# Determination of Productivity Summer Fallow Farm Land*

*The determination of productivity for non-irrigated continuously cropped farm land uses the same techniques and methodologies.


Rosebud County
#86, Forelle, warm Gerdrum complex 2% to 8% slopes
#35, Bonfri-Marmarth-Bullock fine sandy loams 1% to 4% slopes
#89, Gerdrum clay loam 2% to 8% slopes

# Rosebud County

## Map Unit Symbol 35

| | |
|---|---|
| Acres | 18.98 |
| NRCS soil survey productivity | 16.93 |
| County Fallow adjustment factor | x 0.88 |
| DOR Fallow productivity value | 14.90 |

## Map Unit Symbol 86

| | |
|---|---|
| **Acres** | **127.516** |
| **NRCS soil survey productivity** | **24.76** |
| **County Fallow adjustment factor** | **x 0.88** |
| **DOR Fallow productivity value** | **21.79** |

## Map Unit Symbol 89

| | |
|---|---|
| Acres | 13.50 |
| NRCS soil survey productivity | 10.97 |
| County Fallow adjustment factor | x 0.88 |
| DOR Fallow productivity value | 9.65 |

NRCS productivity values based on non-irrigated spring wheat, bushels per acre

# Statutory Agricultural Land Valuation Formula

To determine the value of Summer Fallow farm land

Value = Income/Rate (V=I/R)

Adjusted Production = 21.79 bushels per acre (bu/ac)
Price per bushel = $4.58
Gross Income/acre = $99.80 (21.79 X $4.58 = $99.80,rounded)
Crop Share* = 12.5%

Net Income/acre = $12.48 ($99.80 X .125 = $12.48)

