



**When water is limiting, how do we determine which strategy will maximize profits?**

What should we plant?

How many acres should we irrigate?

How much water should we plan to apply?

How should multi-year supplies be allocated across years?

If water supplies can be traded, what is the value of the water?

**You can analyze these questions using a tool called WATER OPTIMIZER.**

Excel based Spreadsheet. Excel 2003, 2007 or 2010. Free download.

<http://agecon.unl.edu/wateroptimizer/download.html>

**Single Field / Single Year Model**

**Multi Field / Single Year Model**

**Multi Year / Single Field Model**

### **Water Optimizer Budget Calculator**

This is a stand-alone module for Water Optimizer. This model is a cropping operations budget calculator. Modeled after UNL Crop Budgets, the Water Optimizer Budget Calculator allows the user to choose cropping operations and input costs to closely resemble their personal farming operation. Both per acre costs and per bushel costs are then inputted into Water Optimizer. If you need to change the budget costs in Water Optimizer this module must be downloaded and used.

### **Water Optimizer Results:**

1. Only variable costs (VC) are estimated, although VC includes use based depreciation.
2. Net returns are “Returns over VC” only, which means that land costs, management and overhead charges and some depreciation costs have not been subtracted from gross revenue to determine the net.

### **Some Generalizations on scenarios we have run:**

- Optimal strategy is always to plant the most profitable irrigated crop on all acres as long as the available water supply is about 70% or more of the crop requirement.
- Below 70% of the requirement it is most profitable to shift some acres to the best dryland crop, or in some cases to a second less water using irrigated crop.
- When the price of soybeans approaches 2.5 times the price of corn, and especially if drought is a major concern, more soybeans as an alternative to corn as the dominant crop deserves serious consideration in much of Nebraska.

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