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EurepGAP revisions 2007-2008: Implications of Version 3 for small-scale exporters of fresh fruit and vegetables in East Africa

Jerry Cooper and Andrew Graffham



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**Jerry Cooper
Andrew Graffham**

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*Since this report was written, EurepGAP has been renamed GlobalGAP.

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Acronyms

CB	
EU	The European Union
EurepGAP	European Retailers Protocol for Good Agricultural Practice
FAOSTAT	The UN Food and Agriculture Organization's statistical database
GAP	Good agricultural practice
ISO	International Standards Organization
LACCU	Lubulima Agricultural and Commercial Cooperatives Union (Zambia)
MRL	Maximum residue level
NRDC	Natural Resources Development College (Lusaka, Zambia)
NZTT	NRDC/ZEGA Training Trust
PMO	Project management office
PPP	Plant protection product
QMS	Quality management systems
SIDA	Swedish International Development Cooperation Agency
USAID	United States Agency for International Development
ZEGA	Zambia Export Growers Association

Summary

Exports of fresh produce can earn significant income for those smallholder growers in developing countries who have access to overseas markets. In the past the requirements to satisfy authorities and buyers were relatively relaxed and informal. Then demands for better control systems and management of food safety led to changes in legislation to reduce risk. Over and above these legal requirements, retailers in Europe then developed private standards to manage risk during farm production, processing and transportation. One such private standard – EurepGAP (now GlobalGAP) – was developed for and by European retailers to control on-farm production. The standard has established a reputation internationally and is being stipulated as a requirement by an increasing number of companies in more than 20 countries. It has now become widely recognised and is in many ways a useful ‘passport’ for produce to enter the market. There are several operational advantages too, but Version 3 of EurepGAP sets the bar higher than Version 2 and will present greater challenges to growers unless agreements can be reached to mitigate these challenges.

The single list of compliance criteria that comprised earlier versions of EurepGAP has now been split into three parts. Growers must now comply with the ‘All Farms Base’, the ‘Crops Base’ and the ‘Fruit and Vegetables’ modules. There may be advantages to having the three separate modules for mixed farms - the All Farms Base will not need to be repeated for livestock certification. But this advantage does not apply to smallholder fruit and vegetable growers in developing countries. On the contrary, compliance under Version 3 becomes significantly more complicated and demanding with 11 additional compulsory points and 21 more points now requiring 95 per cent compliance. 56 control points in total are either new or have increased compliance of at least 95 per cent. Significantly, many of the control points that in Version 2 were “minor musts” (the EurepGAP jargon for compliance points requiring 95 per cent compliance) have been made into “major musts” i.e., they must all be met (100 per cent compliance). In addition, many recommendations (formerly non-compulsory control points) have been upgraded to the category requiring 95 per cent compliance. To obtain their certificate, farmers need to comply with 100 per cent of the 74 “major musts” and 95 per cent of the 125 “minor musts” in three separate modules. It is worth pointing out that the farmer can fail to comply with only 6 control points out of 199 in these two categories combined.

Earlier versions of the EurepGAP standard set minimum specifications covering areas such as traceability, record-keeping, environment ethics and of key importance, food safety. With newer versions and revisions, the scope and level of control has generally become more demanding, reflecting the increased expectations of consumers and retailers in Europe. Farms in Europe and elsewhere have ‘swallowed the medicine’ and adopted a ‘good agricultural practice’ (GAP) *modus operandi* in order to satisfy their customers, who in the UK are mainly supermarkets (where 80 per cent of food is sold).

The costs to adopt the control systems, install the necessary infrastructure, and maintain more comprehensive records are significant. In the Kenyan horticulture industry, large farms can comply with private standards (Barrientos et al 2001). Furthermore, farms in Europe also tend to be large – the average in the south west of England is 178 acres (Anon 2003) so costs can generally be met, enabling the growers to maintain their access to the large European retail chain market. The same does not always apply to smallholder farmers in developing countries for whom adapting their farms to comply with EurepGAP has been a significant challenge. Their farms are smaller (on average less than 2 hectares) and owners increasingly cannot afford the costs and fees associated with certification of individual farms.