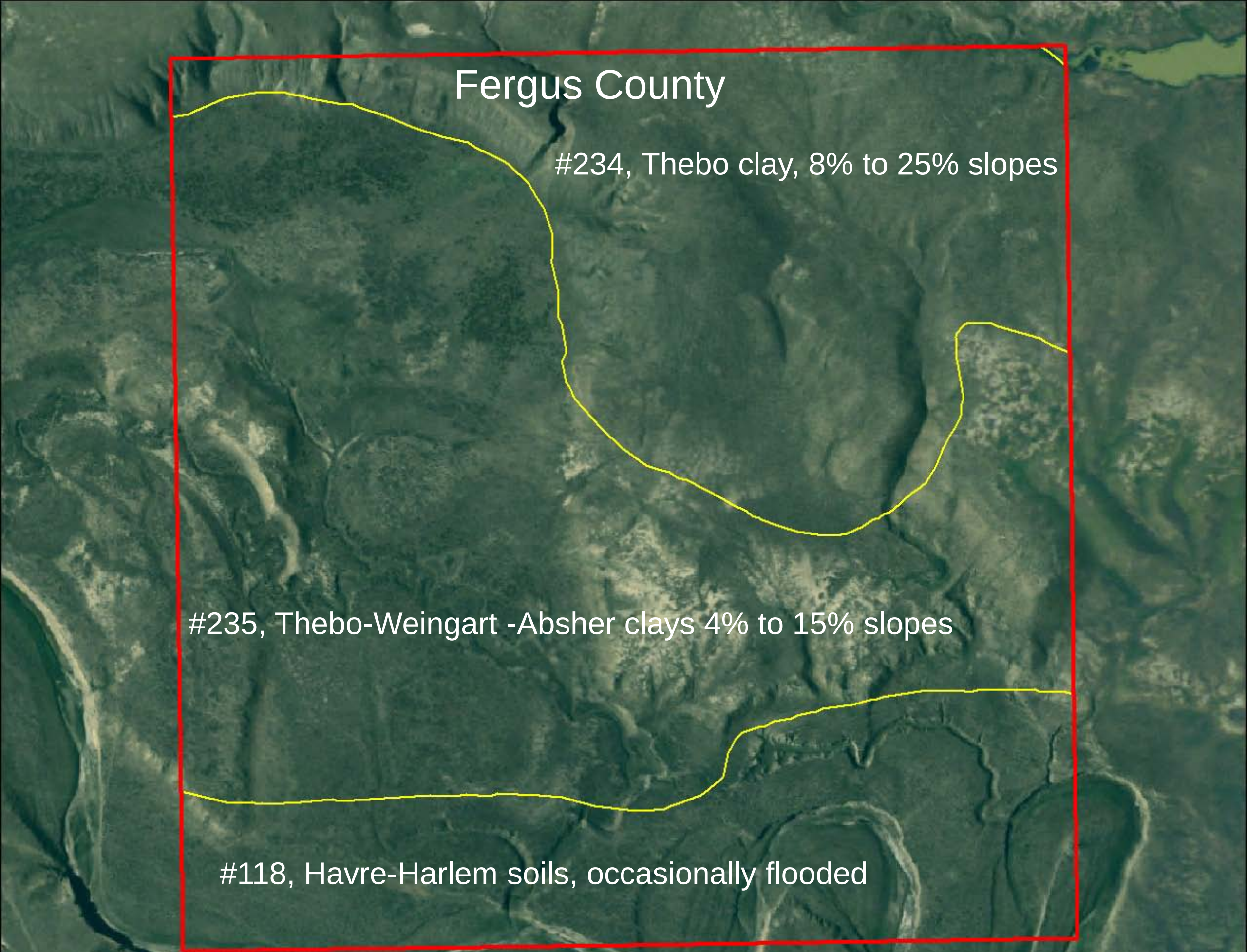
Statutory Cap Rate = 6.4%

Value Per Acre = $195 ($12.48 ÷ 6.4% = $195)

•The typical crop share for non-irrigated farm land is 25%. In the department's description of non-irrigated summer fallow farm land farming practices, the crop is produced every other year. To reflect the receipt of income, the typical 25% crop share is divided by 2 effectively spreading the income over a 2 year period.

•For non-irrigated continuously cropped farm land, the department's description of the farming practice recognizes that income is received every year. The crop share for non-irrigated continuously cropped farm land is 25%. All other valuation inputs are the same.

# Determination of Productivity Grazing Land


Fergus County
#234, Thebo clay, 8% to 25% slopes
#235, Thebo-Weingart -Absher clays 4% to 15% slopes
#118, Havre-Harlem soils, occasionally flooded

# Fergus County

## Map Unit Symbol/Soil 234

Acres 46.58

NRCS Normal precipitation year dry-weight production 875
NRCS Below Normal precipitation year dry-weight production 670
Average dry-weight production (875 + 670) / 2 = 772.5
Convert dry-weight production to AUM's (772.5 X 0.25) / 915 = 0.21
Grazing AUM/Ac productivity = 0.21

## Map Unit Symbol/Soil 235

Acres 80.58

NRCS Normal precipitation year dry-weight production 890
NRCS Below Normal precipitation year dry-weight production 605
Average dry-weight production (890 + 605) / 2 = 747.5
Convert dry-weight production to AUM's (747.5 X 0.25) / 915 = 0.20
Grazing AUM/Ac productivity = 0.20

## **Map Unit Symbol/Soil 118**

**Acres 32.85**

**NRCS Normal precipitation year dry-weight production 1689**
**NRCS Below Normal year dry-weight production 1291**
**Average dry-weight production (1689 + 1291) / 2 = 1490**
**Convert dry-weight production to AUM's (1490 X 0.25) / 915 = 0.41**
**Grazing AUM/Ac productivity = 0.41**

NRCS dry-weight production values based on pounds of air-dry herbage per acre

# Statutory Agricultural Land Valuation Formula

To determine the value of Grazing land

Value = Income/Rate (V=I/R)

