# APPENDIX 7

Average Crop Budgets in Consecutive Order of Sample Farm:

Apple
Apricot
Barley, winter
Cotton, pima
Cotton, upland
Cucurbits
Gram, green
Lucerne, mature
Lucerne, mixed
Maize, grain
Maize, silage
Oats
Onion
Rice
Sorghum
Sugarbeet
Sunflower
Tobacco
Wheat, spring
Wheat, winter

# WUFMAS database Average Crop Budget

**FARM: 3 Zhambul**

Crop: Wheat, winter Field area 6.25 ha

## GROSS OUTPUT

| Crop and production name | 1 Product | 2 Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 3.07 | 140.00 | 430.08 |

**Total gross output in $/ha 430.08**

## Variable costs

| Input | Units | Qty (US$/unit) | Price (US$/ha) | Cost, (US$/ha) |
|---|---|---|---|---|
| Applied agrochem, fertilizers & biological control | kg | 282.24 | 0.09 | 25.40 |
| Labour use | man-hrs | 23.90 | 0.25 | 6.00 |
| Planting | kg | 118.40 | 0.42 | 49.73 |
| Machinery use | Mach-hrs | 7.70 | 18.00 | 294.48 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 6 |
| Total machinery cost (US$/ha): | 294 |
| Total agrochem and fertiliser cost (US$/ha): | 25 |
| Total seed cost for (US$/ha): | 50 |
| **Grand total variable cost for crop in field** | **376** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **54** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **1008%** |
| machinery: | **118%** |
| agrochemicals: | **314%** |
| Return to working capital: | **15%** |

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# WUFMAS database Average Crop Budget

## FARM: 4 Pakhtaral

Crop: Wheat, winter Field area 7.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.21 | 5.00 | 6.07 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.50 | 140.00 | 350.00 |

**Total gross output in $/ha** **356.07**

## 2.1 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 2.36 | 0.25 | 0.59 |
| Planting | kg | 250.00 | 0.42 | 105.00 |
| Machinery use | Mach-hrs | 3.72 | 14.94 | 69.83 |
| Irrigation water | tcm | 0.93 | 2.11 | 1.95 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 70 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 105 |
| **Grand total variable cost for crop in field** | **177** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **179** |
| Return to water (US$/tcm): | **90** |
| Return to inputs as % | |
| water: | **9249%** |
| labour: | **30325%** |
| machinery: | **356%** |
| agrochemicals: | |
| Return to working capital: | **101%** |

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# WUFMAS database Average Crop Budget

## FARM: 7 Rasviet

Crop: Wheat, winter Field area 78.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.88 | 5.00 | 9.38 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.90 | 139.00 | 263.67 |
| Wheat, winter - fresh seeds (for planting) | 3.00 | 325.00 | 975.00 |

**Total gross output in $/ha** **1248.05**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 9.09 | 16.38 | 168.44 |
| Labour use | man-hrs | 18.19 | 0.08 | 1.42 |
| Irrigation water | tcm | 2.26 | 8.85 | 19.98 |
| Planting | kg | 460.00 | 0.40 | 184.00 |
| Applied agrochem, fertilizers & biological control | kg | 129.15 | 2.91 | 26.28 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 20 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 168 |
| Total agrochem and fertiliser cost (US$/ha): | 26 |
| Total seed cost for (US$/ha): | 184 |
| **Grand total variable cost for crop in field** | **400** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **848** |
| Return to water (US$/tcm): | **41** |
| Return to inputs as % | |
| water: | **4343%** |
| labour: | **59905%** |
| machinery: | **603%** |
| agrochemicals: | **3327%** |
| Return to working capital: | **212%** |

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# WUFMAS database Average Crop Budget

## FARM: 8 Expt farm

Crop: Wheat, winter Field area 38.90 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 2.02 | 5.00 | 10.09 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.21 | 325.00 | 717.28 |

**Total gross output in $/ha 727.37**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 9.66 | 16.84 | 180.22 |
| Applied agrochem, fertilizers & biological control | kg | 0.53 | 10.00 | 5.28 |
| Planting | kg | 610.24 | 0.40 | 244.10 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 180 |
| Total agrochem and fertiliser cost (US$/ha): | 5 |
| Total seed cost for (US$/ha): | 244 |
| **Grand total variable cost for crop in field** | **430** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **298** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | |
| machinery: | **265%** |
| agrochemicals: | **5736%** |
| Return to working capital: | **69%** |

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# WUFMAS database Average Crop Budget

## FARM: 9 Sadikov

Crop: Wheat, winter Field area 27.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 3.16 | 5.00 | 15.81 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 4.07 | 139.00 | 565.36 |

**Total gross output in $/ha** **581.17**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Applied agrochem, fertilizers & biological control | kg | 412.50 | 0.16 | 66.00 |
| Irrigation water | tcm | 2.12 | 8.85 | 18.74 |
| Labour use | man-hrs | 73.63 | 0.08 | 5.74 |
| Machinery use | Mach-hrs | 10.44 | 13.40 | 159.45 |
| Planting | kg | 226.88 | 0.40 | 90.75 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 19 |
| Total labour cost (US$/ha): | 6 |
| Total machinery cost (US$/ha): | 159 |
| Total agrochem and fertiliser cost (US$/ha): | 66 |
| Total seed cost for (US$/ha): | 91 |
| **Grand total variable cost for crop in field** | **341** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **240** |
| Return to water (US$/tcm): | **12** |
| Return to inputs as % | |
| water: | **1383%** |
| labour: | **4291%** |
| machinery: | **251%** |
| agrochemicals: | **464%** |
| Return to working capital: | **71%** |

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# WUFMAS database Average Crop Budget

## FARM: 10 Cotton Expt

Crop: Wheat, winter Field area 5.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.68 | 5.00 | 8.40 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.10 | 139.00 | 291.90 |

**Total gross output in $/ha** **300.30**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 5.20 | 15.77 | 104.12 |
| Planting | kg | 267.40 | 0.40 | 106.96 |
| Irrigation water | tcm | 1.97 | 8.85 | 17.46 |
| Labour use | man-hrs | 16.20 | 0.08 | 1.26 |
| Applied agrochem, fertilizers & biological control | kg | 250.00 | 0.16 | 40.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 17 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 104 |
| Total agrochem and fertiliser cost (US$/ha): | 40 |
| Total seed cost for (US$/ha): | 107 |
| **Grand total variable cost for crop in field** | **270** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **30** |
| Return to water (US$/tcm): | **1** |
| Return to inputs as % | |
| water: | **275%** |
| labour: | **2515%** |
| machinery: | **129%** |
| agrochemicals: | **176%** |
| Return to working capital: | **11%** |

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# WUFMAS database Average Crop Budget

## FARM: 14 1st May(Sahovat)

Crop: Wheat, winter Field area 35.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 3.50 | 5.00 | 17.51 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.95 | 99.00 | 193.05 |

**Total gross output in $/ha 210.56**

## 2.2 Variable costs

| Input | Units | Qty | Price | Cost |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Labour use | man-hrs | 20.91 | 0.02 | 0.42 |
| Irrigation water | tcm | 2.00 | 0.65 | 1.30 |
| Applied agrochem, fertilizers & biological control | kg | 200.00 | 0.09 | 18.00 |
| Machinery use | Mach-hrs | 12.01 | 19.44 | 371.73 |
| Planting | kg | 365.37 | 0.05 | 19.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 372 |
| Total agrochem and fertiliser cost (US$/ha): | 18 |
| Total seed cost for (US$/ha): | 19 |
| **Grand total variable cost for crop in field** | **410** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-200** |
| Return to water (US$/tcm): | **-155** |
| Return to inputs as % | |
| water: | **-15305%** |
| labour: | **-47257%** |
| machinery: | **46%** |
| agrochemicals: | **-1011%** |
| Return to working capital: | **-49%** |

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# WUFMAS database Average Crop Budget

## FARM: 17 Teze Durmus

Crop: Wheat, winter Field area 27.90 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.10 | 5.00 | 5.49 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.24 | 84.00 | 103.87 |

**Total gross output in $/ha** **109.36**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 202.50 | 0.09 | 18.23 |
| Irrigation water | tcm | 1.51 | 0.00 | 0.00 |
| Labour use | man-hrs | 7.93 | 0.06 | 0.45 |
| Planting | kg | 202.38 | 0.08 | 17.00 |
| Machinery use | Mach-hrs | 10.18 | 10.52 | 117.73 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 118 |
| Total agrochem and fertiliser cost (US$/ha): | 18 |
| Total seed cost for (US$/ha): | 17 |
| **Grand total variable cost for crop in field** | **153** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-44** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **-9626%** |
| machinery: | **63%** |
| agrochemicals: | **-142%** |
| Return to working capital: | **-29%** |

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# WUFMAS database Average Crop Budget

## FARM: 18 Murgap

Crop: Wheat, winter Field area 33.70 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.10 | 84.00 | 176.79 |

**Total gross output in $/ha** **176.79**

## 2.3 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Applied agrochem, fertilizers & biological control | kg | 150.00 | 0.09 | 13.50 |
| Planting | kg | 201.56 | 0.08 | 16.93 |
| Machinery use | Mach-hrs | 7.69 | 12.97 | 96.98 |
| Labour use | man-hrs | 9.27 | 0.06 | 0.53 |
| Irrigation water | tcm | 0.92 | 0.00 | 0.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 97 |
| Total agrochem and fertiliser cost (US$/ha): | 14 |
| Total seed cost for (US$/ha): | 17 |
| **Grand total variable cost for crop in field** | **128** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **49** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **9320%** |
| machinery: | **150%** |
| agrochemicals: | **462%** |
| Return to working capital: | **38%** |

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# WUFMAS database Average Crop Budget

## FARM: 21 Berdeyev

Crop: Wheat, winter Field area 49.10 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.19 | 5.00 | 5.96 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.77 | 121.00 | 213.89 |

**Total gross output in $/ha 219.85**

## 2.4 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 312.85 | 0.44 | 137.65 |
| Applied agrochem, fertilizers & biological control | kg | 488.98 | 3.77 | 76.78 |
| Irrigation water | tcm | 0.64 | 0.71 | 0.45 |
| Labour use | man-hrs | 96.47 | 0.11 | 10.40 |
| Machinery use | Mach-hrs | 14.06 | 13.92 | 289.82 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 10 |
| Total machinery cost (US$/ha): | 290 |
| Total agrochem and fertiliser cost (US$/ha): | 77 |
| Total seed cost for (US$/ha): | 138 |
| **Grand total variable cost for crop in field** | **515** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-295** |
| Return to water (US$/tcm): | **-655** |
| Return to inputs as % | |
| water: | **-65349%** |
| labour: | **-2739%** |
| machinery: | **-2%** |
| agrochemicals: | **-285%** |
| Return to working capital: | **-57%** |

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# WUFMAS database Average Crop Budget

## FARM: 22 Talashkan

Crop: Wheat, winter Field area 64.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.55 | 121.00 | 187.23 |

