

Water Conservation FACTSHEET



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IRRIGATION WATER-SAVING TIPS

A. WATER USE AND IRRIGATION

The following points will help manage water use when irrigating. They will help reduce pumping costs or keep water in a reservoir, as well as reduce the chance of stream water flows being over drawn.

Note the first two points below are recognized measures to improve water use efficiency. Points three and four, monitoring soil moisture and monitoring climate, while not used traditionally, offer high water conservation possibilities when used throughout the growing season.

1. YOUR EQUIPMENT

- ▶ having efficient equipment for the type of crop

Row Crops

- ▶ drip irrigation applies water at the plant and is the most efficient
- ▶ drip is often used on fruit trees, vegetables, and for landscaping

Field Crops

- ▶ choose sprinklers instead of guns, especially in windy areas
- ▶ choose pivots that apply water close to the crop for reduced losses

Goal

- ▶ *when upgrading equipment, choose the most efficient for the crop*

2. HOW YOU OPERATE IT

- ▶ operating pressure, nozzle size, spacing, etc., and maintenance, such as leaks, etc.

Pressure

- ▶ ensure the system pressure is correct (high pressure will apply excess water)
- ▶ pressure should be as for the system design
- ▶ if unsure, check with irrigation dealer as to typical pressure for your nozzles

Goal

- ▶ *have a design done for your system to get maximum efficiency*

Nozzles

- ▶ check sprinkler nozzles (using a drill bit) and replace oversized ones (oversized nozzles will apply excess water)
- ▶ at less than \$1 a piece, new nozzles are a quick and simple water-saving step

Goal

- ▶ *do regular nozzle checks*

Spacing

- ▶ ensure equipment setup spacings match soil/crop needs

Goal

- ▶ *have a design done for your system to get maximum efficiency*

Leaks

- ▶ repair any leaks to conserve water (look for things such as ‘perpetual wet spots’)

Goal

- ▶ *minimize water loss from leaks*

- 3. MONITOR SOIL MOISTURE**
- ▶ this allows you to apply water as needed by soil moisture levels
 - ▶ can be used to determine when to irrigate
 - ▶ is the most efficient way to use water, as only water that is required is applied
 - ▶ can be used to daily adjust timers on drip systems in row crops
 - ▶ can be used to adjust the rotation speed of pivots
 - ▶ can be used to determine restart time for sprinklers systems
 - ▶ various methods can be used; check with Ministry of Agriculture

Goal ▶ *irrigate knowing the soil moisture content*

- 4. MONITOR CLIMATE**
- ▶ climate information can be used to schedule irrigation systems
 - ▶ the Farmwest website provides real time climate station information for various climate stations in B.C.
 - ▶ links to information on using climate information to schedule irrigation systems can be found at Farmwest.

Goal ▶ *irrigate knowing the amount of water used by the crop over a given period*

B. WATER USE AND CROPS

The following points will help you in deciding how to allocate water to different types of crops in late summer if irrigation water is short.

These points assume the crop has been irrigated normally throughout the growing season to this point and soil moisture has not been severely lowered.

- 1. WATER DEMAND**
- ▶ in late summer, with shortening days and cooler nights, the amount of water used by plants is reduced (that is, the evapotranspiration rate is reduced)
 - ▶ this can be matched to the crop to reduce irrigation with the least production impact
- 2. ANNUAL CROPS**
- ▶ drought stress at the late summer period of the growing season is a low concern for some annual crops
 - ▶ for instance, silage corn has likely done most all of its growth and reducing irrigation water will have a low impact of production
 - ▶ potato crops may have completed most of their growth and irrigation could be reduced
 - ▶ water-sensitive crops still in the growth stage should have the least irrigation reduction
- 3. PERENNIAL CROPS**
- ▶ drought stress could affect the crops ability to survive winter
 - ▶ these crops need soil moisture going into the fall, but irrigation could be reduced from the normal amount
 - ▶ irrigation should be delayed as long as possible to take advantage of any fall rains that may occur
 - ▶ if fall rainfall brings the soil moisture high enough prior to winter then irrigation would not need to be applied
 - ▶ for instance, forage crops under reduced irrigation will produce less but can still have enough water going into fall
 - ▶ if the crop has been irrigated normally throughout the growing season, reducing irrigation up to 50% of normal should not affect its survival

FOR MORE INFORMATION CONTACT

Phone: 604.556.3001
Toll Free: 1.888.221.7141

MINISTRY OF AGRICULTURE

1767 Angus Campbell Road
Abbotsford, B.C. V3G 2M3