SA NORTH EXTENSION AND ADOPTION PLAN

APPLICANT DETAILS **(a) Administrative Body**
Barossa Grape & Wine Association

(b) Contact Details **PRIMARY CONTACT FOR PURPOSES OF PROGRESS AND FINANCIAL REPORTING:**		
Title: Ms	First name: Elise	Surname: Heyes
Mailing address: PO Box 420 Tanunda, South Australia, 5352		
Email address: elise@barossa.com		
Phone number: 08 8563 0650	Fax number: 08 8563 0616	Mobile number: 0408 333 566
Signature		**Date** 30 June 2009

(c) Regions Represented (Please list all of the regions represented by the Administrative Body)
Barossa Valley, Eden Valley, Clare Valley, Southern Flinders, [Adelaide Plains]

Start Date	End Date
1/7/09	30/6/10

A. BACKGROUND TO THE PLAN

Outline the process for developing this plan, how the priorities were arrived at and who was consulted. Also include proposed benefits to the region. Section A can be updated annually if required.

The information provided herein is a result of cross-regional consultation between neighbouring wine regions – Barossa (Barossa Valley and Eden Valley), Clare Valley and Southern Flinders – collectively known as SA North. Over a period of five months, representatives within each of these regions have collaborated to develop an extension and adoption plan that addresses the underlying (grass-root) issues shared between stakeholders in the SA North region.

Representatives from local associations – Barossa Grape and Wine, Clare Regional Winegrape Growers and Southern Flinders Wine Industry Council – met in April 2009 to discuss the new GWRDC Regional Grassroots Solutions program and the prospect of developing a collaborative regional plan. Each region (except for Adelaide Plains) agreed to partake in the program and share responsibility in the planning process by consulting with relevant stakeholders; namely grape growers, winemakers, viticulturists and other industry members.

Over a period of one month, stakeholders were asked to identify the major issues impacting their local wine industry. In the Barossa, this information was gathered directly from three core groups: Grape Barossa, Barossa Viticulture Technical Group and Eden Valley Winegrape Growers Group. Similarly in Clare, this information was collected from members of the Clare Regional Winegrape Growers Association and Clare Valley Winemakers. Southern Flinders engaged directly with members of the Southern Flinders Winegrape Industry Council. The information collected from all regions indicated that the regions share similar concerns, particularly in respect to marketing and long-term sustainability of grape and wine enterprises.

SA North regional representatives met in May to review the list of regional priorities. Each region agreed upon five common issues for inclusion in the plan: water, economic sustainability, climate change, pest and disease and best management practice. Whilst each region shared a strong and common interest in regional marketing, it was felt that this issue did not constitute part of the Grassroots Solutions Program and was thus omitted from the key priority areas.

Based on the five core issues, a list of extension and adoption priorities for the next 12-months was identified. Although some of these priorities are currently being addressed at a national level, it was agreed that the approach at a local level requires more consideration to the skill set and level of expertise of the target audience. Within SA North, activities will be delivered in numerous formats (e.g. practical workshops, fact sheets, DVDs) in an effort to engage a greater number of stakeholders with a range of learning capacities. Whilst a great deal of emphasis is being placed on the method of extension, the uptake and adoption of new information and technology will be strongly supported and encouraged.

The SA North Extension and Adoption plan presents great opportunity for stakeholders within this region to access vital information and tools to assist with business planning. The skill-set across the region will be heightened specifically on issues relating to water, finances, pest and disease and climate change. As a cross-regional plan, this will ultimately eliminate overlap and create greater cohesion between these closely aligned wine regions.

B. ISSUES FOR THE REGION FOR NEXT 3-5 YEARS

List in order of importance the highest priority issues for the region over the next 3-5 years. This can be a mix of issues relating to research and development, extension, adoption, etc. Section B can be updated annually if required.

The SA North region identified five major topics that are significant to the region over the next 3-5 years.

1. **Water**
2. **Economic sustainability**
3. **Climate change**
4. **Pest and disease**
5. **Best management practices**

There are numerous issues relating to these five major topics that were identified as priorities for this region – these are described in Table 1. The relevance and significance of these issues to the SA North region is also tabulated.