**Total gross output in $/ha** **187.23**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Irrigation water | tcm | 1.03 | 0.71 | 0.73 |
| Labour use | man-hrs | 62.60 | 0.11 | 6.75 |
| Machinery use | Mach-hrs | 7.27 | 17.17 | 118.83 |
| Planting | kg | 695.49 | 0.44 | 306.01 |
| Applied agrochem, fertilizers & biological control | kg | 1071.42 | 0.14 | 131.30 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 7 |
| Total machinery cost (US$/ha): | 119 |
| Total agrochem and fertiliser cost (US$/ha): | 131 |
| Total seed cost for (US$/ha): | 306 |
| **Grand total variable cost for crop in field** | **564** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-376** |
| Return to water (US$/tcm): | **-514** |
| Return to inputs as % | |
| water: | **-51169%** |
| labour: | **-5478%** |
| machinery: | **-217%** |
| agrochemicals: | **-187%** |
| Return to working capital: | **-67%** |

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# WUFMAS database Average Crop Budget

## FARM: 23 G. Gulyam

Crop: Wheat, winter Field area 42.56 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 5.16 | 5.00 | 25.81 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.48 | 121.00 | 299.48 |

**Total gross output in $/ha 325.29**

## 2.5 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Planting | kg | 248.75 | 0.44 | 109.45 |
| Applied agrochem, fertilizers & biological control | kg | 599.58 | 1.63 | 91.65 |
| Irrigation water | tcm | 0.43 | 0.71 | 0.30 |
| Labour use | man-hrs | 18.85 | 0.11 | 2.03 |
| Machinery use | Mach-hrs | 8.00 | 35.70 | 188.44 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 188 |
| Total agrochem and fertiliser cost (US$/ha): | 92 |
| Total seed cost for (US$/ha): | 109 |
| **Grand total variable cost for crop in field** | **392** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-67** |
| Return to water (US$/tcm): | **-221** |
| Return to inputs as % | |
| water: | **-21928%** |
| labour: | **-3177%** |
| machinery: | **65%** |
| agrochemicals: | **27%** |
| Return to working capital: | **-17%** |

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# WUFMAS database Average Crop Budget

## FARM: 24 Timur Malik

Crop: Wheat, winter Field area 18.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 3.87 | 5.00 | 19.36 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.26 | 121.00 | 273.80 |

**Total gross output in $/ha 293.16**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 14.10 | 20.70 | 342.16 |
| Labour use | man-hrs | 53.59 | 0.11 | 5.78 |
| Irrigation water | tcm | 0.52 | 0.71 | 0.37 |
| Planting | kg | 252.68 | 0.44 | 111.18 |
| Applied agrochem, fertilizers & biological control | kg | 561.71 | 3.06 | 98.06 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 6 |
| Total machinery cost (US$/ha): | 342 |
| Total agrochem and fertiliser cost (US$/ha): | 98 |
| Total seed cost for (US$/ha): | 111 |
| **Grand total variable cost for crop in field** | **558** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-264** |
| Return to water (US$/tcm): | **-715** |
| Return to inputs as % | |
| water: | **-71321%** |
| labour: | **-4477%** |
| machinery: | **23%** |
| agrochemicals: | **-170%** |
| Return to working capital: | **-47%** |

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# WUFMAS database Average Crop Budget

## FARM: 25 A. Navoi

Crop: Wheat, winter Field area 5.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 11.00 | 5.00 | 55.00 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 4.74 | 121.00 | 573.18 |

**Total gross output in $/ha** **628.18**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 8.20 | 16.73 | 136.17 |
| Irrigation water | tcm | 0.87 | 0.71 | 0.62 |
| Applied agrochem, fertilizers & biological control | kg | 6.40 | 0.01 | 0.08 |
| Planting | kg | 220.00 | 0.44 | 96.80 |
| Labour use | man-hrs | 45.60 | 0.11 | 4.92 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 5 |
| Total machinery cost (US$/ha): | 136 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 97 |
| **Grand total variable cost for crop in field** | **239** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **390** |
| Return to water (US$/tcm): | **627** |
| Return to inputs as % | |
| water: | **62929%** |
| labour: | **8026%** |
| machinery: | **386%** |
| agrochemicals: | **468358%** |
| Return to working capital: | **163%** |

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# WUFMAS database Average Crop Budget

## FARM: 26 Pakhtakor

Crop: Wheat, winter Field area 18.18 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 8.34 | 5.00 | 41.72 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 4.07 | 121.00 | 492.57 |

**Total gross output in $/ha 534.29**

## 2.6 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 4.80 | 15.80 | 79.67 |
| Planting | kg | 253.48 | 0.44 | 111.53 |
| Labour use | man-hrs | 79.93 | 0.11 | 8.62 |
| Irrigation water | tcm | 0.64 | 0.71 | 0.45 |
| Applied agrochem, fertilizers & biological control | kg | 780.79 | 0.16 | 139.65 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 9 |
| Total machinery cost (US$/ha): | 80 |
| Total agrochem and fertiliser cost (US$/ha): | 140 |
| Total seed cost for (US$/ha): | 112 |
| **Grand total variable cost for crop in field** | **340** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **194** |
| Return to water (US$/tcm): | **428** |
| Return to inputs as % | |
| water: | **42995%** |
| labour: | **2356%** |
| machinery: | **344%** |
| agrochemicals: | **239%** |
| Return to working capital: | **57%** |

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# WUFMAS database Average Crop Budget

## FARM: 27 Khalkabad

Crop: Wheat, winter Field area 10.70 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 2.25 | 5.00 | 11.26 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.68 | 121.00 | 324.55 |

**Total gross output in $/ha** **335.81**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 200.00 | 0.12 | 24.00 |
| Machinery use | Mach-hrs | 3.55 | 16.68 | 68.81 |
| Planting | kg | 220.00 | 0.44 | 96.80 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 69 |
| Total agrochem and fertiliser cost (US$/ha): | 24 |
| Total seed cost for (US$/ha): | 97 |
| **Grand total variable cost for crop in field** | **190** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **146** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | |
| machinery: | **312%** |
| agrochemicals: | **709%** |
| Return to working capital: | **77%** |

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# WUFMAS database Average Crop Budget

## FARM: 28 Shortanbay

Crop: Wheat, winter Field area 11.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 1.64 | 5.00 | 8.20 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.53 | 121.00 | 184.64 |

**Total gross output in $/ha** **192.84**

## 2.7 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 220.00 | 0.44 | 96.80 |
| Machinery use | Mach-hrs | 5.60 | 18.33 | 169.96 |
| Labour use | man-hrs | 35.94 | 0.11 | 3.87 |
| Applied agrochem, fertilizers & biological control | kg | 1416.67 | 0.06 | 82.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 4 |
| Total machinery cost (US$/ha): | 170 |
| Total agrochem and fertiliser cost (US$/ha): | 82 |
| Total seed cost for (US$/ha): | 97 |
| **Grand total variable cost for crop in field** | **353** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-160** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **-4024%** |
| machinery: | **6%** |
| agrochemicals: | **-95%** |
| Return to working capital: | **-45%** |

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# WUFMAS database Average Crop Budget

## FARM: 35 Bukhara

Crop: Wheat, winter Field area 14.99 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 18.27 | 5.00 | 91.33 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.75 | 121.00 | 332.44 |

**Total gross output in $/ha** **423.77**

## 2.8 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 15.69 | 0.11 | 1.69 |
| Machinery use | Mach-hrs | 7.22 | 15.94 | 203.11 |
| Planting | kg | 501.79 | 0.44 | 220.79 |
| Irrigation water | tcm | 1.24 | 0.71 | 0.88 |
| Applied agrochem, fertilizers & biological control | kg | 199.00 | 0.12 | 23.88 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 203 |
| Total agrochem and fertiliser cost (US$/ha): | 24 |
| Total seed cost for (US$/ha): | 221 |
| **Grand total variable cost for crop in field** | **450** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-27** |
| Return to water (US$/tcm): | **-31** |
| Return to inputs as % | |
| water: | **-2928%** |
| labour: | **-1471%** |
| machinery: | **87%** |
| agrochemicals: | **-11%** |
| Return to working capital: | **-6%** |

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# WUFMAS database Average Crop Budget

## FARM: 36 Gulistan

Crop: Wheat, winter Field area 32.43 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 18.86 | 5.00 | 94.29 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.78 | 121.00 | 336.16 |

**Total gross output in $/ha** **430.45**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 1.30 | 0.71 | 0.92 |
| Machinery use | Mach-hrs | 8.02 | 13.47 | 149.20 |
| Applied agrochem, fertilizers & biological control | kg | 752.92 | 0.14 | 104.56 |
| Labour use | man-hrs | 16.71 | 0.11 | 1.80 |
| Planting | kg | 224.58 | 0.44 | 98.82 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 149 |
| Total agrochem and fertiliser cost (US$/ha): | 105 |
| Total seed cost for (US$/ha): | 99 |
| **Grand total variable cost for crop in field** | **355** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **75** |
| Return to water (US$/tcm): | **81** |
| Return to inputs as % | |
| water: | **8252%** |
| labour: | **4272%** |
| machinery: | **150%** |
| agrochemicals: | **172%** |
| Return to working capital: | **21%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Wheat, winter Field area 17.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, winter - dry stems, stalks, straw, haulms | 3.78 | 5.00 | 18.89 |
| Wheat, winter - fresh grain, seeds (removed from ear or pod but undried) | 2.18 | 99.00 | 215.33 |

**Total gross output in $/ha** **234.22**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 150.00 | 0.05 | 7.80 |
| Irrigation water | tcm | 1.50 | 0.65 | 0.97 |
| Labour use | man-hrs | 6.41 | 0.02 | 0.13 |
| Machinery use | Mach-hrs | 3.69 | 27.40 | 163.60 |
| Applied agrochem, fertilizers & biological control | kg | 200.00 | 0.09 | 18.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 164 |
| Total agrochem and fertiliser cost (US$/ha): | 18 |
| Total seed cost for (US$/ha): | 8 |
| **Grand total variable cost for crop in field** | **191** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **44** |
| Return to water (US$/tcm): | **44** |
| Return to inputs as % | |
| water: | **4589%** |
| labour: | **33884%** |
| machinery: | **127%** |
| agrochemicals: | **343%** |
| Return to working capital: | **23%** |

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# WUFMAS database Average Crop Budget

## FARM: 2 Akumskiy

Crop: Wheat, spring Field area 12.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Wheat, spring - fresh grain, seeds (removed from ear or pod but undried) | 1.20 | 140.00 | 168.00 |

**Total gross output in $/ha** **168.00**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Planting | kg | 216.67 | 0.42 | 91.00 |
| Machinery use | Mach-hrs | 6.00 | 18.86 | 140.71 |
| Labour use | man-hrs | 2.00 | 0.25 | 0.50 |
| Irrigation water | tcm | 1.15 | 2.11 | 2.43 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 141 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 91 |
| **Grand total variable cost for crop in field** | **235** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-67** |
| Return to water (US$/tcm): | **-28** |
| Return to inputs as % | |
| water: | **-2642%** |
| labour: | **-13185%** |
| machinery: | **53%** |
| agrochemicals: | |
| Return to working capital: | **-28%** |

