Business Management In Agriculture

Using Agricultural Options

A joint project of the Cooperative Extension Service,
Farm Credit and Chicago Mercantile Exchange

Futures Option Contract

The right to buy or sell something at a certain price within a certain time.

- The buyer purchases the right of choice.
- The seller trades or transfers the right of choice for a premium.

Put Option

Puts are for people who "put commodities on the market"

Put Option

Calls are for people who "call commodities off the market"

Put option contracts protect producers against price declines

Call option contracts protect buyers from higher prices

Call

Buyer can accept a *buy position* at the strike price.

Put

Buyer can accept a *sell position* at the strike price.

Put

Purchaser can *sell* at the strike price.

Call

Purchaser can *buy* at the strike price.

In-The-Money Puts

Strike price > Futures price

At-The-Money Puts

Strike = Futures price

Out-Of-The-Money Puts

Futures price > Strike price

In-The-Money Calls

Futures price > Strike price

At-The-Money Calls

Strike price = Futures price

Out-Of-The-Money Calls

Strike price > Futures price

Expect Higher Premiums When:

- Strike prices are in-the-money
- Expiration dates are far away
- Underlying commodity cash/futures prices are volatile

Option Buyers

- Can lose only the option premium

Option Sellers

- Take price risk
- Must maintain margin accounts

Option Buyer Must:

- Exercise contract
- Offset - sell at a like contract
- Let contract expire

Option Seller Must:

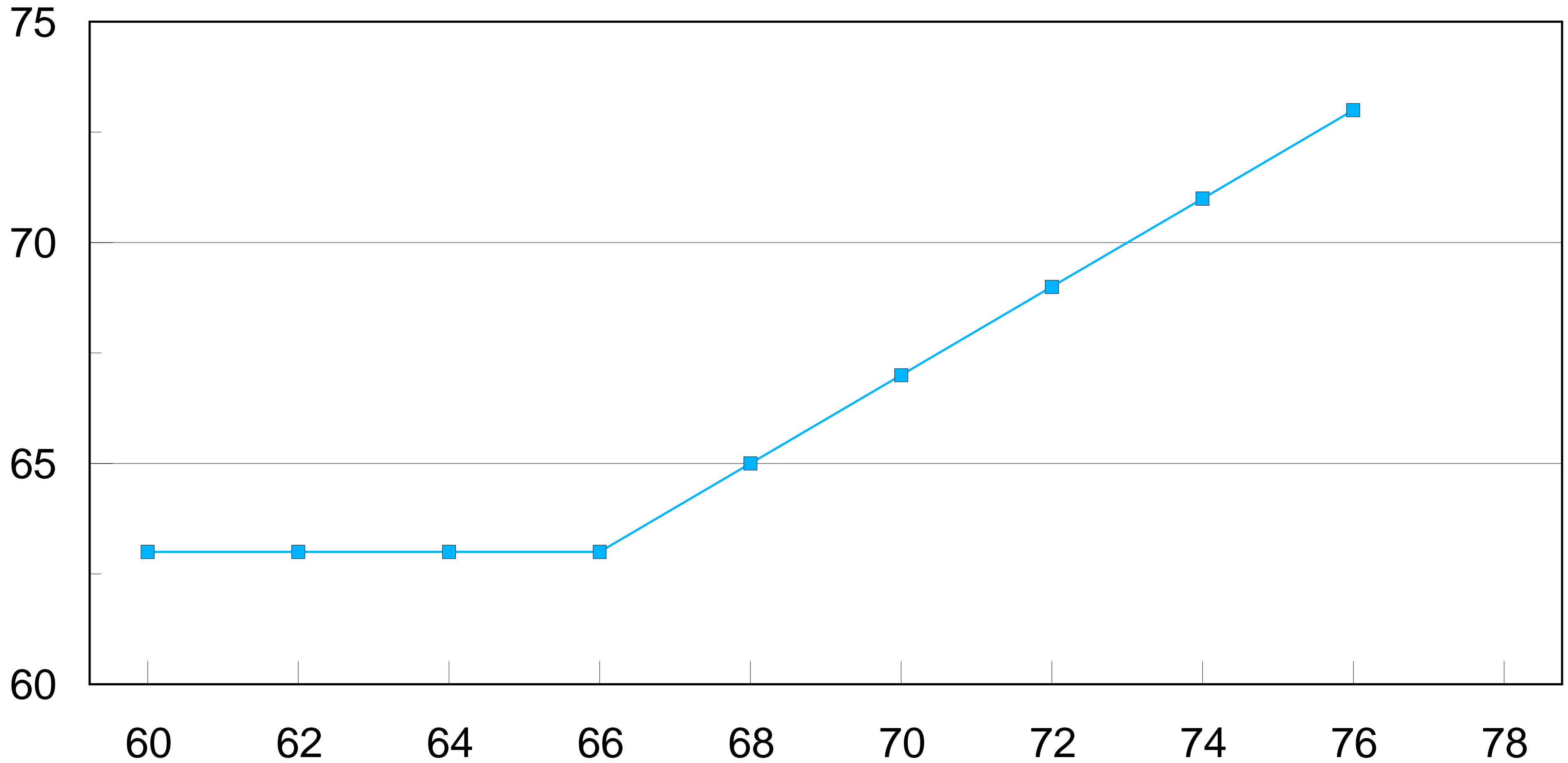
- Deliver underlying futures contract
- Offset - buy a like contract
- Do nothing; keep the premium

