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# FarmDigital: Analysing compliance schemes

An in-depth study on time investments by table grape producers in South Africa

Youri Dijkxhoorn, Robbert Robbemon and Jan Willem Kruize



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This study quantifies the time investments of grape exporters in South Africa in order to comply with various certification schemes and buyer protocols. In addition, the sources and reliability of the data are identified.

Key words: Compliance, certification, trade, fruit, vegetables, table grapes, horticulture, South Africa

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# Summary

## S.1 Key findings

Due to increasing administrative burden entrepreneurs in the agricultural sector spend more and more time registering all kinds of data. This study quantifies the compliance process of exporting farmers of table grapes in South Africa. The key findings are:

- Producers make serious time investments per annum to update and maintain compliance with the different schemes. Per scheme this varies between 80 and 100 hours per year. In total the investment can be significant, taking into account that producers comply with a variety of schemes.
- For table grape producing companies in South Africa, the main source for compliance data is the paper administration. This confirms that the level of ICT adaption among South African table grape producers is still low.

## S.2 Complementary findings

- Farm managements systems are hardly used as source for compliance and could increase the reliability of the information provided.
- Information provided for all schemes is on average moderately reliable.
- In future, the number of schemes and buyer protocols is likely to increase; as a result the time invest for updating the required information will increase.
- Reliability of data sources can be improved since the main sources of information are currently listed as moderately reliable.

## S.3 Method

In order to map the compliance process of grape exporters in South Africa we have used an in-depth case study among 2 different producers of table grapes. We quantified the time involved for GLOBALG.A.P., SIZA and BRC. We also analysed various buyer protocols.

For the data collection we developed an Excel sheet based on the different chapters used in the various certification schemes. The data were collected by a local consultant using the Excel sheet to structure the findings per chapter during farm visits.

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# 1 Introduction

## 1.1 Background

Consumers and retailers demand transparency of farm practices for health and food safety as well as socio-economic and environmental sustainability. Transparency is not limited to health and food safety standards, but also relates to compliance with social standards.

Consequently, growers are faced with the request to comply with different standards from different buyers, various sustainability protocols and a number of buyer-specific checklists. However, the majority of these agriculture-related data are still paper-based, spread over different systems and difficult to exchange.

## 1.2 Objective

Due to increasing administrative burdens, entrepreneurs in the agricultural sector spend more and more time registering all kinds of data. This study, which is part of the FarmDigital research programme (see Text box 1), quantifies the compliance process of exporting farmers in terms of:

- the time invested to prepare compliance documentation
- the reliability of their collected information
- the sources they use to prepare the information.

By analysing these factors the FarmDigital research team aims to increase insight into what the subjects are with most potential for time savings and which have most potential for quality improvement in the compliance processes of South African grape farmers.

The approach to gather and analyse the data is further explained in the next chapter.

### Text box 1: About FarmDigital

FarmDigital is an action research programme which is currently working towards a situation in which compliance data only needs to be entered once and can be shared easily. It aims to achieve this goal by standardising data and developing and implementing an independent, digital platform for people to use. For more information visit the website [www.FarmDigital.nl](http://www.FarmDigital.nl)

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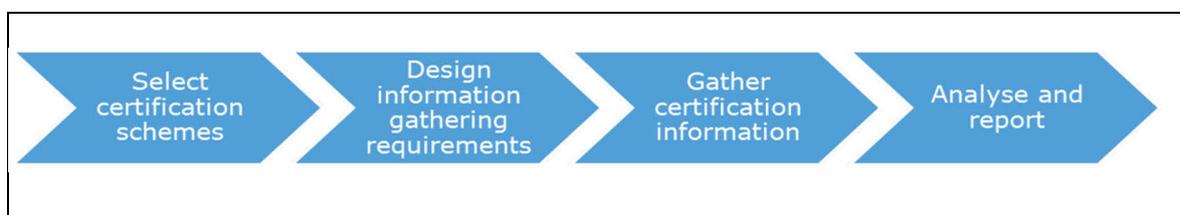
## 2 Approach and method

### 2.1 Introduction

In order to map the administrative burden for compliance of grape exporters in South Africa we have used an in-depth case study of 3 compliance schemes among 2 different producers of table grapes. For the analysis we used an approach that consists of 4 steps (Figure 2.1):

1. Select certification schemes
2. Design information-gathering requirements
3. Gather certification information
4. Analyse and report.