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# WUFMAS database Average Crop Budget

## FARM: 35 Bukhara

Crop: Barley, winter Field area 5.06 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Barley, winter - dry stems, stalks, straw, haulms | 1.54 | 5.00 | 7.71 |
| Barley, winter - fresh grain, seeds (removed from ear or pod but undried) | 1.68 | 115.00 | 193.18 |

**Total gross output in $/ha** **200.89**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 12.12 | 0.11 | 1.31 |
| Irrigation water | tcm | 1.08 | 0.71 | 0.76 |
| Machinery use | Mach-hrs | 3.85 | 18.04 | 76.16 |
| Planting | kg | 19.76 | 0.38 | 7.51 |
| Applied agrochem, fertilizers & biological control | kg | 247.04 | 0.12 | 29.64 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 76 |
| Total agrochem and fertiliser cost (US$/ha): | 30 |
| Total seed cost for (US$/ha): | 8 |
| **Grand total variable cost for crop in field** | **115** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **86** |
| Return to water (US$/tcm): | **111** |
| Return to inputs as % | |
| water: | **11295%** |
| labour: | **6642%** |
| machinery: | **212%** |
| agrochemicals: | **388%** |
| Return to working capital: | **74%** |

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# WUFMAS database Average Crop Budget

## FARM: 8 Expt farm

Crop: Oats Field area 12.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Oats - dry stems, stalks, straw, haulms | 2.69 | 5.00 | 13.46 |
| Oats - fresh grain, seeds (removed from ear or pod but undried) | 2.87 | 206.00 | 590.53 |

**Total gross output in $/ha 603.99**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 11.42 | 17.75 | 216.72 |
| Labour use | man-hrs | 12.00 | 0.08 | 0.94 |
| Irrigation water | tcm | 1.75 | 8.85 | 15.51 |
| Planting | kg | 180.00 | 0.23 | 41.40 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 16 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 217 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 41 |
| **Grand total variable cost for crop in field** | **275** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **329** |
| Return to water (US$/tcm): | **20** |
| Return to inputs as % | |
| water: | **2225%** |
| labour: | **35327%** |
| machinery: | **252%** |
| agrochemicals: | |
| Return to working capital: | **120%** |

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# WUFMAS database Average Crop Budget

## FARM: 4 Pakhtaral

Crop: Maize Grain Field area 12.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| - | | | |

**Total gross output in $/ha** **0.00**

## 2.9 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Planting | kg | 11.90 | 0.22 | 2.62 |
| Machinery use | Mach-hrs | 2.18 | 9.72 | 18.79 |
| Labour use | man-hrs | 1.43 | 0.25 | 0.36 |
| Irrigation water | tcm | 5.29 | 2.11 | 11.17 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 11 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 19 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 3 |
| **Grand total variable cost for crop in field** | **33** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-33** |
| Return to water (US$/tcm): | **-4** |
| Return to inputs as % | |
| water: | **-195%** |
| labour: | **-9092%** |
| machinery: | **-75%** |
| agrochemicals: | |
| Return to working capital: | **-100%** |

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# WUFMAS database Average Crop Budget

## FARM: 8 Expt farm

Crop: Maize Grain Field area 35.70 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize Grain - dry grain, seeds (removed from ear or pod) | 2.01 | | |
| Maize Grain - dry stems, stalks, straw, haulms | 4.10 | 5.00 | 20.52 |

**Total gross output in $/ha** **20.52**

## 2.10 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 87.50 | 0.56 | 49.00 |
| Applied agrochem, fertilizers & biological control | kg | 4.21 | 3.50 | 11.96 |
| Irrigation water | tcm | 2.03 | 8.85 | 17.94 |
| Machinery use | Mach-hrs | 7.23 | 9.76 | 79.50 |
| Labour use | man-hrs | 12.94 | 0.08 | 1.01 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 18 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 80 |
| Total agrochem and fertiliser cost (US$/ha): | 12 |
| Total seed cost for (US$/ha): | 49 |
| **Grand total variable cost for crop in field** | **159** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-139** |
| Return to water (US$/tcm): | **-9** |
| Return to inputs as % | |
| water: | **-674%** |
| labour: | **-13675%** |
| machinery: | **-75%** |
| agrochemicals: | **-1061%** |
| Return to working capital: | **-87%** |

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# WUFMAS database Average Crop Budget

## FARM: 21 Berdeyev

Crop: Maize Grain Field area 5.10 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize Grain - dry grain, seeds (removed from ear or pod) | 2.33 | 150.00 | 350.00 |
| Maize Grain - green leaves, stems or petioles | 22.35 | 5.00 | 111.76 |

**Total gross output in $/ha** **461.76**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 294.12 | 0.12 | 35.29 |
| Irrigation water | tcm | 0.78 | 0.71 | 0.55 |
| Labour use | man-hrs | 60.17 | 0.11 | 6.49 |
| Planting | kg | 41.18 | 1.32 | 54.35 |
| Machinery use | Mach-hrs | 5.39 | 7.41 | 40.43 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 6 |
| Total machinery cost (US$/ha): | 40 |
| Total agrochem and fertiliser cost (US$/ha): | 35 |
| Total seed cost for (US$/ha): | 54 |
| **Grand total variable cost for crop in field** | **137** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **325** |
| Return to water (US$/tcm): | **586** |
| Return to inputs as % | |
| water: | **58793%** |
| labour: | **5105%** |
| machinery: | **903%** |
| agrochemicals: | **1020%** |
| Return to working capital: | **237%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Maize Grain Field area 10.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize Grain - dry grain, seeds (removed from ear or pod) | 1.27 | | |

**Total gross output in $/ha** **0.00**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Planting | kg | 24.30 | 0.21 | 5.10 |
| Machinery use | Mach-hrs | 5.10 | 19.28 | 96.73 |
| Labour use | man-hrs | 221.75 | 0.02 | 4.48 |
| Applied agrochem, fertilizers & biological control | kg | 190.00 | 0.09 | 17.10 |
| Irrigation water | tcm | 2.17 | 0.65 | 1.41 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 4 |
| Total machinery cost (US$/ha): | 97 |
| Total agrochem and fertiliser cost (US$/ha): | 17 |
| Total seed cost for (US$/ha): | 5 |
| **Grand total variable cost for crop in field** | **125** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-125** |
| Return to water (US$/tcm): | **-90** |
| Return to inputs as % | |
| water: | **-8768%** |
| labour: | **-2688%** |
| machinery: | **-29%** |
| agrochemicals: | **-630%** |
| Return to working capital: | **-100%** |

The WARMAP project (water resources management and agricultural production in the Central Asian Republics) is financed by the European Union's Tacis Programme

# WUFMAS database Average Crop Budget

## FARM: 1 Aksharma

Crop: Rice Field area 120.06 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Rice - fresh grain, seeds (removed from ear or pod but undried) | 3.58 | 200.00 | 716.93 |

**Total gross output in $/ha** **716.93**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Labour use | man-hrs | 10.31 | 0.25 | 2.59 |
| Planting | kg | 243.03 | 0.19 | 46.18 |
| Applied agrochem, fertilizers & biological control | kg | 273.00 | 8.24 | 68.12 |
| Machinery use | Mach-hrs | 8.38 | 33.09 | 415.64 |
| Irrigation water | tcm | 4.18 | 2.11 | 8.81 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 9 |
| Total labour cost (US$/ha): | 3 |
| Total machinery cost (US$/ha): | 416 |
| Total agrochem and fertiliser cost (US$/ha): | 68 |
| Total seed cost for (US$/ha): | 46 |
| **Grand total variable cost for crop in field** | **541** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **176** |
| Return to water (US$/tcm): | **19** |
| Return to inputs as % | |
| water: | **2093%** |
| labour: | **6889%** |
| machinery: | **142%** |
| agrochemicals: | **358%** |
| Return to working capital: | **32%** |

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# WUFMAS database Average Crop Budget

## FARM: 2 Akumskiy

Crop: Rice Field area 82.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Rice - fresh grain, seeds (removed from ear or pod but undried) | 3.09 | 200.00 | 617.07 |

**Total gross output in $/ha** **617.07**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Machinery use | Mach-hrs | 6.32 | 29.33 | 196.83 |
| Irrigation water | tcm | 3.55 | 2.11 | 7.48 |
| Planting | kg | 255.56 | 0.19 | 48.56 |
| Applied agrochem, fertilizers & biological control | kg | 578.00 | 5.54 | 104.48 |
| Labour use | man-hrs | 9.44 | 0.25 | 2.37 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 7 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 197 |
| Total agrochem and fertiliser cost (US$/ha): | 104 |
| Total seed cost for (US$/ha): | 49 |
| **Grand total variable cost for crop in field** | **360** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **257** |
| Return to water (US$/tcm): | **33** |
| Return to inputs as % | |
| water: | **3540%** |
| labour: | **10964%** |
| machinery: | **231%** |
| agrochemicals: | **346%** |
| Return to working capital: | **72%** |

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# WUFMAS database Average Crop Budget

## FARM: 25 A. Navoi

Crop: Rice Field area 5.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Rice - chaff, dry ears, cobs, pods without grain | 12.00 | 17.00 | 204.00 |
| Rice - fresh grain, seeds (removed from ear or pod but undried) | 4.76 | 283.00 | 1,345.95 |

**Total gross output in $/ha 1549.95**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 5.67 | 0.71 | 4.03 |
| Labour use | man-hrs | 275.68 | 0.11 | 29.72 |
| Machinery use | Mach-hrs | 14.40 | 22.73 | 550.94 |
| Planting | kg | 210.00 | 0.70 | 147.00 |
| Applied agrochem, fertilizers & biological control | kg | 650.00 | 0.14 | 92.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 4 |
| Total labour cost (US$/ha): | 30 |
| Total machinery cost (US$/ha): | 551 |
| Total agrochem and fertiliser cost (US$/ha): | 92 |
| Total seed cost for (US$/ha): | 147 |
| **Grand total variable cost for crop in field** | **824** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **726** |
| Return to water (US$/tcm): | **179** |
| Return to inputs as % | |
| water: | **18133%** |
| labour: | **2544%** |
| machinery: | **232%** |
| agrochemicals: | **889%** |
| Return to working capital: | **88%** |

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# WUFMAS database Average Crop Budget

## FARM: 26 Pakhtakor

Crop: Rice Field area 17.10 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Rice - chaff, dry ears, cobs, pods without grain | 8.99 | 17.00 | 152.75 |
| Rice - fresh grain, seeds (removed from ear or pod but undried) | 5.45 | 283.00 | 1,542.00 |