Set A Minimum Price

1. Establish a strike price
2. Determine the premium
3. Estimate the basis
4. Determine fees and interest

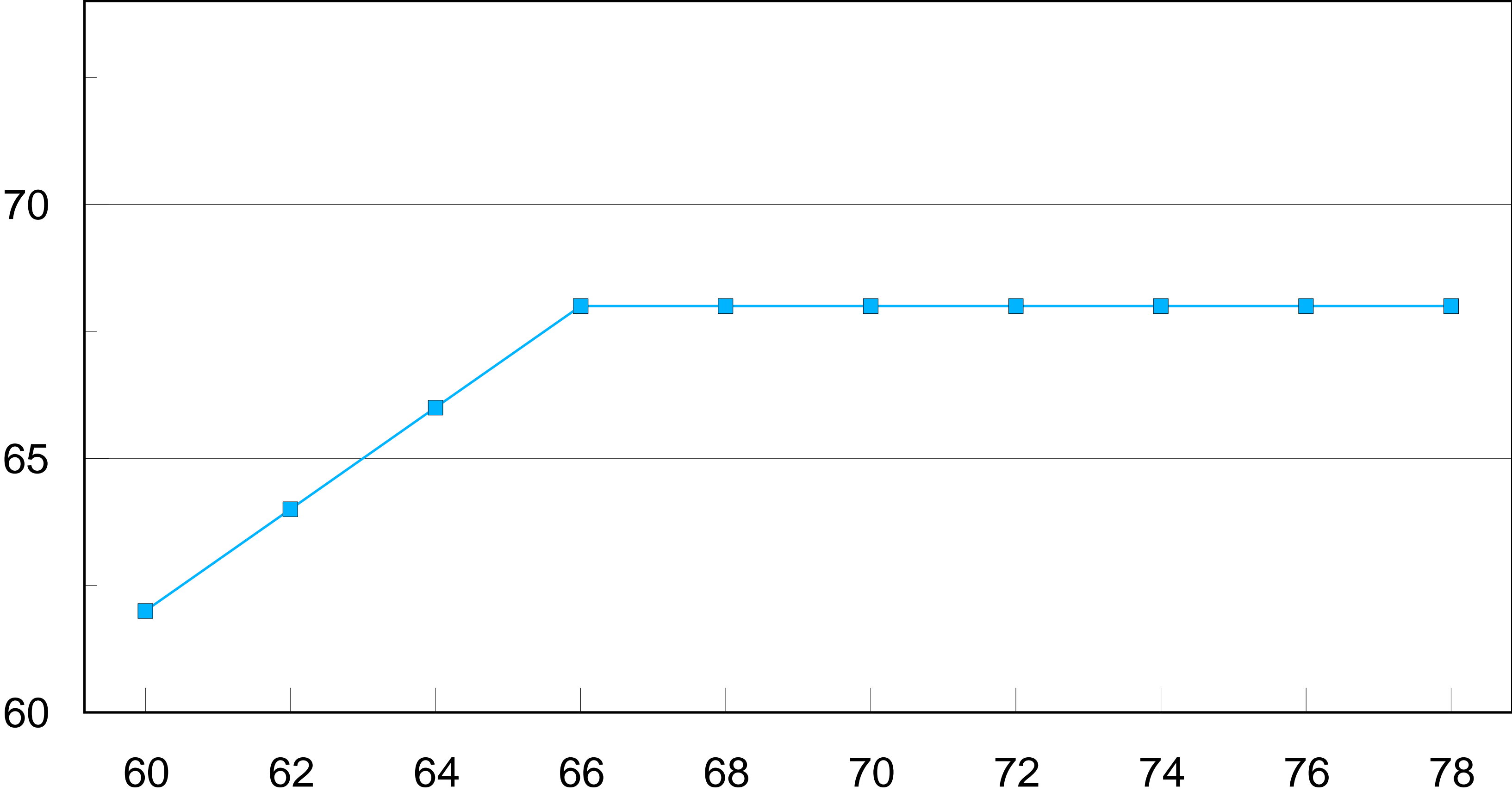
Set A Minimum Price

Strike price	$66.00
Premium	- 3.00
Basis	0
Fees/interest	0
Minimum price	$63.00

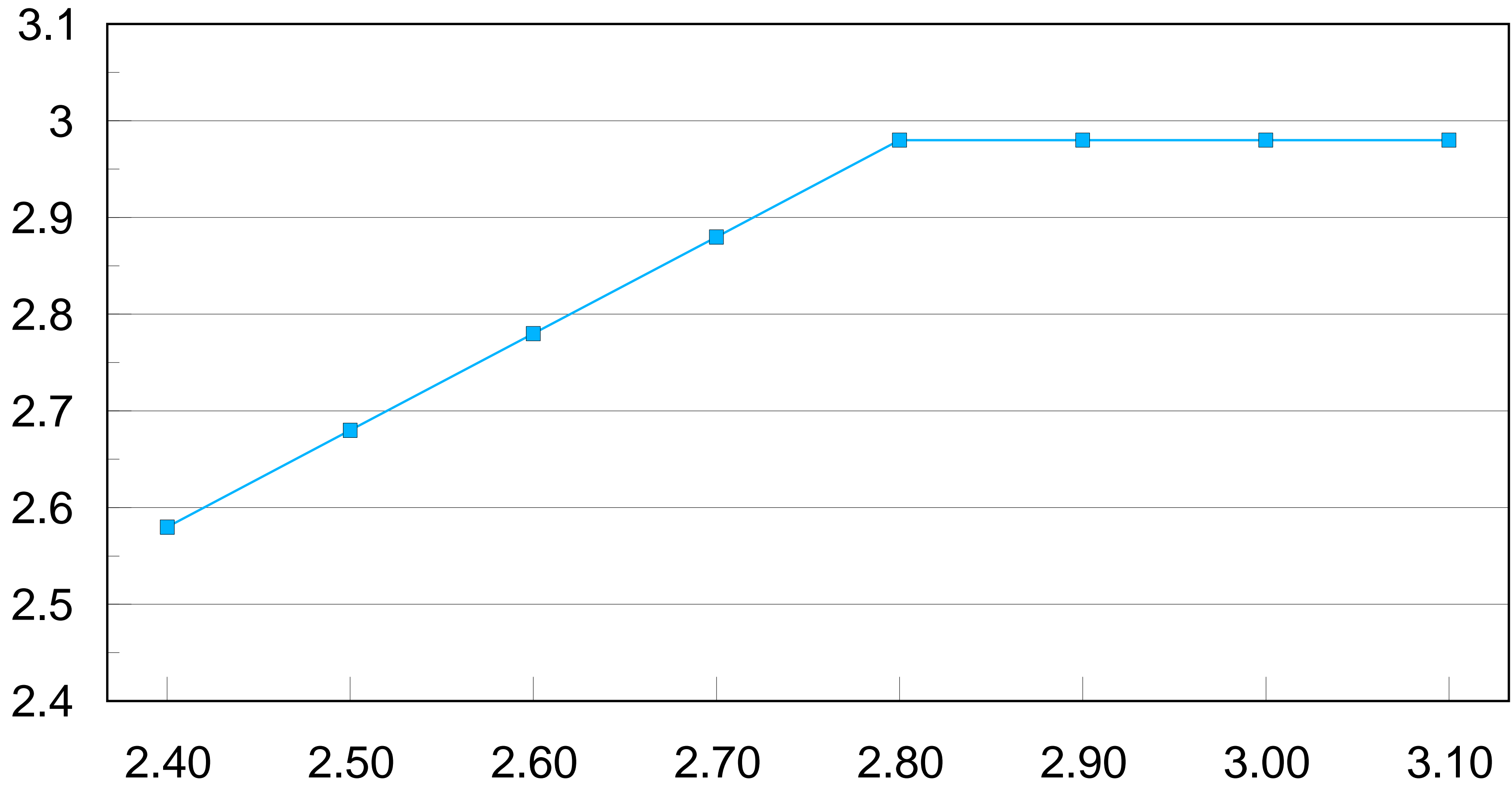

Purchase a $66 Put
$3 Premium
Cash ($)
75
70
65
60
60
62
64
66
68
70
72
74
76
78
Futures ($)
Assumes zero basis and fees

Cost Of The Contract

Premium	$3.00
Contract size (440 cwt)	x 440
	$1,320



Sell $66 Call
$2 Premium
Cash ($)
70
65
60
60
62
64
66
68
70
72
74
76
78
Futures ($)
Assumes zero basis and fees


Purchase $2.80 Call
