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# Soak or Flow?

## Choosing the Right Water Path for Potatoes

**Authors:** Hope Nelson, Judyson de Matos Oliveira, John Lai, Lincoln Zotarelli



IMPORTANCE OF IRRIGATION



Potato crops are especially sensitive to over and under-watering<sup>1</sup>.



Potatoes require precise moisture levels for optimal growth, tuber development, and to prevent diseases<sup>2</sup>.



Specialized irrigation management is needed for potato farms to ensure uniform soil moisture and avoid water stress at critical growth stages<sup>3</sup>.

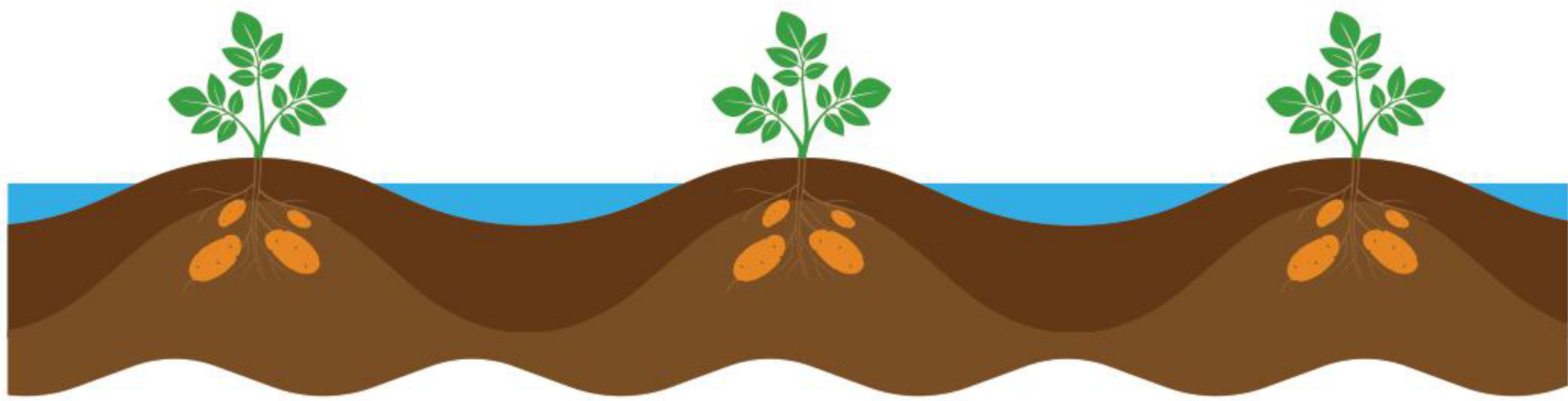


This illustrated guide summarizes some of the important production and economic factors that potato farmers should take into consideration when deciding to update their irrigation system.



The data used was collected from existing literature examining irrigation systems in Florida potato production over the past 10 years.

STRUCTURE



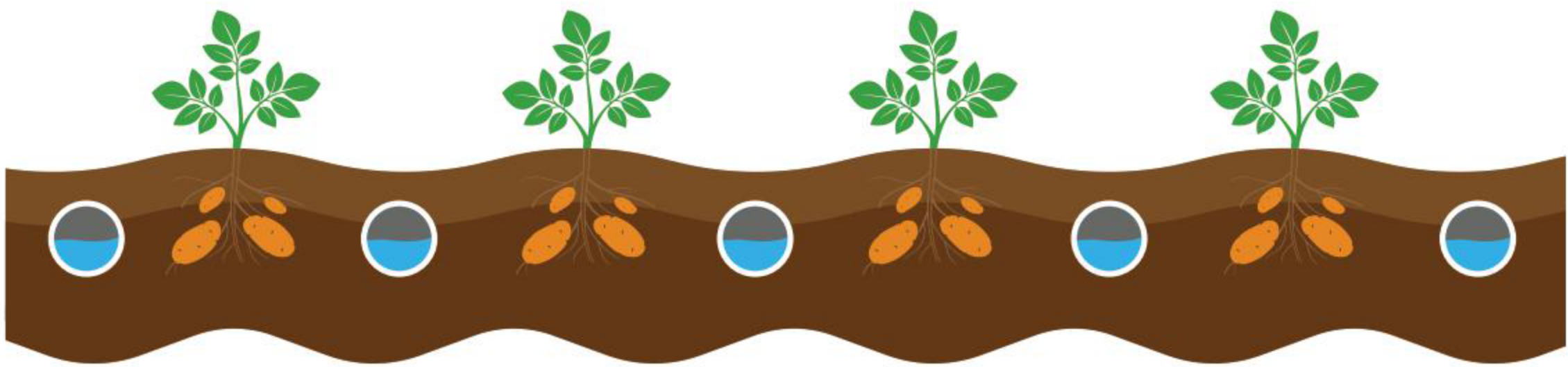
### SEEPAGE



60 Shallow ditches called furrows are spaced ~60 feet apart.<sup>4</sup>



Furrows irrigate and drain the field to maintain the water table.<sup>4</sup>



### DRAIN-TILE



25 3-4 inch high-density polyethylene pipes are buried 3 feet deep, spaced 25-35 feet apart.<sup>4</sup>



Underground pipes irrigate and drain the field to maintain the water table.<sup>4</sup>

EFFICIENCY



Low cost of operation.<sup>4</sup>



Low irrigation efficiency (20-80% of pumped water used by plant)<sup>4</sup>



Increased yield per acre due to lack of furrows (11-12% more plantable ground).<sup>4</sup>



50% reduction in pumping cost compared to seepage<sup>4</sup>



Additional automation can help to hold water in the field year-round.

COST



Average installation cost of \$207/acre<sup>5</sup>



Water costs per irrigation season of \$60/acre<sup>5</sup>



Profit margin of 11%<sup>5</sup>



Average Net Present Value (NPV) of \$6,911/acre<sup>4</sup>



Total irrigation cost per irrigation season of \$79/acre<sup>5</sup>



Approximate installation cost of \$3500 without cost share. Cost share can cover ~75% of installation cost<sup>4</sup>



Water costs per irrigation season of \$35/acre<sup>5</sup>



Profit margin of 16%<sup>5</sup>



Average Net Present Value (NPV) of \$9,209/acre<sup>4</sup>



Total irrigation per irrigation season cost of \$250/acre<sup>5</sup>

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Author Information: Hope Nelson ([hope.nelson@ufl.edu](mailto:hope.nelson@ufl.edu)), is an M.A.B. student in the Food and Resource Economics Department at the University of Florida. Judyson de Matos Oliveira ([judyson.dematoso@ufl.edu](mailto:judyson.dematoso@ufl.edu)), is a Ph.D. student in the Horticultural Sciences Department at the University of Florida. John Lai ([johnlai@ufl.edu](mailto:johnlai@ufl.edu)), is an assistant professor in the Food and Resource Economics Department at the University of Florida. Lincoln Zotarelli ([lzota@ufl.edu](mailto:lzota@ufl.edu)), a professor in the Horticultural Sciences Department at the University of Florida.

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