**Total gross output in $/ha** **1694.75**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 783.40 | 0.16 | 149.28 |
| Planting | kg | 365.64 | 0.70 | 255.95 |
| Machinery use | Mach-hrs | 12.95 | 32.56 | 744.54 |
| Labour use | man-hrs | 248.88 | 0.11 | 26.83 |
| Irrigation water | tcm | 3.51 | 0.71 | 2.49 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 27 |
| Total machinery cost (US$/ha): | 745 |
| Total agrochem and fertiliser cost (US$/ha): | 149 |
| Total seed cost for (US$/ha): | 256 |
| **Grand total variable cost for crop in field** | **1179** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **516** |
| Return to water (US$/tcm): | **206** |
| Return to inputs as % | |
| water: | **20821%** |
| labour: | **2022%** |
| machinery: | **169%** |
| agrochemicals: | **445%** |
| Return to working capital: | **44%** |

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# WUFMAS database Average Crop Budget

## FARM: 28 Shortanbay

Crop: Rice Field area 32.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Rice - dry stems, stalks, straw, haulms | 4.52 | 17.00 | 76.89 |
| Rice - fresh grain, seeds (removed from ear or pod but undried) | 3.14 | 283.00 | 888.65 |

**Total gross output in $/ha** **965.55**

## 2.11 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 416.12 | 0.70 | 291.28 |
| Machinery use | Mach-hrs | 6.52 | 48.37 | 271.61 |
| Labour use | man-hrs | 25.15 | 0.11 | 2.71 |
| Applied agrochem, fertilizers & biological control | kg | 1645.66 | 4.91 | 240.78 |
| Irrigation water | tcm | 1.66 | 0.71 | 1.18 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 3 |
| Total machinery cost (US$/ha): | 272 |
| Total agrochem and fertiliser cost (US$/ha): | 241 |
| Total seed cost for (US$/ha): | 291 |
| **Grand total variable cost for crop in field** | **808** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **158** |
| Return to water (US$/tcm): | **133** |
| Return to inputs as % | |
| water: | **13481%** |
| labour: | **5927%** |
| machinery: | **158%** |
| agrochemicals: | **166%** |
| Return to working capital: | **20%** |

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# WUFMAS database Average Crop Budget

## FARM: 14 1st May(Sahovat)

Crop: Sorghum Field area 8.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Sorghum - whole plants with grain, pods, stalks and perhaps roots | 5.20 | 5.00 | 26.00 |

**Total gross output in $/ha** **26.00**

## 2.12 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Irrigation water | tcm | 3.37 | 0.65 | 2.19 |
| Planting | kg | 111.25 | 0.06 | 7.23 |
| Labour use | man-hrs | 25.54 | 0.02 | 0.52 |
| Applied agrochem, fertilizers & biological control | kg | 200.00 | 0.09 | 18.00 |
| Machinery use | Mach-hrs | 7.38 | 13.03 | 92.63 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 93 |
| Total agrochem and fertiliser cost (US$/ha): | 18 |
| Total seed cost for (US$/ha): | 7 |
| **Grand total variable cost for crop in field** | **121** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-95** |
| Return to water (US$/tcm): | **-44** |
| Return to inputs as % | |
| water: | **-4222%** |
| labour: | **-18240%** |
| machinery: | **-2%** |
| agrochemicals: | **-425%** |
| Return to working capital: | **-78%** |

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# WUFMAS database Average Crop Budget

## FARM: 3 Zhambul

Crop: Cotton - Upland Field area 90.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 11.61 | 10.00 | 116.09 |
| Cotton - Upland - seed cotton | 2.32 | 426.00 | 989.60 |

**Total gross output in $/ha** **1105.69**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 73.26 | 0.25 | 18.38 |
| Machinery use | Mach-hrs | 9.63 | 11.09 | 99.15 |
| Irrigation water | tcm | 1.66 | 2.11 | 3.51 |
| Applied agrochem, fertilizers & biological control | kg | 433.74 | 4.56 | 75.33 |
| Planting | kg | 72.81 | 0.23 | 16.75 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 4 |
| Total labour cost (US$/ha): | 18 |
| Total machinery cost (US$/ha): | 99 |
| Total agrochem and fertiliser cost (US$/ha): | 75 |
| Total seed cost for (US$/ha): | 17 |
| **Grand total variable cost for crop in field** | **213** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **893** |
| Return to water (US$/tcm): | **253** |
| Return to inputs as % | |
| water: | **25536%** |
| labour: | **4957%** |
| machinery: | **1000%** |
| agrochemicals: | **1285%** |
| Return to working capital: | **419%** |

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# WUFMAS database Average Crop Budget

## FARM: 4 Pakhtaral

Crop: Cotton - Upland Field area 54.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 14.37 | 10.00 | 143.69 |
| Cotton - Upland - seed cotton | 2.87 | 426.00 | 1,223.54 |

**Total gross output in $/ha** **1367.23**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 281.13 | 6.51 | 60.24 |
| Irrigation water | tcm | 2.63 | 2.11 | 5.55 |
| Labour use | man-hrs | 169.89 | 0.25 | 42.61 |
| Machinery use | Mach-hrs | 6.24 | 9.77 | 65.49 |
| Planting | kg | 27.49 | 0.23 | 6.32 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 6 |
| Total labour cost (US$/ha): | 43 |
| Total machinery cost (US$/ha): | 65 |
| Total agrochem and fertiliser cost (US$/ha): | 60 |
| Total seed cost for (US$/ha): | 6 |
| **Grand total variable cost for crop in field** | **180** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **1187** |
| Return to water (US$/tcm): | **213** |
| Return to inputs as % | |
| water: | **21504%** |
| labour: | **2886%** |
| machinery: | **1912%** |
| agrochemicals: | **2070%** |
| Return to working capital: | **659%** |

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# WUFMAS database Average Crop Budget

## FARM: 9 Sadikov

Crop: Cotton - Upland Field area 18.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 14.45 | 10.00 | 144.50 |
| Cotton - Upland - seed cotton | 2.89 | 493.00 | 1,424.77 |

**Total gross output in $/ha** **1569.27**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 585.92 | 8.82 | 129.76 |
| Labour use | man-hrs | 663.06 | 0.08 | 51.67 |
| Machinery use | Mach-hrs | 12.34 | 9.55 | 127.27 |
| Planting | kg | 130.00 | 0.20 | 26.00 |
| Irrigation water | tcm | 1.89 | 8.85 | 16.72 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 17 |
| Total labour cost (US$/ha): | 52 |
| Total machinery cost (US$/ha): | 127 |
| Total agrochem and fertiliser cost (US$/ha): | 130 |
| Total seed cost for (US$/ha): | 26 |
| **Grand total variable cost for crop in field** | **351** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **1218** |
| Return to water (US$/tcm): | **72** |
| Return to inputs as % | |
| water: | **7385%** |
| labour: | **2457%** |
| machinery: | **1057%** |
| agrochemicals: | **1039%** |
| Return to working capital: | **347%** |

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# WUFMAS database Average Crop Budget

## FARM: 10 Cotton Expt

Crop: Cotton - Upland Field area 49.40 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 11.08 | 10.00 | 110.78 |
| Cotton - Upland - seed cotton | 2.22 | 493.00 | 1,092.24 |

**Total gross output in $/ha** **1203.02**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 118.94 | 5.49 | 74.56 |
| Irrigation water | tcm | 1.77 | 8.85 | 15.68 |
| Labour use | man-hrs | 723.85 | 0.08 | 56.41 |
| Machinery use | Mach-hrs | 9.10 | 8.93 | 84.93 |
| Planting | kg | 134.57 | 0.20 | 26.91 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 16 |
| Total labour cost (US$/ha): | 56 |
| Total machinery cost (US$/ha): | 85 |
| Total agrochem and fertiliser cost (US$/ha): | 75 |
| Total seed cost for (US$/ha): | 27 |
| **Grand total variable cost for crop in field** | **258** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **945** |
| Return to water (US$/tcm): | **59** |
| Return to inputs as % | |
| water: | **6123%** |
| labour: | **1774%** |
| machinery: | **1212%** |
| agrochemicals: | **1367%** |
| Return to working capital: | **365%** |

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# WUFMAS database Average Crop Budget

## FARM: 14 1st May(Sahovat)

Crop: Cotton - Upland Field area 55.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 6.43 | 10.00 | 64.28 |
| Cotton - Upland - seed cotton | 1.56 | 481.00 | 749.71 |

**Total gross output in $/ha** **813.99**

## 2.13 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 387.57 | 0.02 | 7.82 |
| Irrigation water | tcm | 2.40 | 0.65 | 1.56 |
| Machinery use | Mach-hrs | 12.98 | 17.08 | 230.43 |
| Planting | kg | 300.00 | 0.11 | 33.00 |
| Applied agrochem, fertilizers & biological control | kg | 112.26 | 2.21 | 32.66 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 8 |
| Total machinery cost (US$/ha): | 230 |
| Total agrochem and fertiliser cost (US$/ha): | 33 |
| Total seed cost for (US$/ha): | 33 |
| **Grand total variable cost for crop in field** | **305** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **509** |
| Return to water (US$/tcm): | **325** |
| Return to inputs as % | |
| water: | **32666%** |
| labour: | **6600%** |
| machinery: | **321%** |
| agrochemicals: | **1657%** |
| Return to working capital: | **166%** |

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# WUFMAS database Average Crop Budget

## FARM: 17 Teze Durmus

Crop: Cotton - Upland Field area 30.20 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 14.54 | 10.00 | 145.35 |
| Cotton - Upland - seed cotton | 2.91 | 247.00 | 719.71 |

**Total gross output in $/ha** **865.06**

## 2.14 Variable costs

| Input | Units | Qty (units/ha) | Price (US$/unit) | Cost, (US$/ha) |
|---|---|---|---|---|
| Planting | kg | 99.02 | 0.39 | 38.62 |
| Applied agrochem, fertilizers & biological control | kg | 99.02 | 0.09 | 8.91 |
| Irrigation water | tcm | 1.54 | 0.00 | 0.00 |
| Labour use | man-hrs | 481.98 | 0.06 | 27.54 |
| Machinery use | Mach-hrs | 12.76 | 6.59 | 91.85 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 28 |
| Total machinery cost (US$/ha): | 92 |
| Total agrochem and fertiliser cost (US$/ha): | 9 |
| Total seed cost for (US$/ha): | 39 |
| **Grand total variable cost for crop in field** | **167** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **698** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **2635%** |
| machinery: | **860%** |
| agrochemicals: | **7934%** |
| Return to working capital: | **418%** |

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# WUFMAS database Average Crop Budget

## FARM: 18 Murgap

Crop: Cotton - Upland Field area 21.40 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 13.41 | 10.00 | 134.13 |
| Cotton - Upland - seed cotton | 2.70 | 247.00 | 667.17 |

**Total gross output in $/ha** **801.30**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 50.34 | 0.39 | 19.63 |
| Machinery use | Mach-hrs | 11.45 | 7.84 | 96.35 |
| Labour use | man-hrs | 556.51 | 0.06 | 31.80 |
| Irrigation water | tcm | 1.06 | 0.00 | 0.00 |
| Applied agrochem, fertilizers & biological control | kg | 123.14 | 0.09 | 11.08 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 32 |
| Total machinery cost (US$/ha): | 96 |
| Total agrochem and fertiliser cost (US$/ha): | 11 |
| Total seed cost for (US$/ha): | 20 |
| **Grand total variable cost for crop in field** | **159** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **642** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **2120%** |
| machinery: | **767%** |
| agrochemicals: | **5897%** |
| Return to working capital: | **404%** |