For each scheme we have estimated the time required to comply with the different (sub) chapters in each scheme. This is related to annual costs of proving compliance. The estimated time is not related to the initial investment to acquire the scheme.



**Figure 2.1** Approach

### 2.2 Select certification schemes

A selection of certification schemes that are most relevant for grape farmers in South Africa has been made in cooperation with FarmDigital project partners based on the relevance for table grape production companies.

### 2.3 Design information-gathering requirements

A questionnaire format was designed in Excel. Per certification scheme the following attributes for each relevant chapter are recorded:

- A code to identify the certification chapter
- The chapter of the International Trade Centre<sup>1</sup> in which the certification scheme can be mapped
- The source that the farmer uses to collect the information to comply to that certification scheme requirements
- A description of the information collected
- An estimation of the reliability of the information collected
- An estimation of the time spend by the farmer to collect and prepare the requested information.

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<sup>1</sup> The International Trade Centre (ITC) is the a development agency that is dedicated to supporting the internationalisation of small and medium-sized enterprises (SMEs). This means that the agency enables SMEs in developing and transition economies to become more competitive and connect to international markets for trade and investment, thus raising incomes and creating job opportunities, especially for women, young people, and poor communities ([www.intracen.org](http://www.intracen.org)). Via their tool, Standardsmap, they enable users to analyse standards-related data and self-assess their sustainability-related performance. Standardsmap.org covers more than 220 standards initiatives applicable to more than 80 sectors and 180 countries.

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## 2.4 Collection of certification information

For the data collection we hired a local consultant who collected data among 2 farms in South Africa. Data were collected between April and May 2016. The consultant used the Excel sheet that was developed to record the findings.

In addition we have collected examples and copies of all evidence required for each certification chapter. These are not presented in this report.

## 2.5 Analyse and report

The main analysis results are visualised in three graphs on time spent by South African grape farmers to collect and prepare compliance information:

- Grouped per chapter of ITC (Management, Ethics, Social, Environment and Quality)
- Grouped per reliability label (very reliable, moderately reliable, not reliable or unreliable, moderately unreliable, very unreliable)
- Grouped per information sourced used to collect the information (Farm Management System, Paper information files or 'other')<sup>2</sup>

Each graph presents the total time spend and time spent per analysed certification scheme.

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<sup>2</sup> Other includes visual inspections, minutes of meetings, information on notice boards etc.

# 3 Table grapes in South Africa

## 3.1 Production and export of grapes

The two major grape growing areas in South Africa are the Orange River Valley in the Northern Cape and the Hex River Valley in the Western Cape. The Orange River Valley is known for its green seedless varieties as the weather conditions make for a better size and taste. The Hex River Valley conditions are more favourable for the coloured varieties as its weather conditions make for deep colour and large, regular-sized berries. The production areas offer unique climatic differences and this enables the country to produce its grapes to the international market from October to May.

The table grape industry has seen a 30% drop in the number of producers between 2007 and 2011 (Visser and Ferrer, 2015). Although the current number of grape producers is not clear, based on GLOBAL.G.A.P. certified firms, there are a total of 350 table grape producers. They are not all involved in export. Therefore we consulted the Fresh Produce Exporters' Forum (FPEF) members list, with a total of 65 companies involved in the export of fresh table grapes. FPEF is a voluntary, non-profit organisation with more than 120 members, accounting for about 90% of fresh fruit exported from South Africa.

The total volume of grape production is 1,850,000 tonnes (Table 3.1). The majority is used for wine production and about 15% are estimated to be used for table grapes. Table grape production has remained relatively stable over the past ten years. That has been primarily due to stable conditions in South Africa's main producing areas, especially in the Berg and Hex River valleys. There are no specific data available on the production and export of organic grapes.

**Table 3.1** Area and production volume of grapes in South Africa (including grapes for wine production)

			2011	2012	2013
Grapes	Area harvested	Ha	115,000	124,000	125,000
	Production	Tonnes	1,683,927	1,839,030	1,850,000

Source: FAOStat

Table grape production is labour-intensive and the labour need is particularly high during the periods of vineyard preparation, harvesting and packaging, as a result a high share of temporary labour is involved. Vineyard preparation starts in October, giving rise to an increased need for seasonal labour.

