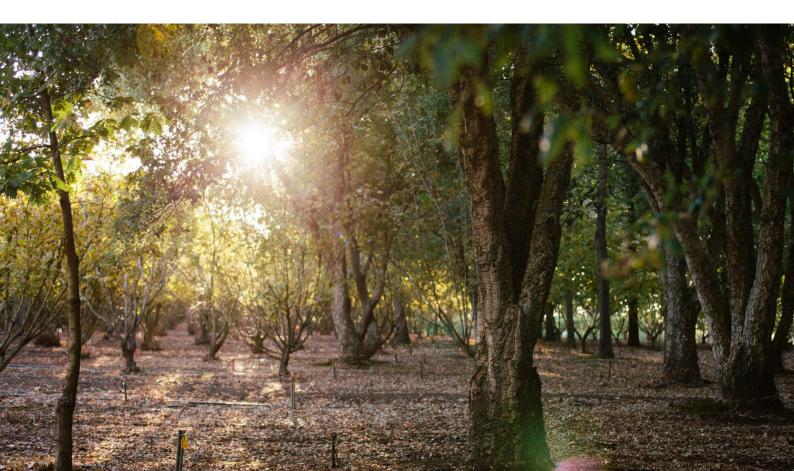
Truffle Producers Western Australia



Strategic Plan 2019 - 2024

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FOREWORD

The South West corner of Western Australia has become the worlds "hot spot" for truffle production. There are now more than 70 growers with plantations of sufficient size to one day become "commercial producers" of the French Black Truffle.

Production in this region is already significant on a worldwide scale. TPWA is forecasting within the next 5 or 6 years, production from our region will increase by up to 3 times what is currently harvested. This is a huge growth rate.

Truffle Producers WA (TPWA) was formed in 2014 with the simple aim of bringing together the truffle growing community in Western Australia and providing a forum where truffle growers could meet and discuss industry issues. Over the last few years TPWA has facilitated two major research projects – Investigation into truffle pests and diseases as well as research into developing a truffle value added industry.

From humble beginnings, TPWA is now a strong body with an engaged membership and an active and capable committee. It has moved from a position of having no funds to one where it can operate easily on a day to day basis.

This strategic plan is the first attempt to draw a roadmap for the industry. It does not cover all issues that the industry is facing or indeed attempt to say all the issues the industry may face in the coming years can be solved. However, it is an honest attempt to document its present position and potential challenges, what we see as challenges and issues now and into the future.

Of course, this plan is only as good or comprehensive as the industry in Western Australia want to make it. I urge all truffle growers to take an active part in moving this emerging industry along a successful path. There is no question the industry will encounter challenges and problems. One key role of TPWA is to facilitate the industry working together for the good of all involved.



Wally Edwards Chairman, Truffle Producers WA

TRUFFLES

A truffle is the fruiting body of a subterranean ascomycete fungus, predominantly one of the many species of the genus Tuber.

Truffle production in Australia to date has been based mostly on the black truffle produced by Tuber melanosporum, sometimes referred to as the French or Perigord black truffle. Black truffles are best understood as an underground mushroom. Black truffles are native to western Europe and are now cultivated as a horticultural crop in North and South America, New Zealand and Australia as well as Europe.

The Western Australian truffle industry is based on the French black truffle or Périgord truffle (Tuber melanosporum) grown in association with oak trees (mainly Quercus robur and Q. ilex) and hazelnut trees (Corylus avellana). Seedlings are inoculated with fungal spores from mature truffles before being planted out into orchards.

Black truffles are a very high value crop however their production requires significant capital expenditure, is extremely labour intensive and has a long lead time to achieve an economic production. Traditionally, in the northern hemisphere, truffles are harvested from woodlands, however several species can now be cultivated. Host tree seedlings are inoculated with truffle spores in the nursery before planting out in the field, and production and harvest begins five to seven years later. Specially trained dogs are used to locate the truffles which are found in the top 30cm of the soil profile.