To avoid the need for small farms to comply separately there is a collective certification scheme (EurepGAP option 2) that allows a group of farmers to comply as a unit. Estimates by Graffham et al (2006) put the cost of compliance via this collective route at £636 per grower for establishment and £175 per annum to maintain. However, these figures did not include the support from outside sources. Several donor-funded programmes have been set up in Kenya to assist farm collectives to combine and obtain certification. Nevertheless, the general trend is for fewer farmers to be able to comply. Figures from Graffham et al (2006) gave cause for concern as 60 per cent of farmers had lost access to exports in the most stringent markets during the (then) three years since EurepGAP had been introduced.

Version 3 of EurepGAP requires additional record-keeping, labelling, testing of water, facilities, and certificated training for workers; more stringent worker conditions; and improved product recall systems.

The revised QMS (quality management system) will present further obstacles for smallholders. Graffham, et al (2006) reported that even with Version 2 the QMS component was the most challenging part of complying with the EurepGAP fruit and vegetables protocol (Version 2.1, January 2004). For Version 3 the number of control points in the main QMS checklist has increased from 94 to 141. One example is the section on farmer/farm inspection that had 5 control points in the old protocol (2.8.2) but has 16 control points in Version 3 (QM9.2).

Where it was already difficult for smallholder farmers to meet the challenges of Version 2 the increased cost of achieving the new Version 3 standards will inevitably exacerbate the situation. Of the 236 control points in Version 3, around 40 are new, stricter, or require higher compliance. In some cases this will mean only increased costs but in others compliance may not be achievable at all, even allowing for the cost savings associated with group membership. For significant numbers of smallholders the required changes will be either impossible or too expensive to install, effectively precluding them from continued access to European markets.

1. Introduction

This report is an output of a 3-year project ('Small-scale producers and standards in agrifood supply chains: Phase 2, 2005-2008 (AG3815)') whose aim is to minimise the adverse impact of private sector standards for agricultural practice, such as on market access for African/developing country producers. The project is a collaboration between the UK Government's Department for International Development (DFID), the Natural Resources Institute (NRI), and the International Institute for Environment and Development (IIED). The report considers the implications of the new version of the EurepGAP (European Retailers Protocol for Good Agricultural Practice) compliance standards, which like their predecessors are a series of sector-specific farm certification standards whose stated aim is "to ensure integrity, transparency and harmonisation of global agricultural standards" covering "the requirements for safe food that is produced respecting worker health, safety and welfare, environmental and animal welfare issues."

The report follows on from earlier reports produced by this same project whose findings are summarised in the reports by Graffham et al. It examines the likely impact of recent changes in EurepGAP, the "global partnership for safe and sustainable agriculture". It is based on comparisons between the existing standard and the recent new standard issued by the Secretariat of EurepGAP. In compiling the report opinions have been canvassed from stakeholders from the region who are directly or indirectly involved with production and export of fresh produce. The introduction outlines some of the pros and cons of EurepGAP from the smallholders' viewpoint as expressed in various reports and publications. Since the inception of EurepGAP three years into the new millennium there has been an ongoing debate about the balance between benefits and costs of smallholder farmers in developing countries obtaining and maintaining certification.

Graffham and MacGregor (2006) listed seven positives and four negatives of EurepGAP but the numbers do not tell the whole story. The implications of EurepGAP depend to an extent on who is asked. Some people see compliance as a way of improving agricultural practices that enables international trade to flourish and ultimately benefits local consumers in producer countries via a knock-on effect. In reaching these standards there are undoubted benefits resulting from adoption of a scheme to ensure a structured control system resulting in good agricultural practice and improved hygiene. One exponent of GAP felt that yields were generally higher and input costs reduced as the growing process was better managed. The system necessitates careful and consistent record-keeping and many farmers in the survey conducted by Graffham et al (2003) said that they were using EurepGAP records to understand their financial viability and run their farms more commercially. "Proper handling of pesticides and improved food safety and hygiene had health benefits on farm, and in addition most farmers said that they had transferred hygiene messages to the homestead with obvious positive implications for family health." Machado, a grower in Columbia, was quoted in 2006 as saying that compliance with EurepGAP is "A necessary investment which will open up a wider marketplace, particularly in the UK." In many circumstances, buying from EurepGAP certified growers gives confidence to buyers, although more stringent standards are demanded by leading European retailers.