A report by Visser and Ferrer (2015), prepared for the International Labour Organization, describes the key phases of grape production:

- The first preparation phase consists of suckering, trellising of the vines and breaking off leaves to promote ventilation and light exposure to the vines. A third of the seasonal workforce is employed during this process.
- The next phase consists of thinning out tightly clustered bunches to promote bigger berry sizes and prevent rot. The full complement of seasonal workers is used for this action and remains on the farm until the end of the harvesting and packaging season in about April.
- After harvesting, work on the farm diminishes until the pruning season, which lasts from June to August.

In the Hex River Valley, seasonal labour is in high demand for about seven months of the year. Most producers in the table grape case study employed seasonal workers on fixed term contracts ranging from four to six months to cover specific production actions. However, given that some seasonal workers are used for pruning, they could be employed for up to 11 months of the year.

The export of fresh grapes represented a value of about EUR512m. The total exported volume was about 369,413 tonnes in 2015. The main export destinations are the Netherlands and the UK with a joint share of more than 70%.

**Table 3.2** Value of exported fresh and dried grapes from South Africa

		2012	2013	2014	2015	
HS080610	Fresh	Value in millions of EUR	337	332	375	512
		Volume in tonnes	267,503	283,239	298,604	369,413

Source: UNComtrade

## 3.2 ICT adoption

There is no information available on the ICT adoption level among South African fruit producers. However, a study has been done on the level of ICT among deciduous fruit producers by Louw and Prez (2002) for the Ministry of Trade and Industry Policies. Although being an outdated study, it looks like South African fruit producers rate themselves as late adopters of ICT, resulting in a limited ICT adoption at producer level.

## 3.3 Certification

The main identified certification schemes are the following:

- GLOBALG.A.P.
- Sustainability Initiative of South Africa (SIZA)
- British Retail Certification (BRC)
- Ethical Trading Initiative
- Organic certificate
- BSCI
- Buyer protocols.

The main schemes were selected in consultation with AgriPlace. As a result GLOBALG.A.P. v4, SIZA v4 and BRC v7 were selected for an in-depth analysis. For each compliance scheme we have grouped the Chapters according to the mapping as used by the International Trade Centre (ITC):

- Management: relates to all issues related to supply chain responsibility and sustainable management.
- Ethics: relates to compliance to legislation.
- Social: relates to key issues like conditions for work and social protections, human development and room for social dialogues and possible local communities.
- Environment: relates to biodiversity, use and storage of crop protection agents, soil, energy use, waste and water.
- Quality: relates to all farm management practices including the risk of contamination of the produce and HACCP requirements.

In that way the schemes can be analysed and compared in a standardised way.

### 3.3.1 GLOBALG.A.P.

GLOBALG.A.P. is a private sector body that sets voluntary standards for the certification of production processes of agricultural (including aquaculture) products. The GLOBALG.A.P. standard is primarily designed to reassure consumers about how food is produced on the farm by minimising detrimental environmental impacts of farming operations, reducing the use of chemical inputs and ensuring a responsible approach to worker's health and safety.

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GLOBALG.A.P. is the most common certification scheme among South African grape producers. A total of 330 table grape producers are GLOBALG.A.P. certified. Not all of these producers export themselves. Many of the producers export via exporters.

### 3.3.2 Sustainably Initiative of South Africa

The Fruit South Africa ethical trade programme has now been formalised as the Sustainability Initiative of South Africa (SIZA). SIZA is a not-for-profit, membership-based organisation, open to producers, exporters, importers, retailers and stakeholders across the supply chain. The SIZA programme is a membership-based and non-profit initiative. All membership fees are used to sustain the programme, and support ongoing improvement of working conditions on farms through identifying needs and building local capacity to respond with appropriate interventions. SIZA focuses on development and building capacity and uses the audit as an indicator of need. The SIZA programme aims to provide growers with the tools to be self-regulated.

Membership of SIZA is open to all stakeholders along the supply chain. As a not-for-profit initiative, all membership fees are used to sustain the programme and are reinvested in development projects in the industry.

SIZA supports the adoption of the Global Social Compliance Programme (GSCP) reference tools as the platform for its own audit scheme. The GSCP is supported by various international retailers, including Tesco, Walmart, M&S, Ahold, Migros, COOP Switzerland, ICA, Delhaize, Carrefour and South African retailer, Pick n Pay, with the aim of harmonising ethical requirements and avoiding duplication of audits while ensuring global standards are adhered to. The GSCP has created a set of open-source reference tools to achieve convergence around an ethical code.