TABLE 1. SA North priorities over next 3 – 5 years

	Topic	Issues	Significance
1.	Water	1.1 Supply Coping with limited water supply.	▪ Increasing likelihood of restricted water supply into the future. ▪ Rain patterns sporadic. ▪ Influences vine health, production and capacity. ▪ Impacts local businesses and long-term growth of the region.
		1.2 Salinity Managing saline irrigation water.	▪ Influences grape quality and resultant wine. ▪ Influences vine production and health. ▪ Influences long term soil health and capacity.
		1.3 Application Using water more efficiently.	▪ Increase likelihood of restricted water supply into the future. ▪ Rain patterns sporadic. ▪ Potential improvement to profitability. ▪ Potential improvement to operation efficiency. ▪ Potential improvement to vine production. ▪ Reduces reliance on other finite water resources.
2.	Economic sustainability	2.1 Ensuring grape and wine businesses remain profitable into the future.	▪ Continuation of regional quality production. ▪ Maintains market requirements. ▪ Continuation of key regional brands and labels. ▪ Positive community morale. ▪ Sound regional economy and ongoing investment in quality, innovation and diversity.

TABLE 1 (continued). SA North priorities over next 3 – 5 years			
	Topic	**Issues**	**Significance**
3.	Climate change	3.1 Increasing temperature Managing and adapting vineyards to cope with extreme hot weather conditions.	▪ Ensures viability of grape growing into the future. ▪ Potential improvement to grape quality. ▪ Ensures consumer's expectations on wine quality and value are maintained.
		3.2 Drought tolerant grapevine material Determining the most appropriate varieties/rootstocks/clones for a warmer climate.	▪ Increases market opportunity through varietal diversity and suitability. ▪ Ensures viability of grape growing into the future.
		3.3 Carbon Understanding and managing carbon production.	▪ Increases marketability. ▪ Aligns with Government regulation. ▪ Influences distributor's requirements.
4.	Pest and disease management	4.1 Managing Eutypa	▪ Influences vine production and health. ▪ Influences longevity of vines. ▪ Potential to decimate historic and young vine plantings. ▪ Potential to influence profitability and viability.
		4.2 Reducing spray drift	▪ Potential for other crop sprays to decimate historic and young vine plantings. ▪ Potential to influence vineyard profitability and viability. ▪ Reduces off-site environmental degradation and impacts on neighbouring enterprises. ▪ Influences vine production and capacity. ▪ Promotes best practice in the safe and environmentally responsible use of agrochemicals.
5.	Best management practices	5.1 Ensuring best practices are employed in relation to: ▪ Soil/land ▪ Water ▪ Biodiversity ▪ Viticulture operations	▪ Preservation of finite natural resources. ▪ Minimise environmental degradation. ▪ Positive influence on consumer preference towards regional branded wines. ▪ Continuation of key regional brands and labels. ▪ Reduces longer term business expenditure.

C. EXTENSION AND ADOPTION PRIORITIES FOR THE REGION OVER NEXT 12 MONTHS

List in order of importance the highest extension and adoption priorities for the region over the next 12 months. Section C to be updated annually.

The SA North region identified five areas of interest for pursuing extension and adoption activities.

1. **Water – Supply and Application**
   Coping with limited water supply and using water more efficiently.
2. **Economic Sustainability**
   Equipping growers with knowledge and skills to operate profitable grape growing enterprises.
3. **Climate Change – Increasing Temperature**
   Managing and adapting vineyards in extreme hot weather conditions.
4. **Pest and Disease – Eutypa**
   Understanding and managing Eutypa.
5. **Pest and Disease – Spray Drift**
   Mitigating spray drift on vineyards.

D. ACTIVITIES TO ADDRESS PRIORITIES AND OUTCOMES

Statutory requirements under the Report of Operations Order within the *Commonwealth Authorities and Companies Act* (1997), require that all Corporations provide accountability and performance measurements. If further clarification is required please contact GWRDC. Section D to be updated annually.

TABLE 2. Activities and outputs 2009-10					
	Extension / Adoption priority	**Activity to address priority**	**Attendance/ distribution target**	**Target Date** (refer to attachment for more details)	**Intended outcome**
1.	Coping with limited water supply and using water more efficiently.	1.1 Develop 'Roadshow' program where various water-related topics are addressed e.g. – ▪ To deliver water budgeting tools (e.g. CCW/PIRSA) ▪ To discuss business models and case studies ▪ Presentations on salinity, sodicity, BMP. ▪ Investigate field trials	Roadshows in Barossa and Clare. 60 growers per Roadshow	Oct 2009	Growers provided with tools and information to effectively manage water.
		1.2 Report Eden Valley Irrigation Best Practice Trial 1.2.1 Engage a consultant to collate and analyse data from demonstration sites in Eden Valley into a technical report. 1.2.2 Disseminate findings via field excursion and report.	50 growers	Jan 2010	Growers provided with theoretical and practical information on managing water for different soil types.
2.	Equipping growers with knowledge and skills to operate profitable grape growing enterprises.	2.1 Run interactive workshops to deliver business management tools with the roll out of "Know Your Numbers Know Your Risks".	4 workshops (2 Clare, 2 Barossa) 20 growers per workshop	May 2010	Growers have a better understanding of their business and are able to better assess overall business profitability.

