

Drought strategy checklist for horticulture

Introduction

The following Drought Strategy Checklist is a series of questions, which may help horticulture growers manage their properties during the period of reduced water allocations.

The checklist covers nine key areas including property plan, water, crop water requirements, irrigation system, irrigation monitoring, canopy management, water saving strategies, customers and financial .

The answers to these questions will in most instances be related to your specific crop, property and individual circumstance. The list whilst not exhaustive may help you identify if you need to consult with other people or information sources, and may be critical to the making of important decisions associated with the water restrictions.



1. PROPERTY PLAN

	Yes	No	Need More Info.	N/A
Do I have a property plan or aerial photograph?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all crop types and varieties clearly identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I calculated the area of each crop type in hectares?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I prioritised my plantings to variety, age, productivity, return and market?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has my property had a soil survey?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I identified the different soil types on my property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do I know how much water each soil type will hold (Readily Available Water – RAW)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I identified the rootzone depths of my crops by patch?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do I know how much water it normally takes to fill my entire rootzone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. WATER

Have I calculated how much water I have in mega litres?

Yes	No	Need More Info.	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have I compared my reduced allocation with use over previous years?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I think I can manage with the reduced allocation?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I think I will need more water?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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3. CROP WATER REQUIREMENTS

Have I calculated how much water my crops normally require?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Have I compared this figure with my reduced allocation?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Have I developed a water budget for my crops?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I know what the critical growth stages are for all of my crops and when irrigation is essential to maintain yield and quality?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I know where I can reduce irrigation for my crops and have a minimal effect on yield and quality?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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4. IRRIGATION SYSTEM

Do I know the application rate in mm/hr for my irrigation system?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I know if my irrigation system is performing to design specifications?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I have any leaky valves or lines that need repair?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Am I considering changing my irrigation system?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Have I considered converting to drip irrigation?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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If considering converting my system have I contacted an irrigation designer?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5. IRRIGATION MONITORING

Do I know how to read my water meter?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Should I record my meter reading after each irrigation shift?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I regularly monitor my soil water content?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I have soil water monitoring equipment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5. IRRIGATION MONITORING (continued)

Do I understand the information produced by my soil water devices?

Yes	No	Need More Info.	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Should I adjust my refill point?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I need to irrigate my entire rootzone?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Should I consider only irrigating the major part of the rootzone?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Have I produced a monthly irrigation budget by crop type for the season?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Should I collect soil salinity samples?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I know how to collect a soil salinity sample?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Do I know what are the critical soil salinity values for my crops?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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6. CANOPY MANAGEMENT

Should I reduce my canopy size, if so, by how much?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Should I reduce fertilisation to avoid excessive vigour?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Should I thin fruit, if so, by how much?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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7. WATER SAVING STRATEGIES (Will I implement the following...)

Full cover weed control?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Mulch the wetted strip?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Irrigate at night?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Avoid irrigation during windy conditions?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Change irrigation interval to reduce surface evaporation?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Stop irrigating windbreaks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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8. CUSTOMERS

	Yes	No	Need More Info.	N/A
Do I need to consult winery/packing shed on varietal preference?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do I have to meet strict contracts for supply of product?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the market I normally supply accept a lower standard product?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is keeping my markets supplied very important to my medium to long-term survival? ie if I don't supply my market next season will that market outlet be unavailable to me when water restrictions are removed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. FINANCIAL

Have I calculated the Gross Margin per hectare for all my crops and varieties?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I compared the water requirement of each patch against its financial return?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I calculated the \$/Megalitre return of each crop I have?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Am I considering leasing water in or out?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do I know what the procedures are for leasing water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have I calculated the cost benefit action of obtaining additional water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Should I stop irrigating some varieties of low financial return to save water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further Reading

Water Budgeting Guidelines (PIRSA Fact Sheets for various horticulture crops)

Seasonal & Weekly Water Budgeting Tools (PIRSA Spreadsheets)

Water Trade Decision Tool (PIRSA Spreadsheet)

http://www.pir.sa.gov.au/pirsa/drought/irrigation__and__water_management/water_budgeting_and_water_trade_decision_tools

Monitoring Soil Salinity for Irrigated Horticulture (PIRSA Fact Sheet 31/02/06)

Managing Salinity with Restricted Allocations in the South Australian Riverland (PIRSA Fact Sheet 04/07)

Salinity Impacts of Low Murray River Flows in the South Australian Riverland (PIRSA Fact Sheet 05/07)

http://www.pir.sa.gov.au/pirsa/drought/irrigation__and__water_management/salinity_management

Irrigating Horticulture Crops with Reduced Water Supplies (PIRSA Fact Sheet 18/06)

http://www.pir.sa.gov.au/pirsa/drought/irrigation__and__water_management/irrigated_crop_information

Business Decision Making Tool (PIRSA Spreadsheet)

http://www.pir.sa.gov.au/pirsa/drought/irrigation__and__water_management/business_decision_making_tool

Irrigators Toolkit, Latest River Murray Information, Government Assistance and Support

http://www.pir.sa.gov.au/pirsa/drought/irrigation__and__water_management



South Australian Government Drought Response Initiative

Drought Link website: www.service.sa.gov.au/drought.asp

Drought Hotline 180 2020 FREECALL*

(*Mobile charges may apply. Call back available)

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