### 3.3.3 British Retail Certification

The British Retail Certification (BRC) Food Safety Standard is a leading global brand recognised by thousands of customers worldwide. The BRC Food Safety Standard can be used by any food processing operation where open food is handled, processed or packed. The Standard is divided into seven sections (<http://www.brcglobalstandards.com/>): Senior Management Commitment and Continual Improvement: For a food safety system to be effective it is essential the senior management team is fully committed to its application and development.

- The Food Safety Plan: The basis for the Food Safety System is a Hazard Analysis and Critical Control Point (HACCP) programme based on the requirements of the Codex Alimentarius system.
- Food Safety and Quality Management System: Sets out requirements for the management of food safety and quality, building upon the principles of ISO 9000. This includes requirements for product specifications, supplier approval, traceability, and the management of incidents and product recalls.
- Site Standards: Sets out expectations for the production environment including the layout and maintenance of the buildings and equipment, cleaning, pest control, waste management and foreign body controls.
- Product Control: Includes the requirements for product design and development stage including allergen management, product and ingredient provenance, product packaging and product inspection and testing
- Process Control: Includes the establishment and maintenance of safe process controls, weight and volume control and equipment calibration, and ensures the documented HACCP plan is put into practice.
- Personnel: Sets out the standards needed for staff training, protective clothing and personal hygiene.

### 3.3.4 Buyer protocols

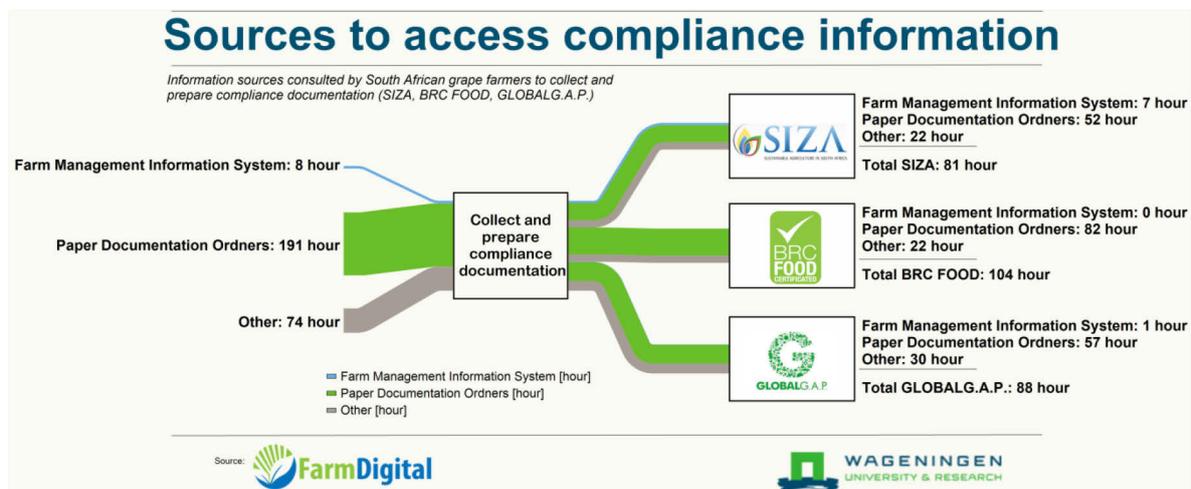
In addition, there are various protocols developed by retailers that are not incorporated in a certification scheme, but are independent checklists and vary in terms of complexity and subjects. However the majority is often based on certificates such as GLOBALG.A.P. but contain additional questions or checks.

# 4 Results

## 4.1 Time investments and main sources of information

Time invested relates to maintaining and updating the certification. It does not refer to the initial investment. In Figure 4.1 we provide a schematic overview of the main information sources. By far the most important source of information is stored in paper documentation. For all 3 certification schemes about 90-95% percent is still on paper. Only SIZA is using a Farm Management System as a source for working hours for the labourers.

BRC is the most time-consuming scheme with 104 hours, GLOBALG.A.P is second with 88 hours. The least time consuming is SIZA with only 81 hours.



