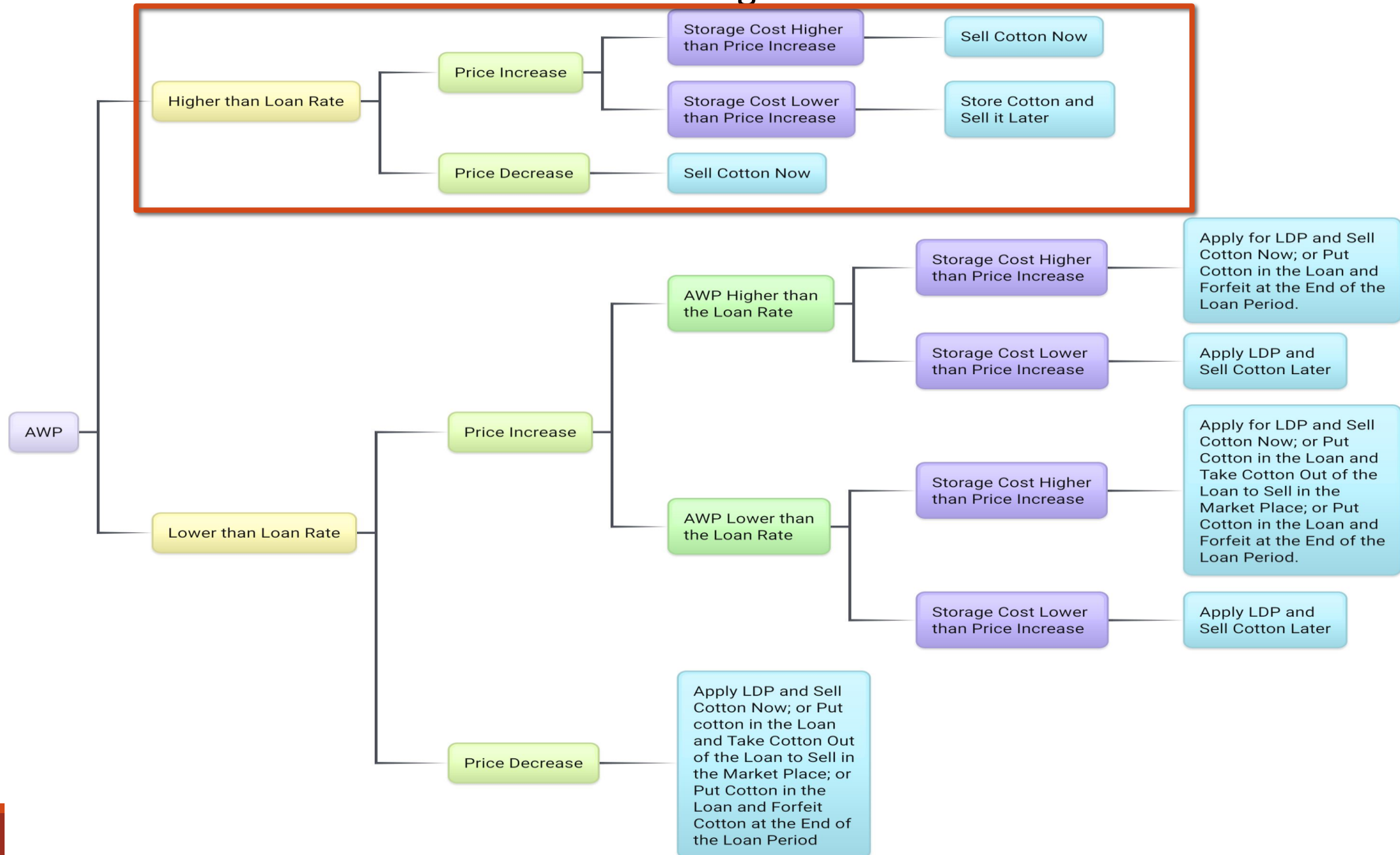
# Marketing Strategies for Step One

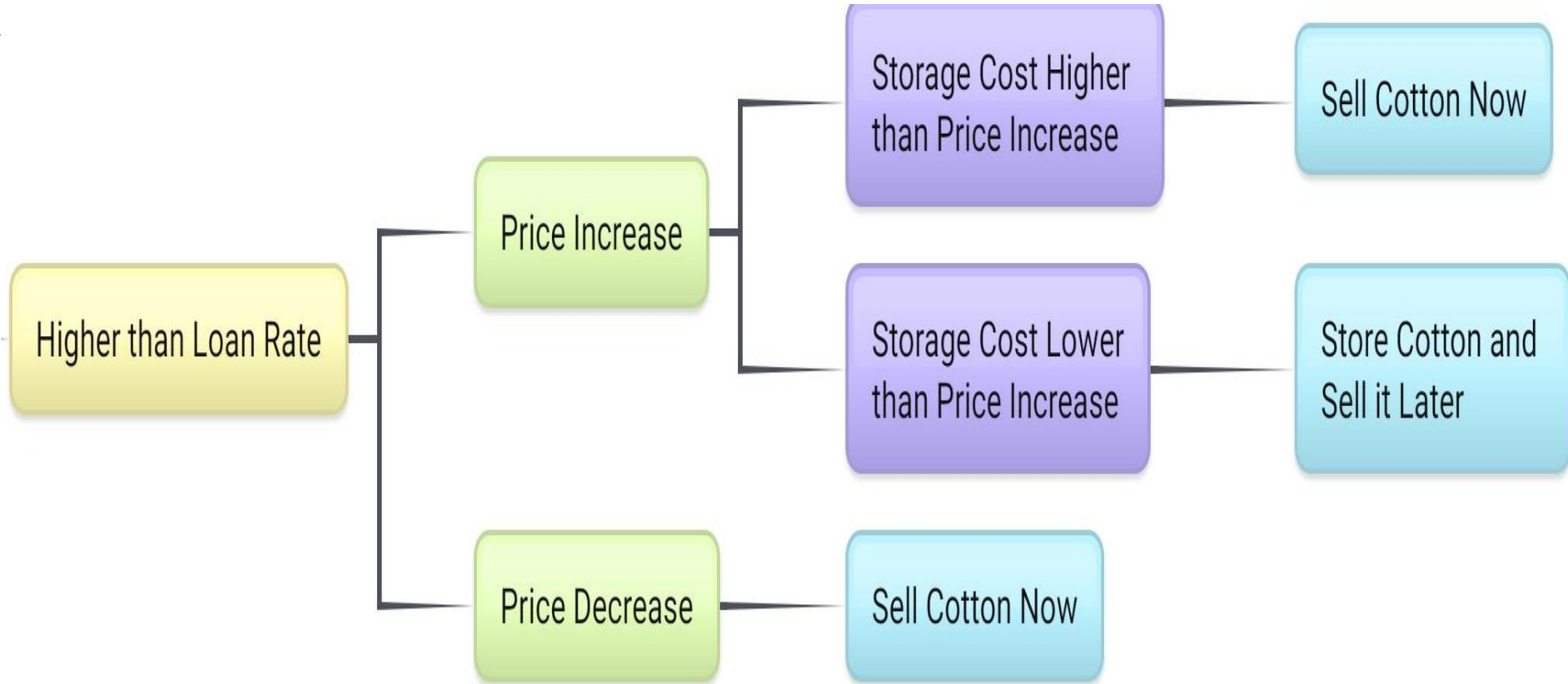
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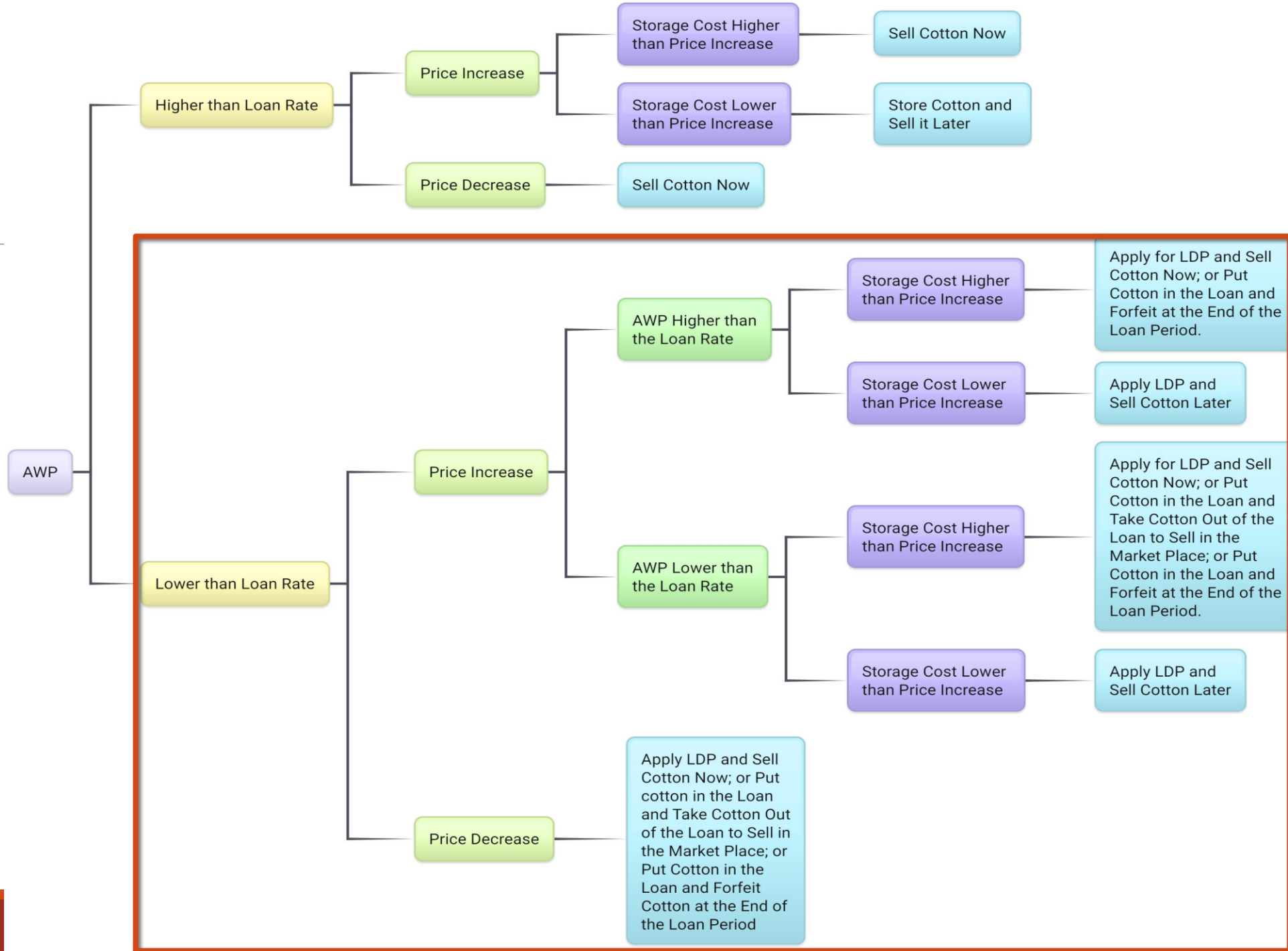
1. Forward contract to fix cash price for the upland cotton while maintaining the beneficial interest of the crop and apply for the LDP.
2. Apply for the LDP while maintaining the beneficial interest of the crop and then sell the harvested the upland cotton in the spot market.
3. Forgo the LDP and put the upland cotton in the loan, essentially for the storage benefit, and redeem it out of the loan at a later date.