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# WUFMAS database Average Crop Budget

## FARM: 21 Berdeyev

Crop: Cotton - Upland Field area 47.09 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 14.21 | 10.00 | 142.09 |
| Cotton - Upland - seed cotton | 2.84 | 244.00 | 693.41 |

**Total gross output in $/ha** **835.50**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 71.96 | 0.33 | 23.75 |
| Irrigation water | tcm | 1.30 | 0.71 | 0.93 |
| Labour use | man-hrs | 401.08 | 0.11 | 43.23 |
| Machinery use | Mach-hrs | 9.74 | 10.22 | 104.46 |
| Applied agrochem, fertilizers & biological control | kg | 401.72 | 0.31 | 66.33 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 43 |
| Total machinery cost (US$/ha): | 104 |
| Total agrochem and fertiliser cost (US$/ha): | 66 |
| Total seed cost for (US$/ha): | 24 |
| **Grand total variable cost for crop in field** | **239** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **597** |
| Return to water (US$/tcm): | **644** |
| Return to inputs as % | |
| water: | **64606%** |
| labour: | **1480%** |
| machinery: | **671%** |
| agrochemicals: | **1000%** |
| Return to working capital: | **250%** |

The WARMAP project (water resources management and agricultural production in the Central Asian Republics) is financed by the European Union's Tacis Programme

# WUFMAS database Average Crop Budget

## FARM: 22 Talashkan

Crop: Cotton - Upland Field area 27.01 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 11.22 | 10.00 | 112.23 |
| Cotton - Upland - seed cotton | 2.24 | 244.00 | 547.71 |

**Total gross output in $/ha** **659.94**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 0.80 | 0.71 | 0.57 |
| Planting | kg | 66.02 | 0.33 | 21.79 |
| Labour use | man-hrs | 267.71 | 0.11 | 28.86 |
| Applied agrochem, fertilizers & biological control | kg | 669.57 | 0.31 | 104.04 |
| Machinery use | Mach-hrs | 13.15 | 9.35 | 135.86 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 29 |
| Total machinery cost (US$/ha): | 136 |
| Total agrochem and fertiliser cost (US$/ha): | 104 |
| Total seed cost for (US$/ha): | 22 |
| **Grand total variable cost for crop in field** | **291** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **369** |
| Return to water (US$/tcm): | **645** |
| Return to inputs as % | |
| water: | **64658%** |
| labour: | **1378%** |
| machinery: | **371%** |
| agrochemicals: | **454%** |
| Return to working capital: | **127%** |

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# WUFMAS database Average Crop Budget

## FARM: 23 G. Gulyam

Crop: Cotton - Upland Field area 61.40 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 10.22 | 10.00 | 102.17 |
| Cotton - Upland - seed cotton | 2.04 | 244.00 | 498.59 |

**Total gross output in $/ha** **600.76**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 348.26 | 11.08 | 85.62 |
| Machinery use | Mach-hrs | 15.77 | 9.83 | 158.39 |
| Labour use | man-hrs | 122.49 | 0.11 | 13.20 |
| Irrigation water | tcm | 1.24 | 0.71 | 0.88 |
| Planting | kg | 60.97 | 0.33 | 20.12 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 13 |
| Total machinery cost (US$/ha): | 158 |
| Total agrochem and fertiliser cost (US$/ha): | 86 |
| Total seed cost for (US$/ha): | 20 |
| **Grand total variable cost for crop in field** | **278** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **323** |
| Return to water (US$/tcm): | **365** |
| Return to inputs as % | |
| water: | **36741%** |
| labour: | **2543%** |
| machinery: | **304%** |
| agrochemicals: | **477%** |
| Return to working capital: | **116%** |

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# WUFMAS database Average Crop Budget

## FARM: 24 Timur Malik

Crop: Cotton - Upland Field area 66.65 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 8.50 | 10.00 | 85.01 |
| Cotton - Upland - seed cotton | 0.97 | 244.00 | 237.05 |

**Total gross output in $/ha** **322.06**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 28.27 | 0.33 | 9.33 |
| Irrigation water | tcm | 1.25 | 0.71 | 0.89 |
| Machinery use | Mach-hrs | 12.91 | 9.35 | 134.12 |
| Applied agrochem, fertilizers & biological control | kg | 700.80 | 9.60 | 126.90 |
| Labour use | man-hrs | 115.14 | 0.11 | 12.41 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 12 |
| Total machinery cost (US$/ha): | 134 |
| Total agrochem and fertiliser cost (US$/ha): | 127 |
| Total seed cost for (US$/ha): | 9 |
| **Grand total variable cost for crop in field** | **284** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **38** |
| Return to water (US$/tcm): | **42** |
| Return to inputs as % | |
| water: | **4438%** |
| labour: | **409%** |
| machinery: | **129%** |
| agrochemicals: | **130%** |
| Return to working capital: | **14%** |

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# WUFMAS database Average Crop Budget

## FARM: 25 A. Navoi

Crop: Cotton - Upland Field area 35.79 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 14.17 | 10.00 | 141.66 |
| Cotton - Upland - seed cotton | 2.83 | 244.00 | 691.30 |

**Total gross output in $/ha** **832.96**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 156.08 | 0.33 | 51.51 |
| Machinery use | Mach-hrs | 15.64 | 9.43 | 152.29 |
| Labour use | man-hrs | 314.05 | 0.11 | 33.85 |
| Irrigation water | tcm | 0.75 | 0.71 | 0.54 |
| Applied agrochem, fertilizers & biological control | kg | 785.37 | 4.61 | 125.87 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 34 |
| Total machinery cost (US$/ha): | 152 |
| Total agrochem and fertiliser cost (US$/ha): | 126 |
| Total seed cost for (US$/ha): | 52 |
| **Grand total variable cost for crop in field** | **364** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **469** |
| Return to water (US$/tcm): | **874** |
| Return to inputs as % | |
| water: | **87596%** |
| labour: | **1485%** |
| machinery: | **408%** |
| agrochemicals: | **473%** |
| Return to working capital: | **129%** |

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# WUFMAS database Average Crop Budget

## FARM: 26 Pakhtakor

Crop: Cotton - Upland Field area 25.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 15.87 | 10.00 | 158.66 |
| Cotton - Upland - seed cotton | 3.17 | 244.00 | 774.26 |

**Total gross output in $/ha** **932.92**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 478.25 | 0.11 | 51.55 |
| Irrigation water | tcm | 0.97 | 0.71 | 0.69 |
| Machinery use | Mach-hrs | 11.98 | 10.20 | 116.87 |
| Planting | kg | 236.00 | 0.33 | 77.88 |
| Applied agrochem, fertilizers & biological control | kg | 1403.53 | 3.73 | 142.05 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 52 |
| Total machinery cost (US$/ha): | 117 |
| Total agrochem and fertiliser cost (US$/ha): | 142 |
| Total seed cost for (US$/ha): | 78 |
| **Grand total variable cost for crop in field** | **389** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **544** |
| Return to water (US$/tcm): | **790** |
| Return to inputs as % | |
| water: | **79217%** |
| labour: | **1155%** |
| machinery: | **565%** |
| agrochemicals: | **483%** |
| Return to working capital: | **140%** |

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# WUFMAS database Average Crop Budget

## FARM: 27 Khalkabad

Crop: Cotton - Upland Field area 32.40 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 8.22 | 10.00 | 82.16 |
| Cotton - Upland - seed cotton | 1.63 | 244.00 | 398.03 |

**Total gross output in $/ha** **480.20**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 190.84 | 0.11 | 20.57 |
| Applied agrochem, fertilizers & biological control | kg | 500.60 | 0.09 | 62.51 |
| Irrigation water | tcm | 0.74 | 0.71 | 0.53 |
| Machinery use | Mach-hrs | 9.76 | 9.04 | 98.11 |
| Planting | kg | 82.52 | 0.33 | 27.23 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 21 |
| Total machinery cost (US$/ha): | 98 |
| Total agrochem and fertiliser cost (US$/ha): | 63 |
| Total seed cost for (US$/ha): | 27 |
| **Grand total variable cost for crop in field** | **209** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **271** |
| Return to water (US$/tcm): | **514** |
| Return to inputs as % | |
| water: | **51617%** |
| labour: | **1419%** |
| machinery: | **376%** |
| agrochemicals: | **534%** |
| Return to working capital: | **130%** |

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# WUFMAS database Average Crop Budget

## FARM: 35 Bukhara

Crop: Cotton - Upland Field area 28.35 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 12.68 | 10.00 | 126.77 |
| Cotton - Upland - seed cotton | 2.54 | 244.00 | 618.63 |

**Total gross output in $/ha** **745.40**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Applied agrochem, fertilizers & biological control | kg | 578.38 | 0.14 | 78.29 |
| Irrigation water | tcm | 1.36 | 0.71 | 0.96 |
| Labour use | man-hrs | 116.78 | 0.11 | 12.59 |
| Machinery use | Mach-hrs | 14.78 | 10.44 | 158.50 |
| Planting | kg | 85.42 | 0.33 | 28.19 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 13 |
| Total machinery cost (US$/ha): | 159 |
| Total agrochem and fertiliser cost (US$/ha): | 78 |
| Total seed cost for (US$/ha): | 28 |
| **Grand total variable cost for crop in field** | **279** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **467** |
| Return to water (US$/tcm): | **483** |
| Return to inputs as % | |
| water: | **48487%** |
| labour: | **3809%** |
| machinery: | **395%** |
| agrochemicals: | **696%** |
| Return to working capital: | **168%** |

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# WUFMAS database Average Crop Budget

## FARM: 36 Gulistan

Crop: Cotton - Upland Field area 28.03 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - dry stems, stalks, straw, haulms | 12.33 | 10.00 | 123.31 |
| Cotton - Upland - seed cotton | 2.47 | 244.00 | 601.77 |

**Total gross output in $/ha** **725.08**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 9.73 | 8.87 | 85.84 |
| Applied agrochem, fertilizers & biological control | kg | 367.86 | 0.11 | 41.14 |
| Labour use | man-hrs | 99.10 | 0.11 | 10.68 |
| Planting | kg | 87.89 | 0.33 | 29.00 |
| Irrigation water | tcm | 1.40 | 0.71 | 1.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 11 |
| Total machinery cost (US$/ha): | 86 |
| Total agrochem and fertiliser cost (US$/ha): | 41 |
| Total seed cost for (US$/ha): | 29 |
| **Grand total variable cost for crop in field** | **168** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **557** |
| Return to water (US$/tcm): | **559** |
| Return to inputs as % | |
| water: | **56107%** |
| labour: | **5318%** |
| machinery: | **749%** |
| agrochemicals: | **1455%** |
| Return to working capital: | **332%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Cotton - Upland Field area 33.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton - Upland - | 2.54 | | |
| Cotton - Upland - dry stems, stalks, straw, haulms | 9.98 | 10.00 | 99.77 |
| Cotton - Upland - seed cotton | 2.09 | 481.00 | 1,004.44 |