**Figure 4.1** Time invested per certification scheme and sources per scheme

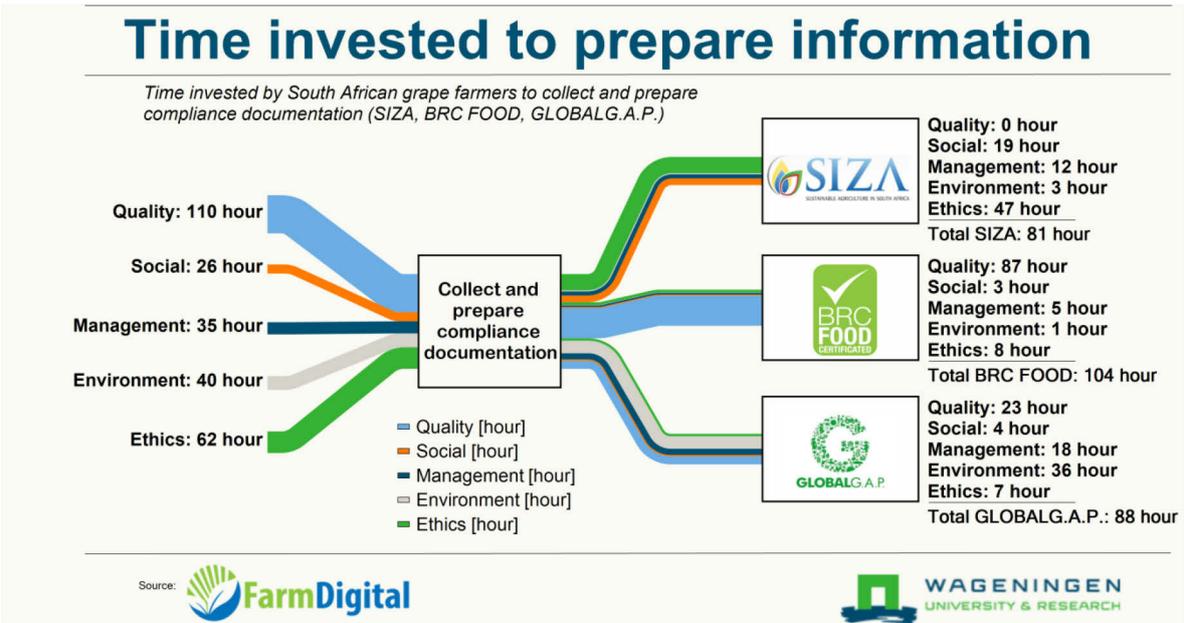
## 4.2 Time invested and sources per chapter

For the 3 main certification schemes we have analysed the time invested per chapter and their sources. See Figure 4.2 for detailed information per scheme.

GLOBALG.A.P. is a quality and environmental scheme so also the main time efforts are related to these chapters. For the environmental scheme the Farm Management System is often used, but the majority of the sources are documented in the conventional paper administration. For example spray records, crop protection agent inventory list, are all stored in ordinary document files.

SIZA is mainly a social scheme so also the main time efforts are related to these chapters (Ethics and Social). The main source is the conventional paper administration. Only the Management Systems is used as a source for working hours for the labourers.

BRC is a quality scheme so also the main time efforts are related to this chapter (87 hours of the total 104 hours).