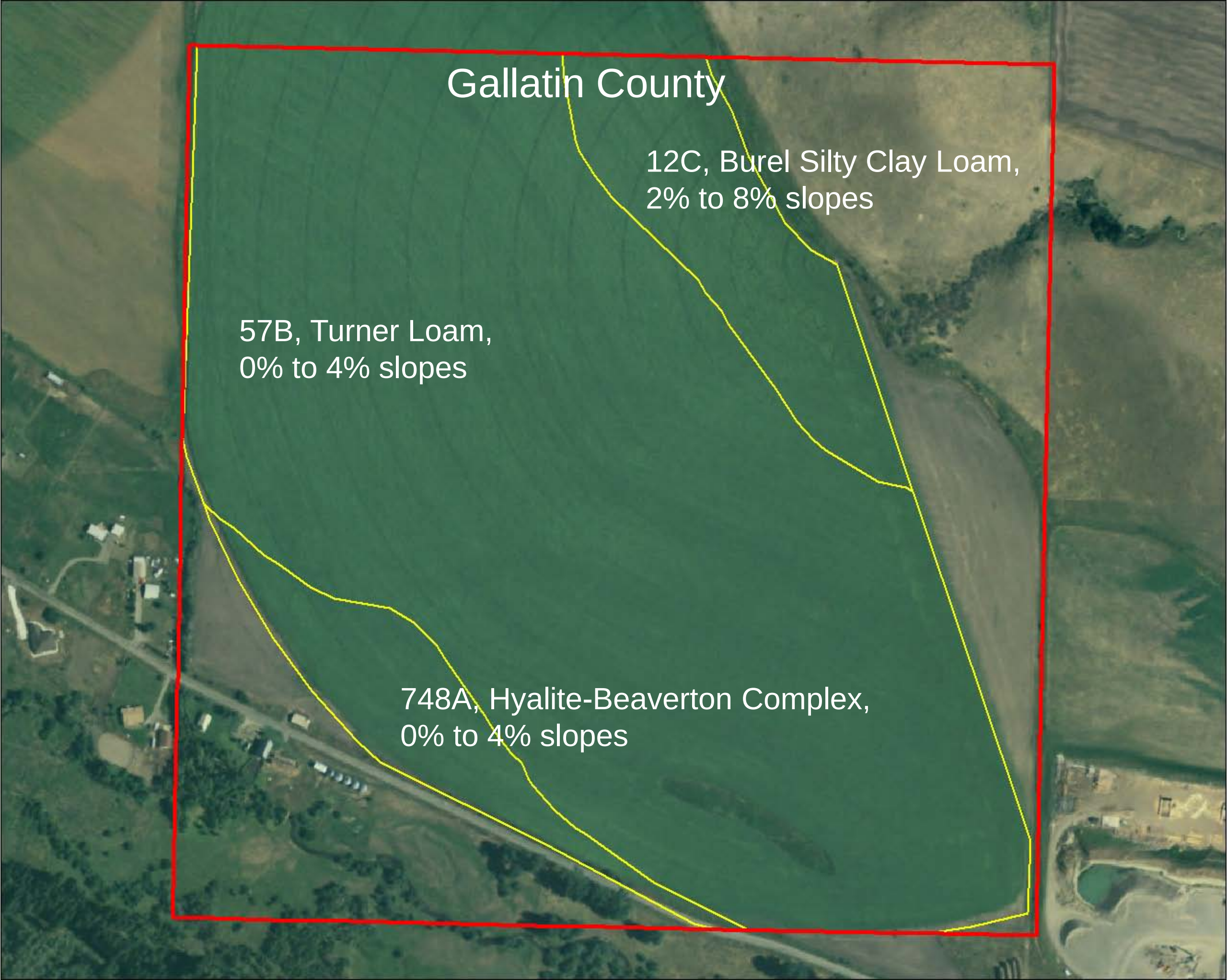
Carrying Capacity = .41 animal unit months per acre (AUM/Ac)
Rent per AUM = $15.72
Expense Adjustment = 25%
Adjusted Rent/AUM = $11.79
($15.72 X .25 = $3.93; $15.72 – $3.93 = $11.79)