In contrast with the broadly positive views expressed above there are voices of discontent, some of which are very voluble. Even before the changes that are incorporated into Version 3, there was a widespread recognition that rigorous private sector standards have increased the costs of compliance for all producers and specifically impacted upon the opportunities for small-scale producers' participation at the higher value end of the horticultural export trade (SIDA information sheet, 2007). Asfaw (2007) wrote that it was questionable whether small-scale farmers have the resources and skills to comply with (EU) standards and that the cost of implementing these standards may drive most producers out of the lucrative fresh export business. He was referring to

sub-Saharan countries but Sarsud et al (2005) had reached broadly similar conclusions about export to European markets by growers in Thailand, which exports over 50 per cent of baby corn production to the UK. While produce from certified farms had better opportunities to be sold, they reported that the price obtained was almost the same. Their cost estimate of \$ 2,500 for a EurepGAP certification posed problems that included lack of incentive, growers' small land holdings, and the challenges of the certification process itself. Mausch et al (2006) carried out a comprehensive study to examine the impact of EurepGAP on different types of farms in Kenya, a country in which export opportunities have been widely taken up. Their findings were that a typical smallholder with around 1 hectare who is a member of the certification scheme via the group option (option 2) has to invest in infrastructure and protective clothes and must spend more on labour for the more stringent record-keeping as well as various other more costly inputs. Perhaps surprisingly they found that the proportion spent on these investments by smallholders is not markedly different from large-scale farms that are contracted by exporters. They concluded that most Kenyan growers are able to cope with the EurepGAP standard, but questioned whether smallholders would continue to be able to maintain market access in the future. Their report was published before the more stringent version of EurepGAP was issued. This new version will supplant previous versions from January 2008.

One reason that smallholders have been able to obtain certification is that they have received external support to adapt, raising the question of sustainability. Figures from Graffham et al (2006) gave cause for concern as 60 per cent of farmers had lost access to exports in the most stringent markets during the three years since EurepGAP was introduced. Because smallholder farmers can become certified collectively (option 2) rather than as individual farms (option 1) there are significant cost savings when compared to the single farm scheme of option 1. Graffham gives a figure of £760 p/a per grower (\$1,520) for maintenance of EurepGAP for a farm around 1 hectare, of which an average of £104 was paid by the grower. The rest was paid by the exporter with whom they have an agreement. As Version 3 of the EurepGAP standard becomes the norm, there will be inevitable changes and some will have adverse cost implications. These are explored below.

2. Background

Horticulture is one of the fastest growing sectors in East Africa and is ranked third as an earner of foreign exchange (FAOSTAT¹). In Kenya, the real value of vegetable and fruit exports has quadrupled over the past 30 years (FAOSTAT). Financial returns per hectare are around six to 20 times those of maize so it is easy to understand why horticultural exports in Kenya, and to a lesser extent Tanzania, Uganda and Zambia have been regarded as “one of Africa’s notable success stories” (USAID). Due to its small scale-production structure and labour intensiveness, horticulture has contributed to employment and income generation for a significant proportion of the population. However smallholders continue to be marginalised (CARE-Kenya). In traditional fresh produce supply chains the farmer often travels to the nearest market and sells produce direct. International fresh produce supply chains are more complex and involve many intermediaries, long distances between the farm and the final consumer, and greater intervals of time between harvest and consumption. If the consumer experiences a problem with the fruit or vegetables they purchase they will complain to the retailer in the European Union (EU), but it was difficult to identify where a problem originated. With fresh fruits and vegetables the big concern is contamination pesticides. To reduce concerns and manage risk two types of measures have been introduced – legislation and private standards. While exporters must legally comply with the former, the latter (private standards) are voluntary. However as they may often be demanded by retailers in the EU they can be considered a requirement to access the majority of markets.

It is clear that legislation alone is not considered sufficient to meet the food safety and quality management standards demanded by the retail industries in Europe which, for example, account for 80 per cent of the market in the UK. This led to the development of private standards that went further to address challenges raised by complex international food supply chains. The EU is the principal importer of Kenya fresh produce. Britain, Germany, The Netherlands and France are the major importers of fruits and vegetables. In recent years new regulations that relate to food safety and production have been introduced to ensure basic hygiene. In relation to use and presence of pesticides on crops European directives prevent certain banned products from being used and stipulate that residues of all pesticides (and heavy metals) are strictly regulated and must not exceed the values given in the maximum residue level (MRL) figure. Additionally, it is a legal requirement that produce must be traceable to the adjacent step in the supply chain.