The first commercial plantings of truffles in Western Australia (WA) occurred in 1997, with the first truffle found in 2003. While black truffles are successfully cultivated around Manjimup, Pemberton, Northcliffe, Bridgetown, Denmark, Margaret River and Walpole, it is not known whether production will be successful in other areas. Inoculated oak and hazelnut trees have been planted in the Perth Hills and at Toodyay, north-east of Perth, as well as Busselton, Nannup and Donnybrook.

There are some 70 known truffle orchards in WA, covering an estimated 300 hectares. Less than half of these are believed to be mature (producing steady profitable yields). If the planting trends over the last 10 years continue in a linear manner, the total area of truffle orchards in WA is predicted to increase to nearly 500ha by 2025.

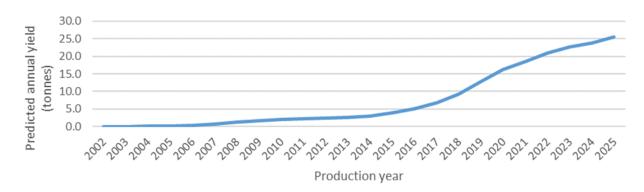


Production

Truffle production usually begins five to seven years after planting, with yields increasing over the next five to ten years. Commercial yields may not occur until after 10-12 from planting. While it is not known how long a orchard can be productive in the Western Australian conditions, it is believed that economic yields may be sustainable beyond 30 years after planting.

In 2018, truffle production in WA was estimated at 9.5 tonnes of saleable truffles, valued at about \$7.6 million (farm gate value), providing an estimated \$35 million economic benefit to the state. The WA crop is estimated to represent over 78% (based on reporting from National AGM) per cent of the total Australian production.

At present there are no firm figures on the production of black truffles in WA, but based on current plantings, industry estimates and predictive yields, WA production is predicted to reach 25 tonnes by 2025:



Markets

WA produced black truffles are marketed across Australia and overseas. Based on Australian Bureau of Statistics data, WA commenced exporting truffles in 2007 and have steadily increased.

In 2018, overseas exports were in excess of 7.9t tonnes (Based on analysed ABS 2018 export data) with a Free on Board (FOB) value of just over \$6.1 million. In 2018, WA accounted for almost 95% of the black truffle exports from Australia. Exports are estimated to account for roughly 80% of WA's total production/sales.

Based on future yield predictions, exports of WA truffles are predicted to reach 20 tonnes, by 2025, with a value of \$16M. All exports must conform to Australian fresh produce standards for human consumption. Many of the countries also have general import conditions that may require certifications and/or inspections.

Data sources: ABS data for Australian Harmonised Export Commodity Classification and information from the Department of Primary Industries and Regional Development 'Cultivation of black truffles in Western Australian' and the 'Western Australian truffle industry statistics 2018', unpublished.



The Western Australian truffle industry seeks to be recognised as world class in its production, processing and supply of high-quality truffles to a discerning domestic and international market.

OUR OBJECTIVES

The objects of the Truffle Producers Western Australia Inc. (TPWA) are to represent members interests by endeavouring to provide all aspects of industry information, to provide a unified voice to government and media, to collect data and analyse it for the betterment of members interests and to seek funding to aid the industry development.

TPWA represents its members' interests in providing advice, presenting a unified voice to government and media, and collecting and analysing data for the betterment of members' interests.

TPWA's aims to:

- Encourages truffle growers to work together;
- Provides support, information and connection throughout the community;
- Promotes the industry in general and promotes business for truffle growers;
- Represents WA growers on a national and international level;
- Provides a place for growers to share, collaborate, learn and grow; and
- Identify, source and promote funding opportunities to support the development of the WA Truffle industry.

INDUSTRY ANALYSIS

During the industry consultation process, the TPWA members undertook an analysis of The WA truffle industries Strengths, Weaknesses, Opportunities, and Threats. This analysis assisted with the development of the strategies identified within this plan.

