

## ORC Evidence Requirements for the Sweetpotato Industry

### Revision history

Version	Date issued	Amendment Details	
		Element(s)	Details
1.0	14 July 2022	All	New ORC evidence framework. Endorsed by Australian Sweetpotato Growers Inc., government Parties and the Plant Health Australia Board.

### Notes in respect of this evidence framework

The sweetpotato industry Owner Reimbursement Costs (ORC) evidence framework only applies to Owners from the sweetpotato industry. This evidence framework is to be used for the valuation of a Crop grown for sweetpotato production. A Crop grown to produce sweetpotato nursery stock would be valued under the nursery production ORC evidence framework for annual short rotation crops.

ORCs for the sweetpotato industry are calculated using the formula for annual short rotation crops (*schedule 6, part 4.4.12 of the Emergency Plant Pest Response Deed, [3 March 2022]*). This formula is: **ORC = (A – B) + C + D + E – F + G**. A definition for each component of this formula is provided in the following table. The evidence requirements for each component are presented in hierarchical order of use. This means that where more than one option is presented, the valuation must proceed starting with the first option and if that data is not available or relevant, progressing to the second option, followed by the third option and so on.

Regional differences will need to be taken into account throughout the evidence framework.

The sweetpotato industry is currently exploring the development of the following supporting materials for this evidence framework:

- Methodology for estimating sweetpotato yield and pack-out from field sampling of immature crops.
- Methodology for deriving industry average pack-out tables in major sweetpotato growing locations.
- Gross margins for sweetpotatoes (potentially different gross margins for each cultivar and region).

The following statement taken from the *Guidelines for owner reimbursement costs under the plant pest deed* (Centre for International Economics, June 2004 available at [planthealthaustralia.com.au/biosecurity/incursion-management/owner-reimbursement-costs](http://planthealthaustralia.com.au/biosecurity/incursion-management/owner-reimbursement-costs)) provides clarity in relation to framework elements E and F;

specifically, that unless a bare fallow is required under the Response Plan (i.e. no alternative crop can be grown), ORCs will only apply for the year in which the sweetpotato crop is destroyed. Any profits earned from an alternative crop grown in the year of sweetpotato destruction are to be deducted from the ORC under element F.

*"To avoid double counting, where the land on which the Crop is destroyed is allowed to be used for other purposes during the same growing season (grazing, potato production etc), the net profits derived from such enterprises in the current season would be deducted from Owner Reimbursement Costs.*

*Where the Crop destroyed cannot be grown on the same land the following year, but there is no requirement to fallow the land - the land can be used for other purposes (for example, growing another Crop or some other use of the owner's choice), no Owner Reimbursement Costs would be payable for the second year. In many cases alternative Crops would be grown anyway as part of the normal farming rotation management system."*

### Key terms used in this evidence framework

Term	Definition
Authorised Person(s)	Where key variables of the ORC need to be assessed, potentially having significant financial or 'moral hazard' implications, an Authorised Person should be used in the determination of the appropriate value. Such persons: (a) should be appropriately authorised under relevant legislation and procedures (usually of the Affected jurisdiction); (b) may be involved in (without limitation) certification, audit or determination of key information as appropriate; (c) should be appropriately qualified for the specified roles; (d) need not be a government employee, but must meet relevant independence and other relevant probity requirements; (e) should be sourced from existing expertise, such as qualified agronomists or hail assessors, where possible and appropriate.
Lead Agency	The agency(s) of the State(s) or Territory(s) which are responsible for leading the conduct of a Response Plan (because of the occurrence of an Incident within their State(s) or Territory(s))
Owner(s)	Owner(s) of a Crop, Crops or sub-group of Crops, or a property, which is/are subject to a Response Plan, or their authorised representative(s). Includes any person, other than a mortgagee not in possession, having or claiming any right, title or interest in a crop or a property, or their authorised representative.
Relevant Parties	In respect of the taking of a decision or action, the Parties which may be affected (or, where they are an Industry Party, the members of which may be affected) by the decision or action.