3.	Managing and adapting vineyards in extreme hot weather conditions.	3.1 Engage a consultant to investigate the outcomes of the PIRSA Heat Stress Trial and other relevant research.	Form an interim 'SA North Technical Committee' to interpret data & findings for DVD & fact sheets.	Nov 2009	Collation of information relevant to SA North growers.
		3.2 Disseminate information via fact sheets and DVD.	Material made available to all SA North growers. DVD available at a fee.	Jan 2010	Growers better informed and resourced about vineyard setup, managing vines during heat waves and irrigation timing.
4.	Understanding and managing Eutypa.	4.1 Engage a consultant to investigate research and information on managing Eutypa.	Adrian Loschiavo-SRHS Mark Sosnowski-SARDI	Aug 2009	Collation of information relevant to SA North growers.
		4.2 Host a field day at a Eutypa infected vineyard.	2 Field Days (1 Clare, 1 Barossa) 40 min seminar 1 hr field demo 40 growers/workshop	Dec 2009	Growers will become more informed about minimising the risks of spreading Eutypa as well as shown tools to aid them in the reworking of already infected vines.
		4.3 Develop a DVD on Eutypa and vineyard hygiene practices.	Available to all SA North growers	Dec 2009	
5.	Reducing spray drift.	5.1 Develop educational campaign to mitigate the risks of spray drift from adjacent crops and from vineyards	Grape growers Other agrochemical users Resellers	Oct 09 - Jan 10	Increase awareness among agrochemical users around the risks of spray drift from other crops onto vineyards, and from vineyards, to minimise incidents and mitigate the effects of spray drift.

E. INDIVIDUAL ACTIVITY DETAILS

Up to 1 page for each activity defined in Section D. Section E to be updated annually.

1. COPING WITH LIMITED WATER SUPPLY AND USING WATER MORE EFFICIENTLY

1.1 "SA North Roadshow" # 1: Water Efficiency

Background

Water, its availability (or lack of), continues to override business decisions in vineyards across the SA North region. Whilst vineyards in this area have primarily been dry-grown, most vineyards now have irrigation infrastructure and water is generally applied as a supplementary means. The ongoing drought has exacerbated this, particularly with the changes in rainfall patterns. However, the challenge growers now face, is managing the water that is available to them. Water resources are less plentiful and enforced restrictions limit the amount of water that can be applied.

The SA North Roadshows are focussed on providing growers with practical knowledge and information to help improve their business decisions in relation to water use. Growers will learn best practice methods that will enable them to become more efficient and profitable. The Roadshow programme will be organised in two regional locations; allowing all stakeholders within the SA North region the opportunity to attend.

The first Roadshow will allow growers to gain practical and theoretical knowledge on using water more efficiently. Regional experts and local industry members will be engaged to provide growers with regionally specific information whilst also having the opportunity to network with key people. The format for the first Roadshow programme is likely to entail:

1. Field session Soil moisture monitoring devices: Which ones to use and how to use them.
2. Field session System maintenance: What to check for and when to do it.
3. Theory session Water budgeting tools: How to budget and monitor water use.

Proposed project leader and organisation represented

Elise Heyes, BGWA (Barossa Roadshow)
Viti Officer, Clare Regional Winegrape Growers Association (Clare Roadshow)

Intended outcome

It is anticipated that the Roadshows will reach the target number of growers. Growers will become more informed about water use and how to modify their practices to ensure they are using water more efficiently. By increasing the knowledge within the grower fraternity, it will influence vine production and capacity and help to ensure that the region's vine plantings are preserved, grape and wine quality is enhanced and key brands and labels are maintained.

1.2 Report Eden Valley Irrigation Best Practice Trial

Background
As part of an irrigation trial in 2006, 17 demonstration sites were established in Eden Valley. These sites were developed to observe the relationship between water, grape quality and yield throughout the growing season. In an effort to enhance the uptake of best irrigation practices among Eden Valley growers, the number of demonstration sites has increased to 20 and have been monitored over the last two growing seasons. Eden Valley winegrowers are now gaining a greater understanding of vine-water requirements within their soil profile and are altering their irrigation inputs and scheduling accordingly.