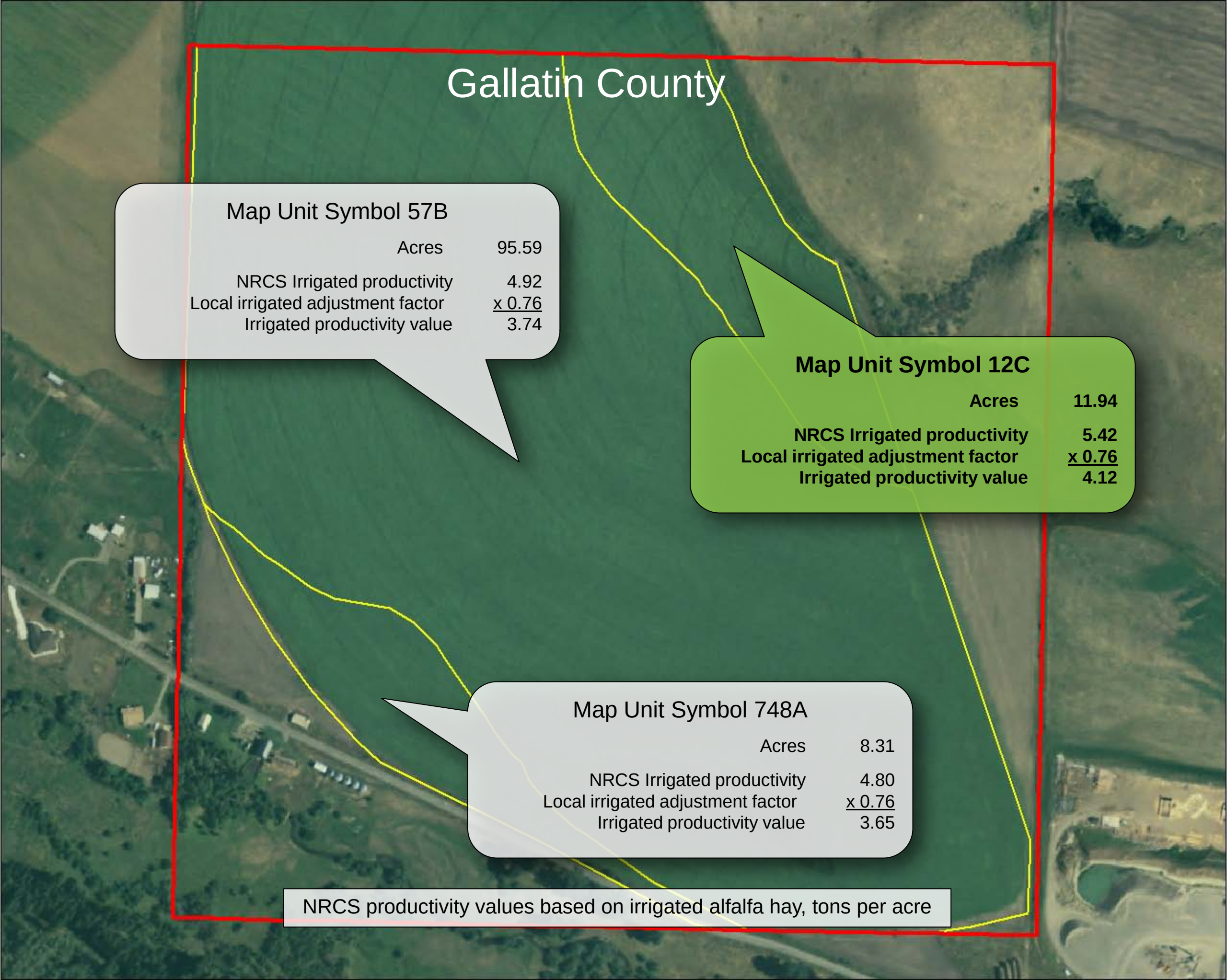
Net Income/acre = $4.83 (.41 X $11.79 = $4.83,rounded)

Statutory Cap Rate = 6.4%

Value Per Acre = $75.47 ($4.83 ÷ 6.4% = $75.47, rounded)

# Determination of Productivity Irrigated Land


Gallatin County
12C, Burel Silty Clay Loam,
2% to 8% slopes
57B, Turner Loam,
0% to 4% slopes
748A, Hyalite-Beaverton Complex,
0% to 4% slopes


Gallatin County
Map Unit Symbol 57B
Acres 95.59
NRCS Irrigated productivity 4.92
Local irrigated adjustment factor x 0.76
Irrigated productivity value 3.74
Map Unit Symbol 12C
Acres 11.94
NRCS Irrigated productivity 5.42
Local irrigated adjustment factor x 0.76
Irrigated productivity value 4.12
Map Unit Symbol 748A
Acres 8.31
NRCS Irrigated productivity 4.80
Local irrigated adjustment factor x 0.76
Irrigated productivity value 3.65
NRCS productivity values based on irrigated alfalfa hay, tons per acre

# Statutory Agricultural Land Valuation Formula

To determine the value of Irrigated farm land

Value = Income/Rate (V=I/R)

Adjusted Production = 4.12 tons/acre
Price per ton = $63.04
Gross Income/acre = $259.72 (4.12 X $63.04 = $259.72,rounded)
Crop Share = 25%
Net Income/Ac = $64.93

Water Allowance*:

| | |
|---|---|
| Labor, Pivot Irrigation | $ 5.00 per acre |
| Base Cost | $15.00 per acre |
| Energy Cost | $15.00 per acre |
| Total Water Allowance | $35 per acre |

Net Income to Landowner/ac = $29.93 ($64.93 - $35.00 =$29.93 )

Statutory Cap Rate = 6.4%

Value Per Acre = $467.66 ($29.93 ÷ 6.4% = $467.66)

*Exclusive for Irrigated Land