*Note this list is not comprehensive. Refer to clause 1.1 of the EPPRD for definitions of capitalised words/terms (excluding names) used in this evidence framework*

## ORC Evidence Framework

	Definition of elements from the EPPRD	Evidence requirements ( <i>in hierarchical order</i> )	Additional information
<b>A</b>	Estimated farm gate value of the Crop(s) destroyed = $a * y * p$		
	<p>a = area of Crop destroyed or a and y might refer to number of units expected to be sold, such as number of punnets of seedlings.</p>	<p>Certification/assessment by an Authorised Person of the area of Crop impacted or identified for destruction using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. GPS-derived measurement of planted row length, for a specified planting date, cumulative across the applicable number of rows.</li> <li>2. Accurate property maps, incorporating GPS paddock cropping boundary data (if available).</li> <li>3. Satellite imagery.</li> <li>4. Aerial photographs.</li> </ol> <p>An on-ground survey, including planting-date and cultivar confirmation will be required to verify the Crop impacted or identified for destruction at the time of the incursion. This will be carried out by an Authorised Person.</p>	<ul style="list-style-type: none"> <li>• The jurisdictional legislative instrument (by whatever name) will identify the quarantine zone, area or premises and the Lead Agency must hold appropriate records of the area of Crop impacted or destroyed.</li> <li>• Property maps and GPS-derived data need to include information on the Crop such as cultivar.</li> <li>• Photos and satellite imagery must have high enough resolution to specify growing area if it is to be used.</li> <li>• Length of planted row for a specific planting date provides the most accurate measure of the Crop 'area'.</li> </ul>
	<p>y = yield or a and y might refer to number of units expected to be sold, such as number of punnets of seedlings. The yield estimate is to take into account the type of Crop destroyed.</p>	<p>Certification/assessment of the yield by an Authorised Person using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. Actual yield determined by harvesting the mature Crop.</li> <li>2. Extrapolated marketable yields derived from in-field sampling of sweetpotato plants with storage roots at least one cm in diameter.</li> <li>3. Expected marketable yield for the affected Crop, calculated for the individual Owner from their auditable historical pack-out records for the same</li> </ol>	<ul style="list-style-type: none"> <li>• Where the whole district is seriously affected by the pest being eradicated and regional yields are clearly distorted, the yield information should take this into account.</li> <li>• Expected yield will take into account the variety/cultivar of the Crop impacted or destroyed. The stage of the cropping cycle when the Crop is destroyed must also be taken into account.</li> <li>• In-field sampling methodology and interpretation to support derivation of marketable yield under point 2 in the hierarchy is under development by industry.</li> </ul>

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		<p>cultivar and growing period, averaged over the 2 most recent prior years of sweetpotato production.</p> <p>4. Averages of local area pack-out records for the applicable cultivar and growing period for the previous 2 years sourced from industry.</p> <p>If records for the appropriate cultivars are not available, 2 year averages for the most similar cultivar will be used.</p>	<ul style="list-style-type: none"> <li>• Yields recovered through insurance policies and any insurance premiums are not to form part of ORCs.</li> <li>• New property Owners will need to obtain permission from previous Owners for data release if they wish to use records for the property for their ORC assessment.</li> <li>• Yield data format for each unit measure will include a type (tray, carton, bin), weight (kg), and size/grade. For example, 4000 medium (premium) trays (15 kg) per hectare.</li> <li>• Averages are to be measured over the 2 most recent prior years of sweetpotato production, as farming practices and yields are rapidly changing, due to cost/price squeezes, experience with new cultivars, and refinement of marketing windows.</li> <li>• In relation to point 4 in the hierarchy, industry-agreed average pack-out for common cultivars, growing periods and growing locations will be published in the Members Page of the Australian Sweetpotato Growers website, and updated in August each year.</li> </ul>
	<p>p = farm gate price = either:</p> <ul style="list-style-type: none"> <li>• the average market price for the season in the region or marketplace where normal sales take place; or</li> <li>• where there are signed contracts with the price stipulated on the contract, the contract price</li> </ul>	<p>Price at farm gate will be determined using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. Contract price for the Crop applicable under the contract, if in place. This will be adjusted, according to the contract terms, using the quality and grading values of recent sales in the current season, or the previous season if current season data is not available. These records are typically kept by Owners, packers and processors.</li> <li>2. For a non-contracted Crop ready to harvest, Owner</li> </ol>	<ul style="list-style-type: none"> <li>• All prices must be measured at farm gate.</li> <li>• Market price can fluctuate during the season. As planting and harvesting can occur all year round in some growing areas an Owner may receive different prices across the season.</li> <li>• Owners claiming above average prices must produce auditable records of above average prices in previous years to justify additional amounts in ORCs.</li> <li>• If there are commodities grown on the same property that fall under contract and non-contract arrangements, the</li> </ul>