STRENGTHS	 State recognition as international growers Producing a consistently high product Good quality trees used across the State High production rate Specialist product with excellent growing record in WA High quality assurance and standards are followed by growers which enhances 'Clean and Green' image Cohesive industry within TPWA members Excellent regional events which showcase Truffles Transport and supply lines to Perth Good support from Agricultural organisations 	 No consistent marketing message or brand or image for WA Inharmonious relationships within industry Lack of knowledge and structure of export standards Low number, availability and readability of truffle dogs Lack of education within orchard management, irrigation management, productions costs, break even points and continued costs. Growers have no formal certifications or qualifications Shelf life of product Unsustainable markets Lack of funding for research and development trials, biosecurity needs and marketing 	WEAKNESSES
OPPORTUNITIES	 State reputation for growing excellent products Increased production New markets emerging New product development Agri-tourism Partnerships with chefs and food service providers Cooperative membership and sales avenues Develop nonchemical Growing techniques Fresh truffle sales Integration into other marketable products Investment for research and development Alternative and native truffle species. Investment attraction 	 Biosecurity Climate Water supply and irrigation Overseas imports Pests and disease Oversupply of product Logistics of managing volume of production Inferior other truffle passed off as black truffle Maintaining a high dollar value for truffle Loss of major markets Theft Chemical Perception Market access 	T THREATS





Coordinate research, market development and product development projects for the industry on a state and national basis.



Provide networking opportunities, activities and events for members and fellow growers.



Provide information and education to members.



Actively network with industry and organisations nationally and internationally.



Advocate Biosecurity research and implementation.



Lead research and development projects which will enhance the industry.



Provide leadership and direction of all aspects of truffle production.

MEMBERS SNAPSHOP

Of the current 40 TPWA members, 32 took part in the following consultation, this is representative of approximately 46% of the Western Australian Truffle Industry (*based on 70 growers across WA*).

36% 64%	are solely truffle producers have mixed farms either producing beef, sheep or other consumable produce.	73% 91%	ove had	er 10 yea d a profes	rs sion outsi	cultural industry for ide of agriculture iffle producer
73%	have a truffle operation which is between 1-5ha	91%	are	currently	, producin	ng truffles
27%	have a truffle operation larger					
	than 5 ha	36%	% of members run their business as a		ousiness as a	
			Part	nership		
9%	of the members truffle operation is less than 4 years old	18%		nembers r npany	un their b	ousiness as a
36%	of the members truffle operation is 4 – 10 years old	46%	of m	nembers r	un their b	ousiness as a Trust
55%	of the members truffle operation is over 10 years old			18%	current accredi	ly hold an Industry

Active engagement in the following development areas is:

	High	Medium	Low	None
Nursery	9%	9%	18%	64%
Production	73%	0%	27%	0%
Harvest	64%	0%	27%	9%
Post-harvest / distribution	27%	0%	55%	18%
Quality Assurance	18%	27%	37%	18%

Knowledge of the various markets is:

	High	Medium	Low	None
Domestic markets	18%	27%	37%	18%
International markets	27%	19%	27%	27%
Export industry	19%	27%	27%	27%
Fresh	36%	9%	46%	9%

The following internal production techniques are currently undertaken by:

members hold an Organic

have standards in place for

hold a current Food Safety

hold an Environmental

certification

certification

certification

consumer quality

No

27%

46%

9%

82%	Grading of Product
91%	Hygiene Protocols
64%	Root sampling/analysis for contamination
73%	Soil moisture controls
82%	Soil tests
73%	Business process controls

INDUSTRY SNAPSHOP

around 9.5 tonnes of

saleable truffles

TPWA is only Fragmented growers' group of representative approximately 70 orchards of their across WA members not the WA funding to undertake There is no National Lack of standard for tree education certification outside truffle growers Many new Lack of confidence knowledge or and emerging in industry growers There is In 2018 truffle production in WA approximately was estimated to be 300 ha of truffle

orchards across

WA

In 2018, the WA truffle crop represented over 78% of the total Australian truffle exports (figures based on ABS data)