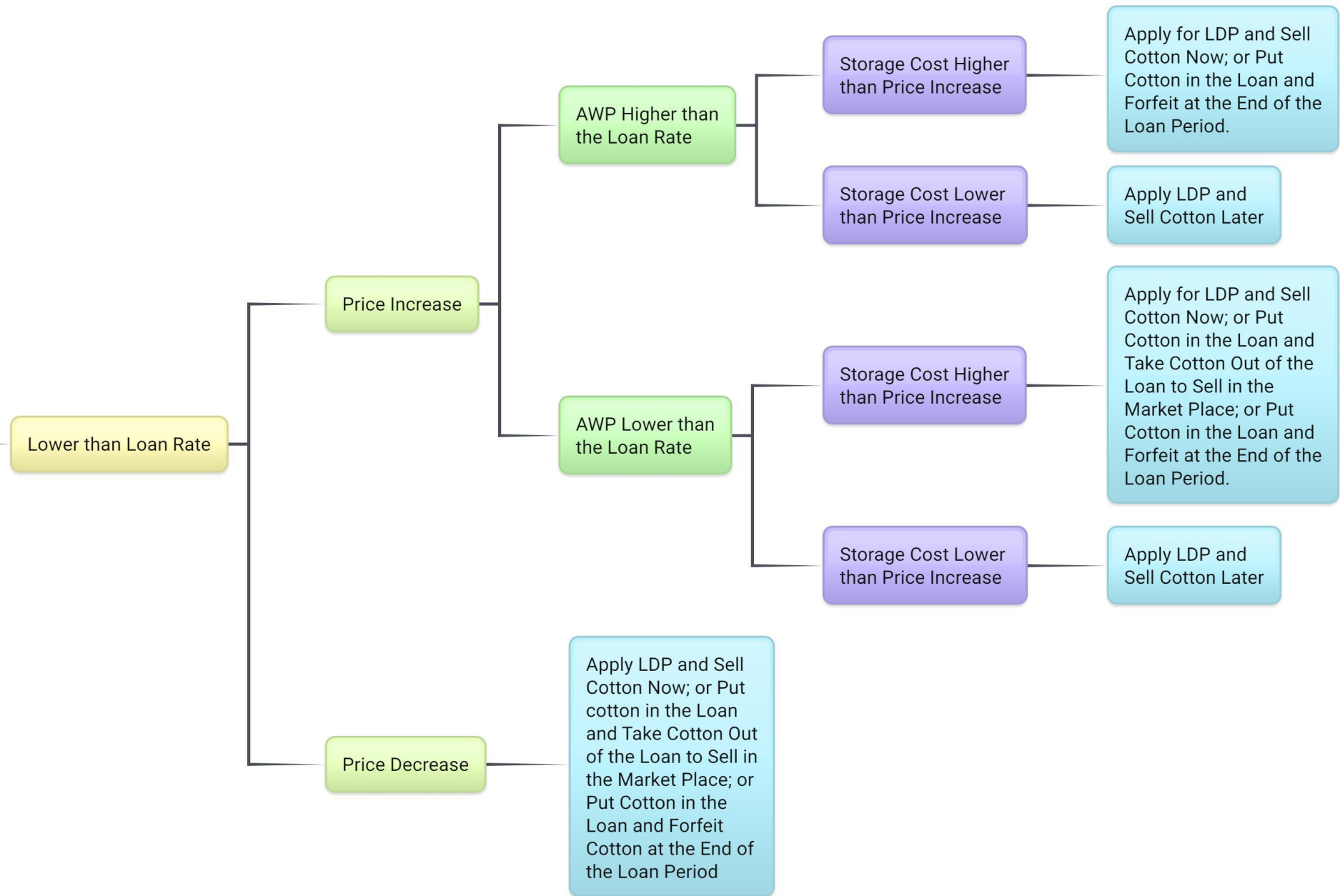


# Decision Tree for Making MAL or LDP Choices













# MAL or LDP

Decision depends on the storage costs and price expectations in the future



Applying for the LDP is a riskier move than putting the upland cotton in the loan

Putting cotton in the loan guarantees the minimum price received at the loan rate

If a producer is willing to take the risk and thinks that cotton prices are going to improve in the short term, then take the LDP

When prices increase, LDP can get a net return higher than the loan rate when the increase in sales price  $>$  storage costs

When prices drop, applying for the LDP = higher downside price risk for producers than putting the upland cotton in the loan

The producer who wants to apply for the LDP should monitor the market closely for the highest weekly LDP rate



# Eligibility

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Producers **MUST** meet eligibility requirements:

- Active engagement in farming and conservation compliance provisions
- Farmer must own the beneficial interest of a crop when the marketing loan benefit is taken





# Payment Limits

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Under the 2018 U.S. Farm Bill, the marketing loan benefits are no longer subject to annual payment limits (includes MLGs and LDPs)

Producers or legal entities whose adjusted gross income (AGI) exceeds \$900,000 are not eligible for MLGs and LDPs, but can use the commodity certificate exchange for commodity certificate exchange gains