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	less any transport or selling costs.	<p>records for recent sales (spot price) in the current season of the same, or similar cultivars. Where the Owner has not made recent sales, neighbouring packer records for recent sales (spot price) of the same, or similar cultivars will be used.</p> <ol style="list-style-type: none"> <li>For a non-contracted Crop that is immature, records for the applicable cultivar and assumed harvest period for the previous season sourced from the Owners auditable historical records.</li> <li>Verifiable local/regional averages determined from an appropriate market source at the time of the incursion.</li> </ol> <p>To obtain the farm gate value for 1 to 4 above the selling costs (such as transport and marketing costs) will need to be subtracted from the market price. The selling costs will be calculated using one of the following methods:</p> <ol style="list-style-type: none"> <li>Owners records for recent sales in the current season.</li> <li>Owners records for the previous season.</li> <li>Verifiable local/regional averages for the current season determined from another appropriate source at the time of the Incident.</li> </ol>	<p>contract price will be paid for the volume of commodity in the contract and the price for the remaining commodity will be the spot price.</p> <ul style="list-style-type: none"> <li>There are a range of processes available to Owners for selling products. Owners may choose to: <ul style="list-style-type: none"> <li>Pick and pack their own produce;</li> <li>Pick and then send their produce to a packing house;</li> <li>Market directly to retailers; or</li> <li>Sell through a merchant/agent.</li> </ul> </li> <li>Through auditable records, Owners will demonstrate which process, or mix of processes they intended to use for the affected Crop. This will determine which pricing structure to use.</li> <li>State bodies representing sweetpotato growers may provide regional averages for prices, based on capital city market data for usual Owner sales destination. These prices can be adjusted to reflect Owner pack-out units and sales pathways.</li> </ul>
<b>B</b>	= Harvesting costs plus any other costs normally associated with Crop production between the time of Crop destruction and selling or harvesting. This is to include normal treatment or packaging and handling costs on	<p>Harvesting and other applicable costs will be determined using one of the following methods in hierarchical order:</p> <ol style="list-style-type: none"> <li>Owners auditable records from the 2 most recent years of sweetpotato production as appropriate.</li> <li>A standard schedule of best practice harvest and production costs based on local or regional prices.</li> </ol>	<ul style="list-style-type: none"> <li>This element includes harvesting and other production costs that would normally be incurred between the time of harvesting and selling if the Crop was not impacted or destroyed.</li> <li>If the Owner has already harvested the Crop (prior to impact to or destruction of the Crop) or is directed to</li> </ul>

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	farm for some harvested produce (for example washing or dipping of products).	This will be determined by the Lead Agency in consultation with the Australian Sweetpotato Growers Inc.	harvest their Crop to make a yield determination, then the harvesting cost component of B will not be deducted from the ORC.
<b>C</b>	= Direct costs associated with the Response Plan incurred by the Owner but not normally incurred as a production expense – including cleaning of equipment or glasshouses etc.	<p>This will depend on what the Response Plan requires and will need to be calculated on an Incident by Incident basis.</p> <p>Costs normally incurred by the Owner as a production expense will be determined using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. Owners auditable records from the 2 most recent prior years of sweetpotato production.</li> <li>2. A standard schedule of regional gross margins based on standard local or regional contract prices. This will be determined by the Lead Agency in consultation with the Australian Sweetpotato Growers Inc.</li> </ol> <p>A schedule of costs additional to those normally incurred by the Owner that are required by the Response Plan will be developed by the Lead Agency at the time of the Incident.</p>	<ul style="list-style-type: none"> <li>• Required actions/treatments by Owners need to be specifically defined in the Response Plan.</li> <li>• “Direct costs” does not include market access costs arising from market access restrictions imposed by jurisdictions in response to the Incident.</li> <li>• The jurisdictional legislative instrument (by whatever name) needs to identify the actions/treatments required that are to be undertaken by the Owner.</li> </ul>
<b>D</b>	= Replacement value of any capital items destroyed as part of the Response Plan.	<p>Replacement value of any capital items destroyed will depend on what the Response Plan requires and will need to be calculated on an Incident by Incident basis.</p> <p>Replacement value of any capital items destroyed as an unintended consequence of an eradication program need to be included in this element but will not necessarily be specified in the Response Plan.</p> <p>Unintended destruction of capital items will be dealt with on an Owner-by-Owner basis.</p>	<ul style="list-style-type: none"> <li>• The legislative instrument (by whatever name) needs to identify items requiring destruction.</li> <li>• Known capital items requiring destruction need to be specified in a Response Plan.</li> <li>• Some items cannot be replaced until the fallow period ends. The price of these items is likely to increase during the fallow period. As such, an appropriate rate of input price inflation must be determined and applied to these prices. Subsequent values are then depreciated.</li> </ul>