No secure

strategic

priorities

Lack of

industry

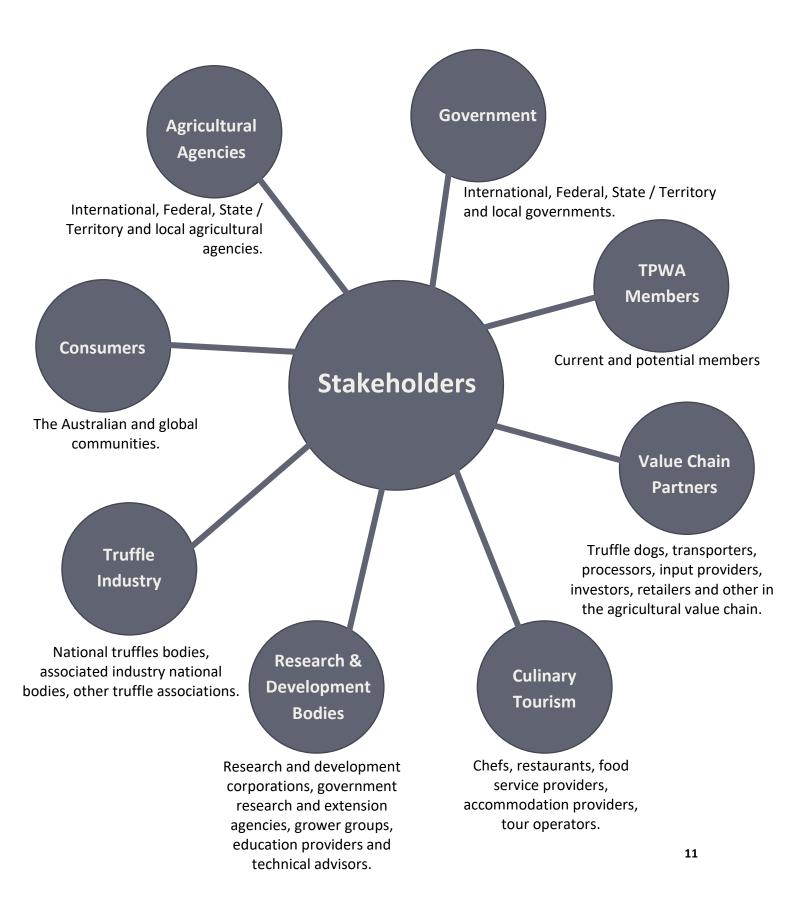
shared

resources

THIS PLAN

STAKEHOLDERS

Achieving the priorities identified within this plan will require the resources, energy and commitment of all the stakeholders referenced below. TPWA will look to collaborate with the stakeholders to achieve our vision for the industry.



ALIGNMENT TO NATIONAL PRIORITIES

This strategy, while focussed on developing the Western Australian truffle industry, is aligned with government priorities at both the State and Federal level. The major areas where government and industry partner for impact and therefore requiring alignment include research and development, and biosecurity.

National policy

The federal Department of Agriculture and Water Resources develops policy and provides services to improve the productivity, competitiveness and sustainability of agriculture, fisheries, forestry and related industries. The TPWA strategy also focusses on these outcomes. Elements of the Agricultural Competitiveness White Paper are also relevant to the development of the truffle industry in Western Australia, notably the commitment to market development and access and increased RD&E investment. The National Farmers Federation released its 2030 Roadmap that seeks to grow agricultural outputs to exceed \$100 billion in farm gate output by 2030. It includes 5 pillars, customers and the value chain, growing sustainably, unlocking innovation, people and communities and capital and risk management, all of which all are addressed in the TPWA strategy.

National Science and Research Priorities

Australia depends on science and research to:

- increase productivity
- achieve sustainable economic growth
- create jobs and improve national well-being

The truffle industry's research agenda aligns to the National Science and Research Priorities of Food, and Soil and Water.

Truffle Research and Development

Truffle research and development (R&D) has been funded by AgriFutures Ltd (formerly RIRDC), a Research and Development Corporation and other entities. Australian truffle growers do not pay an R&D levy, so funding for research is on a competitive basis across the AgriFutures Emerging Industries portfolio, with voluntary industry contributions when available.