# Commodity Loan Programs

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## Marketing Assistance Loans and Loan Deficiency Payments **FOR UPLAND COTTON**

Yangxuan Liu and Anukul Bhattarai, University of Georgia Department of Agricultural and Applied Economics  
John Robinson, Texas A&M University Department of Agricultural Economics

## Upland Cotton Marketing Using MAL and LDP: Which Option is Better?

Yangxuan Liu, University of Georgia Department of Agricultural and Applied Economics  
John Robinson, Texas A&M University Department of Agricultural Economics



Example 1: AWP higher  
than the loan rate

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# Example 1

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Assuming the current spot cash price for upland cotton is \$0.74 per pound, the loan rate is \$0.52 per pound, the interest charge for the loan is \$0.01 per pound per month, the storage cost is \$0.01 per pound per month, and the upland cotton price in the spot market increased to \$0.80 per pound a month later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.74
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price a Month Later</b>	0.80

# Example 1

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Option 1: Sell the upland cotton now in the spot market.

	<b>\$ Per Pound</b>
<b>Sales Price</b>	+ 0.74
<b>Net Return</b>	= 0.74

# Example 1

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Option 2: Sell the upland cotton in a month in the spot market without putting the upland cotton in the loan.

	<b>\$ Per Pound</b>
<b>Sales Price a Month Later</b>	+ 0.80
<b>1-Month Storage Cost</b>	- 0.01
<b>Net Return</b>	= 0.79



# Example 1

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Option 3: Put the upland cotton in the loan and then redeem and sell the upland cotton in the spot market a month later.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>Loan Rate (Repaid)</b>	- 0.52
<b>Accrued Interest</b>	- 0.01
<b>1-Month Storage Cost</b>	- 0.01
<b>Sales Price a Month Later</b>	+ 0.80
<b>Net Return</b>	= 0.78



# Summary for Example 1

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When the AWP is higher than the loan rate, an individual producer's practical choices are to sell upland cotton outside the loan or put upland cotton in the loan.

Producers that enroll their upland cotton in a marketing pool are effectively giving the pool responsibility for making those two choices.



# Summary for Example 1

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When the AWP is higher than the loan rate, putting cotton in the loan:

- The loan program lends money to cotton producers upfront at the loan rate. The need for cash flow upon harvest is the primary reason for putting cotton in the loan .
- The producer pays additional interest costs at redemption of the loan, which reduces the net return at redemption.
- It is not of the best interest for a cotton producer to use the commodity loan program if the producer does not need the immediate cash flow.



# Thank you!

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Questions?

**Feel free to contact me:**

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**Georgia Cotton Commission**

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# Appendix

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Example 2: AWP lower than the loan rate and decreases in the future

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## Example 2

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Assume the current AWP is \$0.46 per pound, the loan rate is \$0.52 per pound, the interest charge for the loan is \$0.01 per pound per month, the storage cost is \$0.01 per pound per month, and the future AWP decreases to \$0.42 per pound.

	<b>\$ Per Pound</b>
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Future AWP</b>	0.42



# Situation 1 – Additional Assumption

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Assume the current upland cotton price in the spot market is \$0.46 per pound and the producer decided to sell upland cotton now after applying for the LDP.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.46
<b>Net Return</b>	= 0.52





## Situation 2 – Additional Assumption

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Assume the current upland cotton price in the spot market is \$0.48 per pound and the producer decided to sell upland cotton now after applying for the LDP.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.48
<b>Net Return</b>	= 0.54



## Situation 3 – Additional Assumption

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Assume the current upland cotton price in the spot market is \$0.44 per pound and the producer decided to sell upland cotton now after applying for the LDP.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.44
<b>Net Return</b>	= 0.50



# Summary of Situation 1 – 3

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Situation 1: upland cotton is sold at the same price as the AWP, the net return for the producer is = to the loan rate.

Situation 2: upland cotton is sold higher than the AWP and the net return is higher than the loan rate.

Situation 3, upland cotton is sold lower than the AWP and producer will receive a net price lower than the loan rate.