The demonstration sites will be maintained and monitored during the 2009-10 growing season upon which growers will collect data from these sites on yield, rainfall and irrigation. The growers in Eden Valley strongly believe that another year of data will add more validity to the trial and hence reinforce their irrigation practices.

Whilst the soils in Eden Valley are unique and the data collected from the demonstration sites are very site-specific, the principles underlying the irrigation trial are transferable to other vineyards within the SA North region. Through documentation of this trial as well as conducting a field excursion to these sites growers can learn about irrigation regimes on different soil types and adapt this information to their own circumstances.

A consultant will be engaged to collate and analyse the data from the 20 demonstration sites. This information will be incorporated into a technical report which will be made available to all growers within the SA North region. A subsequent field excursion will be held for SA North growers to visit and learn about the demonstration sites in Eden Valley.

Project Leader
Terry Riley, Eden Valley Winegrape Growers Group

Intended outcome
The information from the Eden Valley irrigation trial, by way of a technical report and field excursion, will provide growers with the opportunity to assess their vineyard at all parameters in terms of irrigation scheduling. Through the adoption of more efficient irrigation practices it will contribute not only to increased water efficiency but also optimise vine performance and production of quality winegrapes.

2. EQUIPPING GROWERS WITH KNOWLEDGE AND SKILLS TO OPERATE PROFITABLE GRAPE GROWING ENTERPRISES.

2.1. "Know Your Numbers Know Your Risk" Workshop (KY#KYR)

Background
Many growers in the SA North region have identified that there is a distinct lack of understanding of many business principles required for operating a profitable business. This is especially of concern given the current climate of the industry and the need for rationalisation and improvements to key business operating areas. A number of tools have been developed to assist growers in understanding the costs associated with their grape growing business.

The KY#KYR program has been established by the Riverland Winegrape Association as an interactive tool to assist growers in understanding their business. It is a user friendly program that would be readily adopted by many growers and has the added advantage of allowing growers to benchmark their operating costs against other growers in their region. Accessibility is the key and this program will be able to be accessed by growers via their regional websites in the future.

The proposed workshops will assist to 'roll out' the program to the growers and will focus on providing growers with practical knowledge and information to help improve their business decisions. The workshops will be organised in two regional locations; allowing all stakeholders within the SA North region the opportunity to attend.

Proposed Project Leader and organisation represented
Elise Heyes, BGWA (Barossa workshop)
Viti Officer, Clare Regional Winegrape Growers Association (Clare workshop)

Intended outcome
It is anticipated that the workshops will reach the target number of growers. Growers will become more informed about they key areas of their business that most affect their overall profitability with a view to be able to better understand how they can modify their business to improve margins. The ability to benchmark their own operations has the added advantage of allowing grape growers to continually assess their overall performance to make ongoing improvements.

3. MANAGING AND ADAPTING VINEYARDS IN EXTREME HOT WEATHER CONDITIONS

3.1 Review studies and industry experience relating to heat stress in vineyards.

3.2 Disseminate information via fact sheet and DVD

Background
During each summer in South Australia, it is reasonable to expect one or two periods of extended hot weather. Maximum daily temperatures average over 35°C and nightly minima do not fall below 30°C. Meteorologically, these weather events are generally characterised by a large blocking high pressure system over the Tasman Sea which directs a northerly air stream over the temperate (grape growing) regions of Southern Australia. With climate change, extreme weather events are expected to be more severe and to occur more frequently. Over the last two growing seasons these events have in succession exceeded all previous recorded hot weather events. To make matters worse, these events occurred at critical periods during berry ripening. For grape growers there are a wide range of factors that may influence the level of adverse effects observed. Some of these variables include:

- Soil (texture, structure, faults, permeability)
- Vineyard elevation and aspect
- Air drainage
- Pruning style
- Row orientation
- Variety
- Phenology
- Diurnal temperature variation
- Irrigation infrastructure and design
- Tree lines
- Weed levels
- Rainfall history (seasonal and recent)

Despite experiencing heatwaves in the past, the response in vineyards has varied considerably from one year to the next. Two recent studies$_{(1,2abc)}$ have summarised the effects observed by growers during the 2009 heatwave, the methods they employed and the success (or otherwise) they achieved in surviving the event. PIRSA are also undertaking a study to simulate anticipated climate change, with a view to gaining an insight into the response of grapevines to increasing mean daily temperatures during the growing season$_{(3)}$.