Projects include, but are not limited to:

- Truffle yield
- Diseases
- Biosecurity
- Truffle grading standards
- Audit and certification of inoculated seedlings and trees
- Preserved and value-added products
- Processing and packaging technologies to extend shelf life
- Market analysis and market drivers.

Biosecurity

The truffle industry places a high priority on biosecurity. The industry has developed a Biosecurity Plan with Plant Health Australia that has identified six high priority pests/diseases:

- Halyomorpha halys (Brown marmorated stink bug)
- Lymantria monachal (Nun moth)
- *Pseudomonas avellanae* (Bacterial canker)
- Anisogramma anomala (Eastern filbert blight)
- Pucciniastrum coryli (Hazelnut rust)
- Phytophthora ramorum (Sudden oak death)

The Australian Truffle Growers Association (ATGA) signed the Emergency Plant Pest Response Deed in 2018, and at the time of writing, is preparing to start consultation with industry on the establishment of an EPPR levy, set at zero to fund incursion responses.

LONG TERM PRIORITIES

During the consultation process the members were asked what they would like the longterm priorities of TPWA to be. All of the priorities identified are incorporated into the priorities detailed within this plan.



TPWA should:

- Support and represent the whole industry;
- Be led by the issues, challenges, solutions and opportunities of the industry;
- Drive investment nationally for the industry;
- Be a source of information for the industry;
- Support industry growth;
- Be a tool for growers;
- Advocate with state and national government;
- Support unity and cohesiveness within WA industry;
- Build strong links with WA, national and international organisations to support the industry;
- Bring the truffle industry in WA together;
- Seek funding to aid the industry development;
- Support the progression of the whole truffle industry from nursery to production to distribution;
- Be influenced and directed by the members; and
- Represent their members.

TPWA 5 YEAR STRATEGIES

Strategy 1:	Research and Development
Focuses	Conduct Research and Development projects to improve orchard management and truffle production Support growers to improve their production and processing management Industry Sustainability Source Funding for Research and Development projects
Strategy 2:	Bio Security
Focuses	Identification and management Education
Strategy 3:	Marketing
Focuses	Develop TPWA's branding
Strategy 4:	Business Development
Focuses	Support the development of Truffle Production Deliver education to support business development
Strategy 5:	Organisational Value
Focuses	Membership Communication Governance

STRATEGY 1: RESEARCH AND DEVELOPMENT

TPWA is working towards ensuring stakeholders are informed on new industry developments and working together to engage whole of industry, R&D researchers and providers of new technology to develop and maintain quality truffle production.

Focus	Initiatives	Actions	Timeframe and review process
	Soil types and land care	 Investigate site history effects on truffle production Investigate the impact and efficiency of various weed control methods 	3 – 5 1 - 5
	Irrigation	 Identify the optimum irrigation levels for truffle production Identify the most productive applications for irrigation 	1 - 3 1 - 5
	Trees	 Advocate for a formally accredited tree certification system in WA 	continuing
Conduct Research and Development projects to improve		 Investigate organic concepts and practices Hold on farm training sessions and demonstrations for growers on all aspects of orchard management Develop orchard management benchmarking standards for growers 	1 field day a year continuing
orchard management and truffle production	Industry Viability	 Whilst utilising current research, investigate the ongoing effects of the changing climate, forest fires, pests and diseases on truffle production Undertake research and development projects that support the development, sustainability and viability of the WA truffle industry 	1 – 5 1 - 5
	Factors influencing truffle production and yield	 Conduct market research into production, yield and consistency of harvest supply 	1 - 3
	Cultivation, processing & Packing	1. Advocate for national grading standards	1 -3