# Situation 4 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it a month later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market decreased to \$0.42 per pound a month later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price a Month Later</b>	0.42
<b>Future AWP</b>	0.42



# Situation 4

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Option 1: Apply for the LDP now and then sell the upland cotton in the spot market a month later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.42
<b>1-Month Storage Cost</b>	- 0.01
<b>Net Return</b>	= 0.47



## Situation 4

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Option 2: Put the upland cotton in the loan now and then redeem and sell the upland cotton in the spot market a month later. The MLG is \$0.10 ( $\$0.52 - \$0.42 = \$0.10$ ) per pound.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>AWP a Month Later (Alternative Loan Repayment Rate)</b>	- 0.42
<b>Sales Price a Month Later</b>	+ 0.42
<b>Net Return</b>	= 0.52



# Situation 5 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it 9 months later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market decreased to \$0.42 per pound 9 months later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price 9 Months Later</b>	0.42
<b>Future AWP</b>	0.42



# Situation 5

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Option 1: Apply for the LDP now and then sell the upland cotton in the spot market 9 months later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.42
<b>9-Month Storage Cost</b>	- 0.09
<b>Net Return</b>	= 0.39





## Situation 5

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Option 2: Put the upland cotton in the loan now and then redeem and sell the upland cotton in the spot market 9 months later. The MLG is \$0.10 ( $\$0.52 - \$0.42 = \$0.10$ ) per pound.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>AWP 9 Month Later (Alternative Loan Repayment Rate)</b>	- 0.42
<b>Sales Price 9 Months Later</b>	+ 0.42
<b>Net Return</b>	= 0.52



## Situation 5

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Option 3: Put the upland cotton in the loan now and forfeit the loan at the end of the loan period. The net return will be at the loan rate of \$0.52 per pound. The forfeiture gain is \$0.10 ( $\$0.52 - \$0.42 = \$0.10$ ) per pound.



# Summary for Situation 4 and 5

## Option 1: Apply for the LDP and then sell the upland cotton in the spot market later

- The producer suffers from price loss and cost for storage which reduces the net return significantly below the loan rate.

## Option 2: Put cotton in the loan and then redeem and sell cotton in the spot market

- If the producer sells cotton at AWP using option 2, the net return is the same as the loan rate.
- If the producer sells cotton above AWP using option 2, then the net return will be above the loan rate.
- If the producer sells cotton below AWP using option 2, then the net return will be below the loan rate.

## Option 3: Put the upland cotton in the loan now and forfeit the loan at the end of the loan period

- Minimum net return at the loan rate is guaranteed for the producer.



## Summary for Example 2

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If the producer opts to take the LDP and forgo putting their upland cotton in the loan to minimize the loss, the producer should be prepared to sell their upland cotton as soon as possible.

If the producer chooses to store the upland cotton while upland cotton prices keep decreasing, the loan alternative will be a better option to mitigate the risk compared to applying for the LDP.



Example 3: AWP is lower than the loan rate and increases in the future but is still below the loan rate

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## Example 3

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Assume the current AWP is \$0.46 per pound, the loan rate is \$0.52 per pound, the interest charge for the loan is \$0.01 per pound per month, the storage cost is \$0.01 per pound per month, and the AWP in the future increases to \$0.50 per pound.



# Situation 1 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it a month later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market increased to \$0.50 per pound a month later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price a Month Later</b>	0.50
<b>Future AWP</b>	0.50



# Situation 1

---

Option 1: Apply for the LDP now and then sell the upland cotton in the spot market a month later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.50
<b>1-Month Storage Costs</b>	- 0.01
<b>Net Return</b>	= 0.55





# Situation 1

---

Option 2: Put the upland cotton in the loan now and then redeem and sell the upland cotton in the spot market a month later. The MLG is \$0.02 ( $\$0.52 - \$0.50 = \$0.02$ ) per pound.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>AWP (Alternative Loan Repayment Rate)</b>	- 0.50
<b>Sales Price</b>	+ 0.50
<b>Net Return</b>	= 0.52



## Situation 2 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it 9 months later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market increased to \$0.50 per pound 9 months later

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price 9 Month Later</b>	0.50
<b>Future AWP</b>	0.50



## Situation 2

---

Option 1: Apply for the LDP now and then sell the upland cotton in the spot market 9 months later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.50
<b>1-Month Storage Costs</b>	- 0.09
<b>Net Return</b>	= 0.47



