

STATE ALASKA		PROJECT <i>Landowner Name</i>		
BY	DATE	CHECKED BY	DATE	JOB NO.
SUBJECT <i>High Tunnel Water Use Estimate</i>				SHEET 1 OF 2

Legal Description of Property: _____

Farm Number: _____

This spreadsheet is intended to provide a quick estimate of the water use for a landowner, that will be properly irrigating a high tunnel, to assist in determining if a DNR water rights permit may be required. This estimate considers all water use, both agricultural and domestic, to be from a single source, DNR will determine if multiple wells or sources should be considered separately.

This estimate offers a snapshot in time of potential water use. There are inherent variations in water use with crop life-stage and weather conditions that are not accounted for. If there are multiple high tunnels, multiple spreadsheets will need to be completed and the results combined manually.

- Yellow boxes are user input values
- Blue boxes are calculated in Excel
- Red box is the estimated water use

High Tunnel Water Use

Irrigation System efficiency (%) : **90** *(Surface and subsurface drip = 90%)*

Crop specific water use (inch/day) = **0.18** *(Varies through life of crop; 0.18 in/day is towards middle for many crops. Use area-weighted average if multiple crop values need to be considered)*

High Tunnel Size

Length (ft): **72**
 Width (ft): **30**
 Area (ft²): **2160**

Percentage of HT area irrigated = **75** *(How much of the high tunnel is irrigated crops and how much is walkways?)*

Irrigation water use (ft³/day)= **27** *(Crop specific water use *Area *Percentage irrigated/efficiency)*
 Gallons/day= **202** *(Estimate of Irrigation water used per application)*

Irrigation Frequency (days) = **4** *(Likely varies from 1 to 7 days through the crop life. Recommend an average value of 4 unless better information is available)*

Irrigation water use per application (Gallons)= **808**

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BY	JAO	DATE	10/2/2014	CHECKED BY	JOB NO.
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Domestic Water Use

If the water source is used to provide domestic water to a home, enter number of occupants in the home. If water source is not used to provide water to a home, enter zero in the number of occupants.

Number of occupants = 4

Domestic Water Use (Gallons/Day) = 240

Misc Water Use

Any other water use (Livestock, etc) should be estimated and entered below.

Misc Water Use (Gallons/Day) = 100

TOTAL WATER USE

The total water use is the sum of the High Tunnel Water Use, Domestic Water Use, and Miscellaneous Use.

Total Water Use (Gallons/Day) = 1148

The number above is an estimate. If it is close to, or greater than, 500 gallons/day, a DNR Water Rights Permit may be required, as high tunnel irrigation likely will be required more than ten times during a growing season.