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		<p>Replacement values are to be determined in accordance with a schedule of market values for items expected to be destroyed, replacing like with like, and agreed by Relevant Parties at the time of developing a Response Plan.</p> <p>Prices will be sourced from local/district suppliers identified at the time of the Incident e.g.:</p> <ul style="list-style-type: none"> <li>• Landmark;</li> <li>• Elders;</li> <li>• Roberts; or</li> <li>• Other regional specialist suppliers identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Capital items could include: <ul style="list-style-type: none"> <li>○ Irrigation lines</li> <li>○ Planting trays/crates/bins</li> <li>○ Harvest crates/bins</li> <li>○ Pallets</li> </ul> </li> <li>• Replacing 'like with like' means that the Owner is reimbursed for the value of the asset that was destroyed under the Response Plan – it is the cost to replace the same type of item (i.e. same make, model, size etc), and takes into account the age of the item destroyed through a method of depreciation.</li> <li>• If there is an opportunity following the Response Plan for modernising or upgrading the growing facilities – for example, closer Crop plantings, or hydroponics, the level of ORC is to be related strictly to replacing the asset that was there. If an Owner wants to introduce more technology, or better infrastructure, for example, the Owner must cover additional costs.</li> </ul>
<b>E</b>	<p>= Loss of profits from a Response Plan requirement to fallow land or keep glasshouses empty.</p> <p>These ORC are only available where the Response Plan requires a fallow period that exceeds ten weeks and are to be restricted to loss of profits for a maximum of three years. Profits are to be based on standardised gross margins data from State/Territory departments of</p>	<p>Loss of net profits will be determined using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. Owners auditable records from the 2 most recent prior years of sweetpotato production will be used to estimate future costs and the Crop value as appropriate.</li> <li>2. A standard schedule of regional gross margins based on standard local contract prices will be used to estimate future costs and the Crop value based on best practice. This will be determined by the Lead Agency in consultation with the Australian</li> </ol>	<ul style="list-style-type: none"> <li>• Element "E" only applies if a period of bare fallow is required by the Response Plan or if a grower does not have experience/expertise or capital equipment required to grow a suitable and allowable alternative crop (see element F).</li> <li>• The primary goal should be to reduce the costs of the response to all Parties including the Affected Parties. There needs to be a mechanism to enable people to remain productive when there is an incursion. Unless bare fallow is required, it will be assumed that a grower will grow an</li> </ul>