## Situation 2

---

Option 2: Put the upland cotton in the loan now and then redeem and sell the upland cotton in the spot market 9 months later. The MLG is \$0.02 ( $\$0.52 - \$0.50 = \$0.02$ ) per pound.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>AWP (Alternative Loan Repayment Rate)</b>	- 0.50
<b>Sales Price</b>	+ 0.50
<b>Net Return</b>	= 0.52



## Situation 2

---

Option 3: Put the upland cotton in the loan now and forfeit the loan at the end of the loan period. The net return will be at the loan rate of \$0.52 per pound. The forfeiture gain is \$0.02 ( $\$0.52 - \$0.50 = \$0.02$ ) per pound.



## Summary for Example 3

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If the price increases quickly and the increase in price is higher than the storage costs, then it would be beneficial to take the LDP and sell the upland cotton in the spot market later.

If the producer anticipates that it might take a long time before the price recovers, then the producer should consider putting the upland cotton in the loan, which can provide storage credits for the producer when the AWP is below the loan rate.



Example 4: AWP lower than the loan rate and increases in the future to be higher than the loan rate

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## Example 4

---

Assume the current AWP is \$0.46 per pound, the loan rate is \$0.52 per pound, the interest charge for the loan is \$0.01 per pound per month, the storage cost is \$0.01 per pound per month, and the AWP in the future increases to \$0.65 per pound.





# Situation 1 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it a month later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market increased to \$0.65 per pound a month later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price a Month Later</b>	0.65
<b>Future AWP</b>	0.65



# Situation 1

---

Option 1: Apply for the LDP now and then sell the upland cotton in the spot market a month later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.65
<b>1-Month Storage Costs</b>	- 0.01
<b>Net Return</b>	= 0.70



# Situation 1

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Option 2: Put the upland cotton in the loan now and then redeem and sell the upland cotton in the spot market a month later.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>Loan Rate (Repaid)</b>	- 0.52
<b>1-Month Accrued Interest</b>	- 0.01
<b>1-Month Storage Costs</b>	- 0.01
<b>Sales Price</b>	+ 0.65
<b>Net Return</b>	= 0.63



## Situation 2 – Additional Assumption

Assume the producer decides to store the upland cotton and sell it 9 months later, the current upland cotton price in the spot market is \$0.46 per pound, and the upland cotton price in the spot market increased to \$0.65 per pound 9 months later.

	<b>\$ Per Pound</b>
<b>Current Price</b>	0.46
<b>Current AWP</b>	0.46
<b>Loan Rate</b>	0.52
<b>Interest Cost Per Month</b>	0.01
<b>Storage Cost Per Month</b>	0.01
<b>Sales Price 9 Month Later</b>	0.65
<b>Future AWP</b>	0.65



## Situation 2

---

Option 1: Apply for the LDP now and then sell the upland cotton in the spot market 9 months later.

	<b>\$ Per Pound</b>
<b>LDP</b>	+ 0.06
<b>Sales Price</b>	+ 0.65
<b>1-Month Storage Costs</b>	- 0.09
<b>Net Return</b>	= 0.62



## Situation 2

---

Option 2: Put the upland cotton in the loan now, redeem and sell the upland cotton in the spot market 9 months later.

	<b>\$ Per Pound</b>
<b>Loan Rate (Borrowed)</b>	+ 0.52
<b>Loan Rate (Repaid)</b>	- 0.52
<b>1-Month Accrued Interest</b>	- 0.09
<b>1-Month Storage Costs</b>	- 0.09
<b>Sales Price</b>	+ 0.65
<b>Net Return</b>	= 0.47



## Situation 2

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Option 3: Put the upland cotton in the loan now and forfeit the loan at the end of the loan period. The net return will be at the loan rate of \$0.52 per pound.

# Summary of Example 4

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If the producer anticipates that the upland cotton prices will increase above the loan rate and the increase in prices will be higher than the storage costs, then it is beneficial for the producer to take the LDP and sell the upland cotton in the spot market at a later date.

If the upland cotton price increases above the loan rate but the amount of the increase is lower than the storage costs, then the producer should apply for the LDP and sell the upland cotton immediately, or forfeit their upland cotton to the loan program.