**Total gross output in $/ha** **1104.21**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 107.50 | 0.11 | 11.82 |
| Machinery use | Mach-hrs | 13.64 | 16.31 | 225.25 |
| Labour use | man-hrs | 172.24 | 0.02 | 3.48 |
| Irrigation water | tcm | 2.14 | 0.65 | 1.39 |
| Applied agrochem, fertilizers & biological control | kg | 179.61 | 0.08 | 19.47 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 3 |
| Total machinery cost (US$/ha): | 225 |
| Total agrochem and fertiliser cost (US$/ha): | 19 |
| Total seed cost for (US$/ha): | 12 |
| **Grand total variable cost for crop in field** | **261** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **843** |
| Return to water (US$/tcm): | **604** |
| Return to inputs as % | |
| water: | **60564%** |
| labour: | **24339%** |
| machinery: | **474%** |
| agrochemicals: | **4429%** |
| Return to working capital: | **322%** |

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# WUFMAS database Average Crop Budget

## FARM: 17 Teze Durmus

Crop: Cotton-Pima Field area 23.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton-Pima - dry stems, stalks, straw, haulms | 12.91 | 10.00 | 129.14 |
| Cotton-Pima - seed cotton | 2.57 | 336.00 | 864.24 |

**Total gross output in $/ha** **993.38**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | **(units/ha)** | **(US$/unit)** | **(US$/ha)** | |
| Irrigation water | tcm | 1.47 | 0.00 | 0.00 |
| Applied agrochem, fertilizers & biological control | kg | 100.00 | 0.09 | 9.00 |
| Planting | kg | 100.00 | 0.39 | 39.00 |
| Labour use | man-hrs | 367.12 | 0.06 | 20.98 |
| Machinery use | Mach-hrs | 14.22 | 6.87 | 102.74 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 21 |
| Total machinery cost (US$/ha): | 103 |
| Total agrochem and fertiliser cost (US$/ha): | 9 |
| Total seed cost for (US$/ha): | 39 |
| **Grand total variable cost for crop in field** | **172** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **822** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **4017%** |
| machinery: | **900%** |
| agrochemicals: | **9230%** |
| Return to working capital: | **478%** |

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# WUFMAS database Average Crop Budget

## FARM: 22 Talashkan

Crop: Cotton-Pima Field area 13.20 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Cotton-Pima - dry stems, stalks, straw, haulms | 10.48 | 10.00 | 104.80 |
| Cotton-Pima - seed cotton | 2.10 | 344.00 | 720.99 |

**Total gross output in $/ha** **825.79**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 0.84 | 0.71 | 0.60 |
| Labour use | man-hrs | 208.35 | 0.11 | 22.46 |
| Machinery use | Mach-hrs | 9.69 | 11.09 | 119.97 |
| Planting | kg | 59.09 | 0.33 | 19.50 |
| Applied agrochem, fertilizers & biological control | kg | 553.03 | 0.15 | 81.82 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 22 |
| Total machinery cost (US$/ha): | 120 |
| Total agrochem and fertiliser cost (US$/ha): | 82 |
| Total seed cost for (US$/ha): | 20 |
| **Grand total variable cost for crop in field** | **244** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **581** |
| Return to water (US$/tcm): | **972** |
| Return to inputs as % | |
| water: | **97447%** |
| labour: | **2689%** |
| machinery: | **585%** |
| agrochemicals: | **811%** |
| Return to working capital: | **238%** |

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# WUFMAS database Average Crop Budget

## FARM: 9 Sadikov

Crop: Tobacco Field area 4.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Tobacco - dried whole or powdered spice, herb | 2.99 | | |

**Total gross output in $/ha** **0.00**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Planting | th.pcs | 110.00 | 1.12 | 123.20 |
| Applied agrochem, fertilizers & biological control | kg | 600.00 | 0.08 | 32.25 |
| Irrigation water | tcm | 1.92 | 8.85 | 16.96 |
| Machinery use | Mach-hrs | 6.25 | 11.34 | 69.24 |
| Labour use | man-hrs | 1033.21 | 0.08 | 80.52 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 17 |
| Total labour cost (US$/ha): | 81 |
| Total machinery cost (US$/ha): | 69 |
| Total agrochem and fertiliser cost (US$/ha): | 32 |
| Total seed cost for (US$/ha): | 123 |
| **Grand total variable cost for crop in field** | **322** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-322** |
| Return to water (US$/tcm): | **-20** |
| Return to inputs as % | |
| water: | **-1800%** |
| labour: | **-300%** |
| machinery: | **-365%** |
| agrochemicals: | **-899%** |
| Return to working capital: | **-100%** |

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# WUFMAS database Average Crop Budget

## FARM: 7 Rasviet

Crop: Sugar Beet Field area 20.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Sugar Beet - fresh roots, tubers, bulbs or corms | 23.80 | 88.00 | 2,094.40 |

**Total gross output in $/ha** **2094.40**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Irrigation water | tcm | 2.25 | 8.85 | 19.89 |
| Planting | kg | 8.00 | 2.19 | 17.52 |
| Machinery use | Mach-hrs | 8.43 | 10.50 | 93.80 |
| Labour use | man-hrs | 175.60 | 0.08 | 13.68 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 20 |
| Total labour cost (US$/ha): | 14 |
| Total machinery cost (US$/ha): | 94 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 18 |
| **Grand total variable cost for crop in field** | **145** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **1949** |
| Return to water (US$/tcm): | **97** |
| Return to inputs as % | |
| water: | **9900%** |
| labour: | **14346%** |
| machinery: | **2178%** |
| agrochemicals: | |
| Return to working capital: | **1345%** |

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# WUFMAS database Average Crop Budget

## FARM: 24 Timur Malik

Crop: Curcurbits Field area 3.05 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Curcurbits - whole green or fresh pods, cobs or fruit | 9.20 | 50.00 | 459.84 |

**Total gross output in $/ha** **459.84**

## 2.15 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 11.97 | 15.38 | 166.89 |
| Irrigation water | tcm | 0.83 | 0.71 | 0.59 |
| Labour use | man-hrs | 122.89 | 0.11 | 13.25 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 13 |
| Total machinery cost (US$/ha): | 167 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **181** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **279** |
| Return to water (US$/tcm): | **475** |
| Return to inputs as % | |
| water: | **47707%** |
| labour: | **2207%** |
| machinery: | **267%** |
| agrochemicals: | |
| Return to working capital: | **154%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Gram, green Field area 4.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Gram, green - fresh grain, seeds (removed from ear or pod but undried) | 1.04 | 343.00 | 358.24 |

**Total gross output in $/ha** **358.24**

## 2.16 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 16.00 | 1.00 | 16.00 |
| Machinery use | Mach-hrs | 4.44 | 19.72 | 90.30 |
| Applied agrochem, fertilizers & biological control | kg | 100.00 | 0.09 | 9.00 |
| Labour use | man-hrs | 180.11 | 0.02 | 3.64 |
| Irrigation water | tcm | 4.48 | 0.65 | 2.91 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 3 |
| Total labour cost (US$/ha): | 4 |
| Total machinery cost (US$/ha): | 90 |
| Total agrochem and fertiliser cost (US$/ha): | 9 |
| Total seed cost for (US$/ha): | 16 |
| **Grand total variable cost for crop in field** | **122** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **236** |
| Return to water (US$/tcm): | **80** |
| Return to inputs as % | |
| water: | **8227%** |
| labour: | **6602%** |
| machinery: | **362%** |
| agrochemicals: | **2727%** |
| Return to working capital: | **194%** |

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# WUFMAS database Average Crop Budget

## FARM: 7 Rasviet

Crop: Onion Field area 20.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Onion - fresh roots, tubers, bulbs or corms | 5.40 | 46.00 | 248.40 |

**Total gross output in $/ha** **248.40**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 3.40 | 12.77 | 48.53 |
| Labour use | man-hrs | 206.95 | 0.08 | 16.13 |
| Planting | kg | 20.00 | 5.43 | 108.60 |
| Irrigation water | tcm | 2.19 | 8.85 | 19.39 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 19 |
| Total labour cost (US$/ha): | 16 |
| Total machinery cost (US$/ha): | 49 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 109 |
| **Grand total variable cost for crop in field** | **193** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **56** |
| Return to water (US$/tcm): | **2** |
| Return to inputs as % | |
| water: | **388%** |
| labour: | **446%** |
| machinery: | **215%** |
| agrochemicals: | |
| Return to working capital: | **29%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Onion Field area 4.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Onion - fresh roots, tubers, bulbs or corms | 32.67 | 31.00 | 1,012.67 |

**Total gross output in $/ha** **1012.67**

## 2.17 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 1.00 | 0.65 | 0.65 |
| Labour use | man-hrs | 196.44 | 0.02 | 3.97 |
| Planting | kg | 20.00 | 3.50 | 70.00 |
| Applied agrochem, fertilizers & biological control | kg | 1334.33 | 4.35 | 119.56 |
| Machinery use | Mach-hrs | 2.00 | 16.80 | 43.52 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 4 |
| Total machinery cost (US$/ha): | 44 |
| Total agrochem and fertiliser cost (US$/ha): | 120 |
| Total seed cost for (US$/ha): | 70 |
| **Grand total variable cost for crop in field** | **238** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **775** |
| Return to water (US$/tcm): | **1190** |
| Return to inputs as % | |
| water: | **119161%** |
| labour: | **19643%** |
| machinery: | **1881%** |
| agrochemicals: | **748%** |
| Return to working capital: | **326%** |

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# WUFMAS database Average Crop Budget

## FARM: 2 Akumskiy

Crop: Sunflower (for oil) Field area 9.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| - | | | |

**Total gross output in $/ha** **0.00**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Labour use | man-hrs | 54.44 | 0.25 | 13.66 |
| Machinery use | Mach-hrs | 3.22 | 11.61 | 34.46 |
| Applied agrochem, fertilizers & biological control | kg | 250.00 | 0.07 | 17.50 |
| Planting | kg | 18.89 | 1.59 | 30.03 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 14 |
| Total machinery cost (US$/ha): | 34 |
| Total agrochem and fertiliser cost (US$/ha): | 18 |
| Total seed cost for (US$/ha): | 30 |
| **Grand total variable cost for crop in field** | **96** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-96** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **-600%** |
| machinery: | **-178%** |
| agrochemicals: | **-447%** |
| Return to working capital: | **-100%** |

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# WUFMAS database Average Crop Budget

## FARM: 1 Aksharma

Crop: Mature Lucerne Field area 13.30 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry stems, stalks, straw, haulms | 2.52 | 24.00 | 60.45 |
| Lucerne - fresh grain, seeds (removed from ear or pod but undried) | 0.14 | 1,000.00 | 135.34 |