	1. Provide R&D project findings to the WA truffle growers	
3	 Utilise information available from national, state and regional truffle organisation to educate growers Support the development of an education resource focusing on 	continuing continuing 1 – 3
4	 all elements of orchard management and truffle production Provide educational workshops to support growers with production (i.e. grading workshop, marketing, soil testing etc) 	continuing minimum of 1 workshop a year
ogs 1	 Support growers to access trained truffle dogs to support the cultivation of their truffle crops 	1-3
nd	 Support growers to access certificate courses Work with national industry bodies to update members on current and upcoming industry standards. 	continuing
growers 1	 Work with the growers to gain access to R&D findings to become individually sustainable growers 	continuing
dustry 1	 Conduct R&D projects that meet the needs of the WA truffle industry 	continuing
tion of 4	 Identify funding sources to undertake R&D projects Work with regional organisations to access funding Identify funding needs over a 5-year time period Develop budgets for R&D projects to help match them to funding opportunities Support the WA truffle industry to take responsibility for 	1 – 5 1 – 5 1 – 2 1 – 5 continuing
1	funding current and future projectsI. Develop partnerships with key organisations to undertake joint funding applications	continuing
i	ns	1. Develop partnerships with key organisations to undertake joint funding applications

3. Work in partnership with growers to apply for funding	continuing

STRATEGY 2: BIO SECURITY

Biosecurity is fundamental for safeguarding our valuable agricultural resources against the threat and impacts of pests, weeds and diseases.

Focus	Initiatives	Actions	Timeframe and review process
	Partnership work	 Work in partnership with state and regional government agencies to ensure TPWA members are fully informed of current and emerging bio security risks Work with stakeholders to identify and manage biosecurity risks around WA Workwith regional energiations to develop risk memory and was 	continuing continuing
		 Work with regional organisations to develop risk management resources for WA growers to utilise 	continuing
Identification		 Investigate the option of having a TPWA representative on the 'Emergency Plant Pest Response Deed' consultative committee 	1-2
and management	International threats	 Work with international, national and state agencies to support the implementation of import controls for WA 	continuing
		 Communicate with, and support members to comply with, WAQIS & AQIS standards 	continuing
		 Support growers to minimise the risk of unwanted plant, animal and microbiological organisms in their orchards Ensure growers are aware of state and national biosecurity 	continuing
	On farm management	 measures Support growers to have contamination management procedures in place 	continuing 1 - 3
Education	Growers	 Work in partnership with local agencies to provide training to growers on a range of biosecurity requirements 	continuing

	2. Speak to growers about their current and future education	continuing
	and training biosecurity needs3. Make growers aware of biosecurity practises	1 field day a year
	 Work with local agencies to provide growers access to resources to develop their on-farm practices 	continuing
Resource development	 Utilise existing reports and research to educate growers Use the TPWA website to have a library of resources available 	continuing 1 - 2
	to growers	

STRATEGY 3: MARKETING

TPWA is empowered to be the voice of truffle growers in WA to increase recognition of TPWA and WA truffle growers, to build relationships with state, national and international stakeholders and to increase sales avenues for WA growers.

Focus	Initiatives	Actions	Timeframe and review process
Develop TPWA's branding	Create an identity for TPWA within the WA, national and international truffle industry	 Develop an integrated marketing plan for TPWA which includes, but is not limited to: Recognise and utilise regional, state and national branding Work in partnership with growers across the state to develop the brand Work in partnership with associated industries across the state to develop the brand Investigate marketing strategies for branding, labelling, packaging and quality standards Work in collaboration with associated industries (i.e. markets including Health Foods, Beauty etc.) 	1 - 3
	Create trust within the TPWA brand	 Advocate the high standards of quality control and traceability within the WA truffle industry Support the transparency from production to consumer (transportation, storage, trading and processing) within the WA truffle industry Work with stakeholders to gain their confidence in TPWA's work and the WA truffle industry Showcase the work, developments and success stories of TPWA 	1 - 3

Tell the story of WA truffles	 Investigate the opportunity to incorporate truffle farms into the Southern Forest Food Councils 'Food and Farm' tours to increase awareness of the truffle industry Investigate opportunities for truffle products to be showcased across WA, nationally and internationally Work with growers to have real life stories of their truffle orchards that can be used in marketing Work in partnership with stakeholders to increase the profile of WA growers Exploit points of differentiation of the WA truffle from international truffles based on quality of the WA product Promote truffle production as a safe, green and environmentally sustainable industry Educate international, National and State Government on the work of TPWA Educate Agricultural agencies and bodies on the work of TPWA Promote the work of TPWA to consumers 	1 - 3
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STRATEGY 4: BUSINESS DEVELOPMENT

TPWA strives to support WA truffle growers to have the highest standards in both truffle production and business management. By providing resources and education to the industry TPWA aims to support business development throughout the state.