Premium $.18/bu.
Cash ($)
3.1
3
2.9
2.8
2.7
2.6
2.5
2.4
2.40
2.50
2.60
2.70
2.80
2.90
3.00
3.10
Futures ($)
Assumes zero basis and fees

Synthetic Put

Convert a forward contract or short (sell) hedge to a minimum price

Synthetic Call

Convert a forward contract or long (buy) hedge to a price ceiling

Floor Price Calculation

Cash contract price	$74.00
Call premium	- 1.60
Fees/interest	- 0.30
Minimum price	$72.10

If Futures Prices Go Up to $76

Cash contract price	$74.00
Call premium	- 1.60
Fees/interest	- 0.30
Minimum price	$72.10
Intrinsic value of $70 call	$ 6.00
Net Price	$78.00

Hedge

"Short" futures	$72.40
Basis	+2.00
Fees/interest	-0.40
Hedge price	$74.00

Maximum Price With A Synthetic Call

Cash contract price	$2.58
Put premium	-0.05
Fees/interest	-0.02
Maximum price	$2.65

If Prices Drop

Cash price	$46.00
Option premium	+6.00
Window cost	-0.40
Net price (floor)	$51.60

If Prices Rise

Cash price	$60.00
Option premium	-4.00
Window cost	-0.40
Net price (ceiling)	$55.60

Windows

Advantages

- Cheaper than buying a put or call

Disadvantages

- Don't receive premium until offset occurs
- Must maintain margin account

Hedgers must know:

- Cost of production or storage
- Contract specifications
- Local basis
- Knowledgeable broker and lender
- Marketing plan and goals