**Total gross output in $/ha** **195.79**

## Variable costs

| **Input** | **Units** | **Qty (units/ha)** | **Price (US$/unit)** | **Cost, (US$/ha)** |
|---|---|---|---|---|
| Labour use | man-hrs | 0.90 | 0.25 | 0.23 |
| Machinery use | Mach-hrs | 3.31 | 21.95 | 79.69 |
| Irrigation water | tcm | 1.14 | 2.11 | 2.40 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 80 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **82** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **113** |
| Return to water (US$/tcm): | **46** |
| Return to inputs as % | |
| water: | **4830%** |
| labour: | **50240%** |
| machinery: | **242%** |
| agrochemicals: | |
| Return to working capital: | **138%** |

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# WUFMAS database Average Crop Budget

## FARM: 2 Akumskiy

Crop: Mature Lucerne Field area 14.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry stems, stalks, straw, haulms | 1.50 | 24.00 | 36.00 |
| Lucerne - green leaves, stems or petioles | 3.12 | 15.00 | 46.82 |

**Total gross output in $/ha** **82.82**

## 2.18 Variable costs

| 2.18.1 Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Irrigation water | tcm | 1.11 | 2.11 | 2.34 |
| Labour use | man-hrs | 0.57 | 0.25 | 0.14 |
| Machinery use | Mach-hrs | 4.86 | 24.59 | 116.36 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 116 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **119** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-36** |
| Return to water (US$/tcm): | **-16** |
| Return to inputs as % | |
| water: | **-1437%** |
| labour: | **-25033%** |
| machinery: | **69%** |
| agrochemicals: | |
| Return to working capital: | **-30%** |

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# WUFMAS database Average Crop Budget

## FARM: 3 Zhambul

Crop: Mature Lucerne Field area 20.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 54.28 | 15.00 | 814.13 |

**Total gross output in $/ha** **814.13**

## 2.19 Variable costs

| Input | Units | Qty (units/ha) | Price (US$/unit) | Cost, (US$/ha) |
|---|---|---|---|---|
| Machinery use | Mach-hrs | 2.98 | 6.47 | 20.12 |
| Labour use | man-hrs | 2.40 | 0.25 | 0.60 |
| Machinery use | Mach-hrs | 8.88 | 6.82 | 61.42 |
| Planting | kg | 18.23 | 1.70 | 30.99 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 82 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 31 |
| **Grand total variable cost for crop in field** | **113** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **701** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **116750%** |
| machinery: | **960%** |
| agrochemicals: | |
| Return to working capital: | **620%** |

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# WUFMAS database Average Crop Budget

## FARM: 4 Pakhtaral

Crop: Mature Lucerne Field area 15.20 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry stems, stalks, straw, haulms | 15.57 | 24.00 | 373.58 |
| Lucerne - green leaves, stems or petioles | 11.19 | | |

**Total gross output in $/ha** **373.58**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | **(units/ha)** | **(US$/unit)** | **(US$/ha)** | |
| Planting | kg | 4.05 | 1.70 | 6.89 |
| Machinery use | Mach-hrs | 2.28 | 7.47 | 16.36 |
| Labour use | man-hrs | 29.95 | 0.25 | 7.51 |
| Irrigation water | tcm | 1.25 | 2.11 | 2.63 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 3 |
| Total labour cost (US$/ha): | 8 |
| Total machinery cost (US$/ha): | 16 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 7 |
| **Grand total variable cost for crop in field** | **33** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **340** |
| Return to water (US$/tcm): | **128** |
| Return to inputs as % | |
| water: | **13014%** |
| labour: | **4629%** |
| machinery: | **2180%** |
| agrochemicals: | |
| Return to working capital: | **1019%** |

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# WUFMAS database Average Crop Budget

## FARM: 7 Rasviet

Crop: Mature Lucerne Field area 30.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 29.77 | 9.00 | 267.97 |

**Total gross output in $/ha** **267.97**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 7.27 | 25.11 | 182.58 |
| Labour use | man-hrs | 7.20 | 0.08 | 0.56 |
| Irrigation water | tcm | 2.09 | 8.85 | 18.47 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 18 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 183 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **202** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **66** |
| Return to water (US$/tcm): | **3** |
| Return to inputs as % | |
| water: | **459%** |
| labour: | **11929%** |
| machinery: | **136%** |
| agrochemicals: | |
| Return to working capital: | **33%** |

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# WUFMAS database Average Crop Budget

## FARM: 8 Expt farm

Crop: Mature Lucerne Field area 20.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 16.30 | 9.00 | 146.70 |

**Total gross output in $/ha** **146.70**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Machinery use | Mach-hrs | 4.24 | 10.27 | 43.08 |
| Irrigation water | tcm | 1.92 | 8.85 | 16.99 |
| Labour use | man-hrs | 10.60 | 0.08 | 0.83 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 17 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 43 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **61** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **86** |
| Return to water (US$/tcm): | **4** |
| Return to inputs as % | |
| water: | **605%** |
| labour: | **10488%** |
| machinery: | **299%** |
| agrochemicals: | |
| Return to working capital: | **141%** |

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# WUFMAS database Average Crop Budget

## FARM: 9 Sadikov

Crop: Mature Lucerne Field area 5.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 21.16 | 9.00 | 190.44 |

**Total gross output in $/ha** **190.44**

## 2.20 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 15.20 | 0.08 | 1.18 |
| Irrigation water | tcm | 2.17 | 8.85 | 19.25 |
| Machinery use | Mach-hrs | 1.20 | 10.98 | 13.18 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 19 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 13 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **34** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **157** |
| Return to water (US$/tcm): | **7** |
| Return to inputs as % | |
| water: | **915%** |
| labour: | **13340%** |
| machinery: | **1290%** |
| agrochemicals: | |
| Return to working capital: | **467%** |

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# WUFMAS database Average Crop Budget

## FARM: 17 Teze Durmus

Crop: Mature Lucerne Field area 22.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 37.07 | 12.00 | 444.87 |

**Total gross output in $/ha** **444.87**

## 2.21 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Machinery use | Mach-hrs | 6.29 | 23.92 | 114.48 |
| Labour use | man-hrs | 4.73 | 0.06 | 0.27 |
| Irrigation water | tcm | 1.43 | 0.00 | 0.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 114 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **115** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **330** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **122311%** |
| machinery: | **388%** |
| agrochemicals: | |
| Return to working capital: | **288%** |

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# WUFMAS database Average Crop Budget

## FARM: 18 Murgap

Crop: Mature Lucerne Field area 15.30 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry grain, seeds (removed from ear or pod) | 0.37 | 1,000.00 | 369.12 |
| Lucerne - dry stems, stalks, straw, haulms | 4.53 | 66.00 | 298.98 |
| Lucerne - green leaves, stems or petioles | 5.74 | 12.00 | 68.82 |

**Total gross output in $/ha** **736.92**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 10.76 | 14.76 | 121.01 |
| Labour use | man-hrs | 12.71 | 0.06 | 0.73 |
| Irrigation water | tcm | 0.94 | 0.00 | 0.00 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 121 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **122** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **615** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **84830%** |
| machinery: | **608%** |
| agrochemicals: | |
| Return to working capital: | **505%** |

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# WUFMAS database Average Crop Budget

## FARM: 21 Berdeyev

Crop: Mature Lucerne Field area 19.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 21.64 | 7.00 | 151.49 |

**Total gross output in $/ha** **151.49**

## 2.22 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 8.73 | 6.20 | 56.22 |
| Labour use | man-hrs | 12.58 | 0.11 | 1.36 |
| Irrigation water | tcm | 0.51 | 0.71 | 0.36 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 56 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **58** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **94** |
| Return to water (US$/tcm): | **257** |
| Return to inputs as % | |
| water: | **25900%** |
| labour: | **6997%** |
| machinery: | **266%** |
| agrochemicals: | |
| Return to working capital: | **161%** |

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# WUFMAS database Average Crop Budget

## FARM: 22 Talashkan

Crop: Mature Lucerne Field area 15.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 40.86 | 7.00 | 286.01 |

**Total gross output in $/ha** **286.01**

## 2.23 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Planting | kg | 1.40 | 3.91 | 5.47 |
| Applied agrochem, fertilizers & biological control | kg | 33.33 | 0.19 | 6.33 |
| Irrigation water | tcm | 0.81 | 0.71 | 0.58 |
| Machinery use | Mach-hrs | 7.89 | 15.39 | 129.04 |
| Labour use | man-hrs | 12.17 | 0.11 | 1.31 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 129 |
| Total agrochem and fertiliser cost (US$/ha): | 6 |
| Total seed cost for (US$/ha): | 5 |
| **Grand total variable cost for crop in field** | **143** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **143** |
| Return to water (US$/tcm): | **247** |
| Return to inputs as % | |
| water: | **24941%** |
| labour: | **11022%** |
| machinery: | **211%** |
| agrochemicals: | **2362%** |
| Return to working capital: | **100%** |

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# WUFMAS database Average Crop Budget

## FARM: 25 A. Navoi

Crop: Mature Lucerne Field area 6.90 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - | 4.61 | | |
| Lucerne - green leaves, stems or petioles | 64.83 | 7.00 | 453.83 |

**Total gross output in $/ha** **453.83**

## Variable costs

| Input | Units | Qty (units/ha) | Price (US$/unit) | Cost, (US$/ha) |
|---|---|---|---|---|
| Irrigation water | tcm | 0.68 | 0.71 | 0.49 |
| Applied agrochem, fertilizers & biological control | kg | 174.28 | 11.36 | 41.21 |
| Labour use | man-hrs | 17.43 | 0.11 | 1.88 |
| Machinery use | Mach-hrs | 23.42 | 13.41 | 331.34 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 331 |
| Total agrochem and fertiliser cost (US$/ha): | 41 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **375** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **79** |
| Return to water (US$/tcm): | **162** |
| Return to inputs as % | |
| water: | **16364%** |
| labour: | **4301%** |
| machinery: | **124%** |
| agrochemicals: | **292%** |
| Return to working capital: | **21%** |

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# WUFMAS database Average Crop Budget

## FARM: 26 Pakhtakor

Crop: Mature Lucerne Field area 5.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 52.12 | 7.00 | 364.82 |

**Total gross output in $/ha** **364.82**

## 2.24 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Machinery use | Mach-hrs | 10.85 | 16.84 | 256.65 |
| Applied agrochem, fertilizers & biological control | kg | 160.30 | 11.33 | 25.96 |
| Irrigation water | tcm | 0.50 | 0.71 | 0.36 |
| Labour use | man-hrs | 52.01 | 0.11 | 5.61 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 6 |
| Total machinery cost (US$/ha): | 257 |
| Total agrochem and fertiliser cost (US$/ha): | 26 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **289** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **76** |
| Return to water (US$/tcm): | **213** |
| Return to inputs as % | |
| water: | **21528%** |
| labour: | **1460%** |
| machinery: | **130%** |
| agrochemicals: | **394%** |
| Return to working capital: | **26%** |