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	agriculture, based on 'best practice'. However, in some cases, for example where glasshouses are involved, profit estimates may need to be based on documentation of profits from previous years.	Sweetpotato Growers Inc.	<p>alternative crop as the first option to remain productive (see framework element "F").</p> <ul style="list-style-type: none"> <li>Owners may rotate sweetpotato with non cash cover crops for 1-3 years. This will need to be taken into account if a bare fallow applies under the Response Plan.</li> </ul>
<b>F</b>	<p>= Profits that could be earned from the next best alternative enterprise, produced with the same resources, on the land where the Crop is destroyed and permitted by the Response Plan.</p> <p>Unless the Response Plan requires the land to be fallow, deductions are to be made on the assumption that the Owner chooses the next most profitable enterprise that could be undertaken with existing capital equipment. Gross margins for these alternative enterprises are to be standardised, based on 'best practice' and estimated by State/Territory departments of agriculture.</p> <p><b>This applies only in the year in which the Crop is destroyed.</b> Where a strict fallow in subsequent years is not required under the Response Plan — that is, any alternative enterprise can be undertaken except production of the Crop concerned in the Response Plan, <b>ORCs are not to</b></p>	<p>Standardised returns to be estimated for crops relevant to the affected region. An Authorised Person is then to assess each enterprise for the suitability of each relevant crop, including farm records and the experience and equipment normally available to the Owner.</p> <p>Gross margins for alternate crops are to be standardised, based on 'best practice' and estimated by State/Territory Agriculture Departments.</p> <p>Where an Owner has auditable records to support consistent performance for an alternate crop that differs to a regional average then specific reference to an Owner's individual gross margin will be used as appropriate.</p>	<ul style="list-style-type: none"> <li>Element "F" only applies if the Response Plan allows for an alternative crop to be grown. If bare fallow is required, framework element "F" does not apply. Instead, element "E" applies to the ORC.</li> <li>The EPPRD assumes that the Owner will choose to run the next most profitable enterprise that could be undertaken with existing capital equipment. However, some requirements are: <ul style="list-style-type: none"> <li>The alternate crop must be a crop the farmer is set up for and confident/experienced to grow.</li> <li>The alternate crop choices will depend on the EPP, host range and persistence in the environment.</li> <li>The alternate crop must not be affected by the EPP or allow it to persist.</li> </ul> </li> <li>Choice of alternate crop will need to be made at the time based on the above requirements, crop cycle, seasonal conditions, EPP and what the Response Plan allows. Recommendations to the Authorised Person could be made by individuals with agronomic experience in the region and/or the Australian Sweetpotato Growers Inc.</li> <li>Sweetpotato is a highly specialised Crop, with specific machinery, packaging and marketing requirements. Sweetpotato growers do not typically rotate with</li> </ul>



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	<b>include</b> the difference in profits for the Crop in question and any alternative enterprise.		alternative cash crops. Most growers would not be positioned to replant with an alternative cash crop in the same year the sweetpotato Crop is destroyed.
<b>G</b>	= Value of any stored produce on farm destroyed as a directive of the Response Plan – as for annual broadacre Crops.	<p>This will depend on what the Response Plan requires and will be calculated on an Incident by Incident basis.</p> <p>The amount of any stored produce will be determined by inspection of an Authorised Person at the time of the Incident.</p> <p>For sweetpotatoes stored for market, price will be determined using the applicable method as described in "A".</p> <p>For stored sweetpotato roots or cuttings to be used by the grower for their commercial sweetpotato plantings, price will be determined using one of the following methods:</p> <ol style="list-style-type: none"> <li>1. Owner's auditable records from the current season.</li> <li>2. Market price from the Owner's supplier.</li> <li>3. Owner's auditable records from the previous season.</li> <li>4. Average price determined from an appropriate market source (e.g. commercial producer of cuttings) at the time of incursion.</li> </ol>	<ul style="list-style-type: none"> <li>• Stored sweetpotatoes includes: <ul style="list-style-type: none"> <li>○ Stored produce for market – sweetpotatoes are stored in bulk bins (washed and unwashed), or washed and packed in palletised trays, cartons or retail pre-packs. These sweetpotatoes are usually stored on-farm for less than one week, but it can be up to one month.</li> <li>○ 'Nursery' sweetpotato roots - growers install these roots in nursery beds on farm and take cuttings from these beds for their commercial sweetpotato plantings. These nursery sweetpotatoes are stored unwashed in bulk-bins for up to three months.</li> <li>○ Sweetpotato cuttings for commercial planting - cuttings are harvested from on-farm nurseries or purchased from a contract supplier and may be stored in sheds, or under cover, for 1-3 days before planting.</li> </ul> </li> <li>• Legal transfer of ownership of the Crop will vary with arrangements between an Owner and any intermediary.</li> </ul>