Focus	Initiatives	Actions	Timeframe and review process
Support the development of Truffle Production	Quality Standards	 Support quality assurance and grading certification systems for trees Support the development of quality grading standards for Australian truffles Support the development of WA standards of Certification for trees Support industry to set quality standard within processing based on research and findings 	continuing
	On farm procedures	 Support growers to develop and follow industry standards for all aspect of truffle production and processing Provide members with the networks needed to improve their own business procedure and working standards 	continuing
Deliver education to support business development	Resourcing business development	 Work with external orgainsations to provide growers with access to relevant resources to develop and sustain their businesses Support WA industry to increase sales opportunities nationally and internationally 	1 - 3
	Working Collaboratively	 Establish funding resources to support funding applications Support agritourism opportunities 	1 - 5
	Networking opportunities for growers	 Promote information sharing between growers Offer networking opportunities to growers with fellow growers 	Continuing

3. Offer networking opportunities to growers with external	1 - 5
stakeholders	

STRATEGY 5: ORGANISATIONAL VALUE

TPWA is a member driven organisation which aims to promote awareness, growth, and development of the WA truffle industry.

Focus	Initiatives	Actions	Timeframe and review process
	Be the representative industry body for truffle growers in WA	 Create a cohesive, unified, vibrant and engaged truffle industry within WA Ensure the operations and objectives of TPWA to driven by the membership and the WA truffle industry Uphold the vision and objectives of TPWA Be representative of the WA truffle industry both nationally and internationally 	continuing
Membership	Membership support	 Be a source of education and resources for members Provide knowledge and information sharing opportunities for members Provide members with access to research Make members aware of funding opportunities 	continuing
	Engage the members with TPWA	 Communicate efficiently and effectively with TPWA members Host events and activities, identified by the members, to engage them with TPWA (i.e. truffle dinner at end of truffle season, field days, science day at Truffle Kerfuffle etc). 	continuing
Communication	Communicate the work of TPWA to identified stakeholders	 Develop a communication plan to effectively communicate with stakeholders to include, but not limited to: Communicate effectively with current and potential members Regularly review communication methods and levels of engagement 	1 - 5

		 Work with WA agricultural departments to allow truffle growers to have access to the latest policies and support Communication between members Develop events, activities and resources for members to communicate Encourage collaboration not competition between members Host sessions for member to learn and share their experiences Provide networking opportunities and event with other growers Showcase WA truffles Utilise TPWA website to engage and educate 	
	Advocacy	 Influence decisions within political, economic, and social systems and institutions to benefit the WA truffle growers and TPWA projects Empower WA truffle growers and associated industries through advocacy across the state 	1 - 3
Governance	Legal requirements	 Ensure TPWA are meeting the requirements of the Incorporations Associations Act 2015 Ensure TPWA are meeting all financial requirements (record keeping, GST, tax and auditing, funding agreement requirements etc.) 	continuing
	Committee responsibilities	 Have a strong, dynamic committee which is representative of its membership Develop bylaws and policies to direct the operations of TPWA, as needed 	continuing

3. Develop budgets to guide the operations and project	
development, as needed	
4. Apply for funding to support the development of TPWA	
initiatives and projects	
5. Be accountable to TPWA members and provide regular reports	
and communications on TPWA's progression	
6. Build partnerships with stakeholders to support, guide and	
progress TPWA	
7. Organise events, workshops, information sessions and on farm	
training as identified throughout this plan	

Truffle Producers Western Australia



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