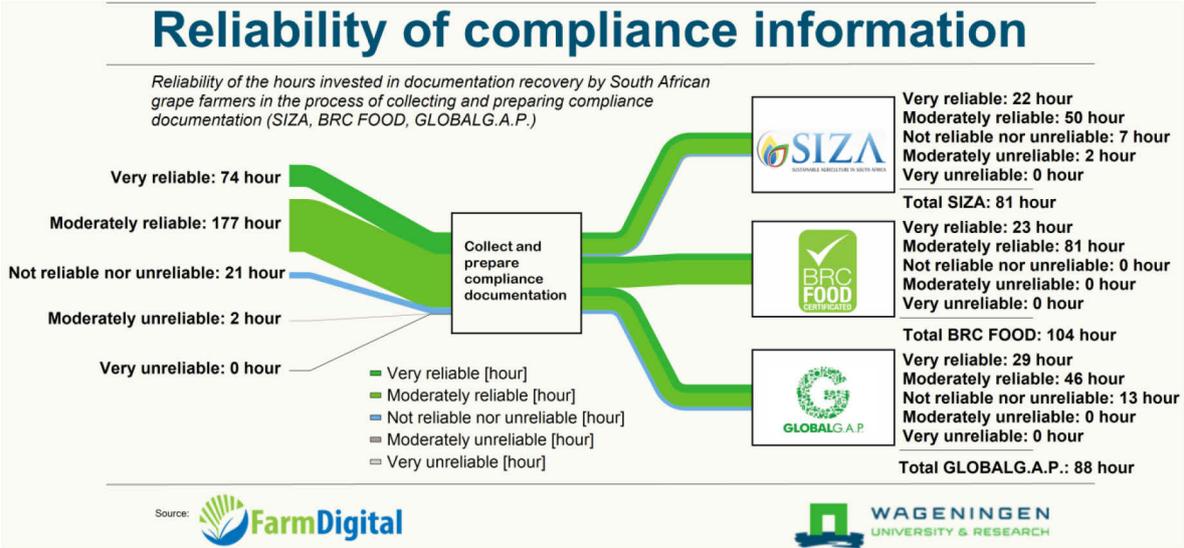


**Figure 4.2** Time invested and sources per scheme GLOBALG.A.P.

### 4.3 Reliability

The reliability of the compliance information is presented in Figure 4.3. It gives the level of reliability for the analysed schemes. The vast majority of the compliance information is classified as moderately reliable or very reliable.

For GLOBALG.A.P. a few items are also classified as unreliable. This is mainly related to a large number of visual inspections that leave room for subjectivity.



**Figure 4.3** Reliability of the collected information per scheme

## 4.4 Buyer protocols

The analysed grape farms also faced a number of buying protocols that they were asked to comply with. The farms indicate that they were asked to fill out protocols for Coop, Tesco and the Greenery. In general the protocols are related to Social, Quality and Environmental issues. Many of these protocols are related to self-declarations for signed supplier information form with declaration, Sustainable Trade Initiative Checklist, Factsheet on Social Standards, MRLs and Active Ingredient levels for Dutch and German retailers and a Tesco Produce Packing Standard. On average the time related to these protocols varies between 0.5-5 hours per protocol per season. Compared to the main certification schemes the time involved is small. Table 4.1 gives an overview of the different protocols identified.

**Table 4.1** *Different buyer protocols*

	Subject	Source	Specify	Description	Hours involved
Greenery	SOCIAL - Human Rights and Local Communities	Questionnaire	Supplier Information Form	Signed supplier information form with declaration	2
	MANAGEMENT - Supply Chain Responsibilities	Paper administration document files,	Letter Direct Supplier 2015	Sustainable Trade Initiative Checklist	2
	MANAGEMENT - Supply Chain Responsibilities	Paper administration document files	Retail Requirements Declaration	MRLs and Active Ingredient levels for Dutch and German customers	1
Tesco	QUALITY- FMS - Safety - HACCP System	Paper administration document files,	Tesco Minimum Produce Standard (TMPS)	TMPS standard	n.a.
	QUALITY- FMS - Safety - HACCP System	Paper administration document files,	Version 2 Tesco Produce Packaging Standard (TPPS)	TPPS Standard	n.a.
COOP	MANAGEMENT - Supply Chain Responsibilities	Paper administration document files,	Fact sheet	Factsheet COOP Social Standards (Fairtrade, SA8000, Grasp, BSCI)	0.5

## 4.5 Reusability of information compliance

For every scheme audits are done on an annual base. As such some items can be reused more easily than others. For example, a map of the vineyard is easily adoptable for a new audit season. We summarised all the items that are reusable and estimated a time saving of 29 hours for GLOBALG.A.P., 22 hours for SIZA and 33 hours for BRC per annum.

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# 5 Conclusion and discussion

## 5.1 Conclusion

This study quantifies the compliance process of exporting farmers of table grapes in South Africa. The key findings are:

- Producers make serious time investments per annum to update and maintain compliance with the different schemes. Per scheme this varies between 80 and 100 hours per year. In total the investment can be significant, taking into account that producers comply with a variety of schemes.
- For table grape producing companies in South Africa, the main source for compliance data is the paper administration. This confirms that the level of ICT adaption among South African table grape producers is still low.

Other findings of the study are:

- Farm managements systems are hardly used as source for compliance and could increase the reliability of the information provided.
- Information provided for all schemes is on average moderate reliable.
- In the future the number of schemes and buyer protocols are likely to increase, as a result the time invest for updating the required information will increase.
- Reliability of data sources can be improved since the main sources of information are currently listed as moderately reliable.

## 5.2 Discussion

The study has a scoping nature, which means that the data gathered should be considered carefully. In order to further quantify the time invested by table grape producers in South Africa, large scale quantitative research is required. However the current explanatory findings are valuable since they give a first detailed and accurate overview of the time invested by farmers related to compliance.

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The mission of Wageningen University and Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 5,000 employees and 10,000 students, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.





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