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# WUFMAS database Average Crop Budget

## FARM: 27 Khalkabad

Crop: Mature Lucerne Field area 12.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry stems, stalks, straw, haulms | 3.80 | 28.00 | 106.33 |

**Total gross output in $/ha** **106.33**

## 2.25 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Labour use | man-hrs | 6.70 | 0.11 | 0.72 |
| Irrigation water | tcm | 0.35 | 0.71 | 0.25 |
| Machinery use | Mach-hrs | 1.89 | 9.36 | 21.37 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 21 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **22** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **84** |
| Return to water (US$/tcm): | **338** |
| Return to inputs as % | |
| water: | **34006%** |
| labour: | **11734%** |
| machinery: | **493%** |
| agrochemicals: | |
| Return to working capital: | **376%** |

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# WUFMAS database Average Crop Budget

## FARM: 28 Shortanbay

Crop: Mature Lucerne Field area 7.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - dry stems, stalks, straw, haulms | 1.76 | 28.00 | 49.35 |
| Lucerne - green leaves, stems or petioles | 23.00 | 7.00 | 161.00 |

**Total gross output in $/ha** **210.35**

## 2.26 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Machinery use | Mach-hrs | 1.54 | 38.87 | 56.09 |
| Labour use | man-hrs | 24.00 | 0.11 | 2.59 |
| Labour use | man-hrs | 7.33 | 0.11 | 0.79 |
| Applied agrochem, fertilizers & biological control | kg | 700.00 | 0.18 | 126.00 |
| Planting | kg | 21.33 | 3.91 | 83.41 |
| Irrigation water | tcm | 0.05 | 0.71 | 0.03 |
| Machinery use | Mach-hrs | 3.51 | 11.58 | 46.91 |
| Irrigation water | tcm | 0.06 | 0.71 | 0.05 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 3 |
| Total machinery cost (US$/ha): | 103 |
| Total agrochem and fertiliser cost (US$/ha): | 126 |
| Total seed cost for (US$/ha): | 83 |
| **Grand total variable cost for crop in field** | **316** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-106** |
| Return to water (US$/tcm): | **-1319** |
| Return to inputs as % | |
| water: | **-131663%** |
| labour: | **-3024%** |
| machinery: | **-2%** |
| agrochemicals: | **16%** |
| Return to working capital: | **-33%** |

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# WUFMAS database Average Crop Budget

## FARM: 35 Bukhara

Crop: Mature Lucerne Field area 13.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 47.55 | 7.00 | 332.86 |

**Total gross output in $/ha** **332.86**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 1.20 | 0.71 | 0.85 |
| Labour use | man-hrs | 9.01 | 0.11 | 0.97 |
| Machinery use | Mach-hrs | 3.67 | 17.98 | 88.78 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 89 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **91** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **242** |
| Return to water (US$/tcm): | **283** |
| Return to inputs as % | |
| water: | **28459%** |
| labour: | **25056%** |
| machinery: | **373%** |
| agrochemicals: | |
| Return to working capital: | **267%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Mature Lucerne Field area 5.50 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Lucerne - green leaves, stems or petioles | 25.42 | 6.00 | 152.51 |

**Total gross output in $/ha** **152.51**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | **(units/ha)** | **(US$/unit)** | **(US$/ha)** | |
| Labour use | man-hrs | 6.70 | 0.02 | 0.14 |
| Irrigation water | tcm | 2.69 | 0.65 | 1.75 |
| Machinery use | Mach-hrs | 8.36 | 11.66 | 94.40 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 94 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **96** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **56** |
| Return to water (US$/tcm): | **31** |
| Return to inputs as % | |
| water: | **3317%** |
| labour: | **41680%** |
| machinery: | **160%** |
| agrochemicals: | |
| Return to working capital: | **58%** |

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# WUFMAS database Average Crop Budget

## FARM: 24 Timur Malik

Crop: Maize, silage Field area 11.25 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize, silage - whole green or fresh pods, cobs or fruit | 6.10 | 5.00 | 30.50 |

**Total gross output in $/ha** **30.50**

## 2.27 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Irrigation water | tcm | 1.19 | 0.71 | 0.85 |
| Labour use | man-hrs | 8.00 | 0.11 | 0.86 |
| Machinery use | Mach-hrs | 8.31 | 10.73 | 94.63 |
| Planting | kg | 49.96 | 1.32 | 65.94 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 95 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 66 |
| **Grand total variable cost for crop in field** | **162** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-132** |
| Return to water (US$/tcm): | **-157** |
| Return to inputs as % | |
| water: | **-15488%** |
| labour: | **-15182%** |
| machinery: | **-39%** |
| agrochemicals: | |
| Return to working capital: | **-81%** |

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# WUFMAS database Average Crop Budget

## FARM: 26 Pakhtakor

Crop: Maize, silage Field area 3.10 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize, silage - fresh grain, seeds (removed from ear or pod but undried) | 5.19 | | |

**Total gross output in $/ha** **0.00**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | | (units/ha) | (US$/unit) | (US$/ha) |
| Planting | kg | 48.39 | | |
| Applied agrochem, fertilizers & biological control | kg | 290.32 | 0.12 | 34.84 |
| Irrigation water | tcm | 0.47 | 0.71 | 0.34 |
| Labour use | man-hrs | 48.65 | 0.11 | 5.24 |
| Machinery use | Mach-hrs | 9.03 | 11.35 | 110.92 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 5 |
| Total machinery cost (US$/ha): | 111 |
| Total agrochem and fertiliser cost (US$/ha): | 35 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **151** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-151** |
| Return to water (US$/tcm): | **-451** |
| Return to inputs as % | |
| water: | **-44887%** |
| labour: | **-2786%** |
| machinery: | **-36%** |
| agrochemicals: | **-334%** |
| Return to working capital: | **-100%** |

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# WUFMAS database Average Crop Budget

## FARM: 35 Bukhara

Crop: Maize, silage Field area 4.94 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Maize, silage - whole green or fresh pods, cobs or fruit | 8.54 | 5.00 | 42.71 |

**Total gross output in $/ha** **42.71**

## 2.28 Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Irrigation water | tcm | 1.47 | 0.71 | 1.04 |
| Planting | kg | 40.49 | 1.32 | 53.44 |
| Labour use | man-hrs | 19.53 | 0.11 | 2.11 |
| Machinery use | Mach-hrs | 6.13 | 12.87 | 88.89 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 89 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 53 |
| **Grand total variable cost for crop in field** | **145** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-103** |
| Return to water (US$/tcm): | **-99** |
| Return to inputs as % | |
| water: | **-9736%** |
| labour: | **-4781%** |
| machinery: | **-16%** |
| agrochemicals: | |
| Return to working capital: | **-71%** |

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# WUFMAS database Average Crop Budget

## FARM: 3 Zhambul

Crop: Apples Field area 9.60 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Apples - whole green or fresh pods, cobs or fruit | 20.84 | 93.00 | 1,938.08 |

**Total gross output in $/ha** **1938.08**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | | **(units/ha)** | **(US$/unit)** | **(US$/ha)** |
| Labour use | man-hrs | 9.93 | 0.25 | 2.49 |
| Machinery use | Mach-hrs | 2.41 | 9.87 | 28.44 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 2 |
| Total machinery cost (US$/ha): | 28 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **31** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **1907** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **76698%** |
| machinery: | **6806%** |
| agrochemicals: | |
| Return to working capital: | **6166%** |

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# WUFMAS database Average Crop Budget

## FARM: 37 Dusti

Crop: Apricot Field area 20.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Apricot - whole green or fresh pods, cobs or fruit | 0.38 | 31.00 | 11.63 |

**Total gross output in $/ha** **11.63**

## Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Labour use | man-hrs | 67.22 | 0.02 | 1.36 |
| Irrigation water | tcm | 1.05 | 0.65 | 0.68 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 1 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 0 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 0 |
| **Grand total variable cost for crop in field** | **2** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **10** |
| Return to water (US$/tcm): | **13** |
| Return to inputs as % | |
| water: | **1503%** |
| labour: | **806%** |
| machinery: | |
| agrochemicals: | |
| Return to working capital: | **470%** |

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# WUFMAS database Average Crop Budget

## FARM: 1 Aksharma

Crop: Mx Winter wheat + lucerne Field area 21.52 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Mx Winter wheat + lucerne - fresh grain, seeds (removed from ear or pod but undried) | 0.36 | | |

**Total gross output in $/ha** **0.00**

## 2.29 Variable costs

| Input | Units | Qty | Price | Cost, |
|---|---|---|---|---|
| | (units/ha) | (US$/unit) | (US$/ha) | |
| Planting | kg | 199.81 | 0.42 | 83.92 |
| Machinery use | Mach-hrs | 4.88 | 19.15 | 96.75 |
| Labour use | man-hrs | 0.56 | 0.25 | 0.14 |
| Irrigation water | tcm | 1.00 | 2.11 | 2.10 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 2 |
| Total labour cost (US$/ha): | 0 |
| Total machinery cost (US$/ha): | 97 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 84 |
| **Grand total variable cost for crop in field** | **183** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-183** |
| Return to water (US$/tcm): | **-88** |
| Return to inputs as % | |
| water: | **-8609%** |
| labour: | **-130674%** |
| machinery: | **-89%** |
| agrochemicals: | |
| Return to working capital: | **-100%** |

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# WUFMAS database Average Crop Budget

## FARM: 7 Rasviet

Crop: Mx Spring barley + lucerne Field area 10.00 ha

## GROSS OUTPUT

| Crop and production name | Product | Price | Value |
|---|---|---|---|
| | t/ha | (US$/t) | (US$/ha) |
| Mx Spring barley + lucerne - dry stems, stalks, straw, haulms | 1.90 | | |
| Mx Spring barley + lucerne - fresh grain, seeds (removed from ear or pod but undried) | 1.65 | | |

**Total gross output in $/ha** **0.00**

## Variable costs

| **Input** | **Units** | **Qty** | **Price** | **Cost,** |
|---|---|---|---|---|
| | **(units/ha)** | **(US$/unit)** | **(US$/ha)** | |
| Labour use | man-hrs | 11.40 | 0.08 | 0.89 |
| Machinery use | Mach-hrs | 8.80 | 18.48 | 165.63 |
| Planting | kg | 170.00 | 0.35 | 59.50 |

## SUMMARY VARIABLE COSTS

| | |
|---|---|
| Total water cost (US$/ha): | 0 |
| Total labour cost (US$/ha): | 1 |
| Total machinery cost (US$/ha): | 166 |
| Total agrochem and fertiliser cost (US$/ha): | 0 |
| Total seed cost for (US$/ha): | 59 |
| **Grand total variable cost for crop in field** | **226** |

## GROSS MARGIN:

| | |
|---|---|
| Return to land (US$/ha): | **-226** |
| Return to water (US$/tcm): | |
| Return to inputs as % | |
| water: | |
| labour: | **-25341%** |
| machinery: | **-36%** |
| agrochemicals: | |
| Return to working capital: | **-100%** |

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