A review of all these findings by way of a fact sheet and DVD will provide SA North growers with critical information in terms of dealing with immediate events and also in planning for the medium-long term. It is paramount growers have this knowledge to assist them with a range of decisions relating to vineyard setup and management.

Proposed project leader and organisation represented
TBA

Intended Outcome
Growers will be better informed and resourced about vineyard setup, managing vines during heat waves and irrigating at the appropriate time and rate. By providing growers with this information it will contribute to the ongoing success of quality vineyards and its subsequent wine brands and labels.

4. UNDERSTANDING AND MANAGING EUTYPA

4.1 Engage a consultant to investigate research and information on managing Eutypa.

4.2 Host a field day at a Eutypa infected vineyard.

4.3 Develop a DVD on Eutypa and vineyard hygiene practices.

Background
Eutypa has been identified as a major threat to the sustainability and profitability of viticulture in South Australia. Regions within SA North have cool, wet winters and are thus more prone to Eutypa infection and spread. Estimates of financial losses in South Australian Shiraz vineyards are up to $20 million annually.

The management practices in vineyards can greatly influence the spread of Eutypa, and these need to be communicated to growers in an easy to understand and practical manner. There has also been success with reworking of Eutypa infected vines that needs to be communicated to growers. The proposed 'Field Day' will be a combination of a sit down session to explain the background of Eutypa and a field session to show symptoms and demonstrate reworking.

A DVD will also be developed with an easy to use symptom identification section as well as an 'How to' for reworking and general vineyard hygiene with respect to Eutypa. It is envisaged that this would be available to field day participants as well as other growers within the region for a nominal cost.

Proposed Project Leader and organisation represented
Elise Heyes, BGWA (Barossa workshop)
Viti Officer, Clare Regional Winegrape Growers Association (Clare workshop)

Intended Outcomes
Growers attending the Field days will be informed about minimising the risks of spreading Eutypa as well as shown tools to aid them in the reworking of already infected vines. This will help them to continue operating a sustainable vineyard.

5. REDUCING SPRAY DRIFT

5.1 Develop educational campaign to mitigate the risks of spray drift in vineyards.

Background
Spray drift incidents from broad acre crops (notably volatile esters) onto nearby vineyards in the SA North region in recent years has caused damage in young and mature vineyards, affecting vine performance, and in some cases grape marketability as well. Whilst the incidence of such events has been relatively low, the impacts have in many cases been severe (and lasting longer than one season), have caused financial impact, and created tension between grape growers and broad acre farmers. The potential for litigation - and negative impact on wine purity and market image - is real and demanding of a proactive response to increase awareness and the working together of all stakeholders to minimise incidence and severity in the future.

The incidence and impact from vineyard spray drift (i.e. vineyard spray drift onto neighbouring property or enterprises) is generally regarded as low risk, nonetheless grape growers must also recognise they similarly must mange this risk, and implement best practice in the use of agrochemicals.

What is proposed is an awareness campaign that will provide all stakeholders (grapegrowers, broadacre farmers, hobby farmers, agrochemical suppliers and resellers) with information on the risks and effects of spray drift, and practical measures on how to manage these. The activities in this campaign will target stakeholders in the entire SA North region.

To deliver the campaign and achieve the intended outcomes, the following is proposed:

1. In collaboration with key stakeholders, develop a fact sheet on avoiding spray drift and the impacts (notably around products, susceptible crops/enterprises, application methods, weather conditions, spray timing and communication).
2. Run an awareness drive and educational program disseminating fact sheets to stakeholders via agrochemical resellers, agricultural field days and regional mail-outs to grape growers. Also run educational articles in regional newspapers.

In developing this campaign, the project leader and regional organisations would draw upon the experience (and resources where possible) of the Limestone Coast ChemCare committee, and the PIRSA Rural Chemical Group, whilst ensuring the campaign is tailored to the needs of the SA North region.

Proposed Project Leader and organisation represented
TBA

Intended outcome
Through the creation and widespread dissemination of tailored fact sheets to grape growers, broad acre farmers and other agrochemical users across the SA North region, a key information resource will reach the target audience to drive greater awareness and action around avoiding spray drift – and thus significantly reduce the incidence and potential impacts of off-target spray drift. Local paper educational articles will deliver awareness, and provide practical advice to stakeholders in the higher incidence/risk areas of SA North. Engagement with agrochemical resellers is expected to provide ongoing awareness and uptake of best practice.

Additionally, the awareness and practical advice of this campaign is expected to drive greater adoption of best practice in vineyard agrochemical use as well, and thus ensure more sustainable and collaborative agrochemical enterprises.