Private standards go beyond the national and international laws and are seen as a way of managing risks in a more proactive and systematic way. Standards exist for all parts of the food chain and cover production, processing, transportation, storage and marketing. There are several private standards relating to farms. These standards are owned by individual retailers, national bodies or international consortia. EurepGAP is a predominant private standard for farm production. It has a major influence on food supply chains with 275 companies as members and over 35,000 growers registered in 62 countries, including 12 countries in Africa. EurepGAP protocols for fresh fruit, vegetables, flowers and coffee encompass crop, soil, water, waste and site management, post-harvest treatment, worker health and safety, environmental protection and traceability.

Any changes to EurepGAP have wide influence and although previous versions have evolved since they were first introduced, the latest version (Version 3) is a major transition because it splits the components into separate modules covering (for fruit and vegetable growers) one on the farm, one on crops generally (as opposed to livestock and aquaculture), and one specific to fruit and vegetables. Version 3 also increases the level of control and adds several new control points.

¹ The United Nations Food and Agriculture Organization’s statistical database.

Exports of fresh produce can potentially earn income for smallholder growers in developing countries. In the past the requirements to satisfy authorities and buyers were relatively relaxed and informal, then demands for better control systems and management of food safety led to changes in legislation to reduce risk. The New Agriculturalist (2005) questioned whether Kenyan exports face “sensible standards or rigid requirements”. Over and above the legal requirements, retailers in Europe then developed private standards to manage risk during farm production, processing and transportation. One such private standard – EurepGAP – was developed for and by European retailers to control on-farm production. EurepGAP has now become widely recognised and although some supermarket chains have their own even more stringent standards, EurepGAP has established a reputation internationally and is being stipulated as a requirement by an increasing number of companies in around 20 countries.

Earlier versions of the EurepGAP standard set minimum specifications covering areas such as traceability, record-keeping, environment, ethics and of key importance, food safety. With newer versions and revisions the scope and level of control has generally become more demanding, reflecting the increased expectations of consumers and retailers in Europe. Farms in Europe and elsewhere have swallowed the medicine and adopted a ‘good agricultural practice’ (GAP) *modus operandi* in order to satisfy their customers, who in the UK are mainly supermarkets (where 80 per cent of food is sold). The costs to adopt the control systems, install the necessary infrastructure, and maintain more comprehensive records are significant. In the Kenyan horticulture industry, large farms can comply with private standards (Barrientos et al 2001). Furthermore, farms in Europe also tend to be large – the average in the south west of England is 178 acres (Anon, 2003) so these costs can often be met, enabling the growers to maintain their access to the large European retail chain market. The same does not always apply to smallholder farmers in developing countries for whom adapting their farms to comply with EurepGAP has been a significant challenge. Their farms are smaller (on average less than 2 hectares) and owners cannot afford the costs and fees associated with certification of individual farms.

To avoid the need for small farms to comply separately there is a collective certification scheme (EurepGAP option 2) that allows a group of farmers to comply. Estimates by Graffham et al (2006) put the cost of compliance via this collective route at £636 per grower for establishment and £175 per annum to maintain. However these figures did not include the support from outside sources. Several donor-funded programmes have been set up in Kenya to assist farm collectives to combine and obtain certification. Nevertheless, the general trend is for fewer farmers to be able to comply. Figures from Graffham et al (2006) gave cause for concern as 60 per cent of farmers had lost access to exports in the most stringent markets during the (then) three years since EurepGAP was introduced.

Although it is a voluntary standard, evidence shows that EurepGAP is often important to a point verging on mandatory from a commercial viewpoint. In all versions of the standard there are several categories of actions required before a farmer can be certified. There are costs involved with these processes and actions which are summarised below:

1. Getting information about the standard.
2. Forming and registering a group (for option 2).
3. Obtaining training and advice on interpretation.
4. Buying protective clothing.
5. Buying stationery to maintain records.
6. Purchasing and using improved pesticides and sprayer.
7. Building a store for pesticide.
8. Building a sorting shed and/or store for produce.
9. Adopting practices to safeguard the farm environment.
10. Getting tests done on water quality.
11. Posting signs.
12. Adapting worker conditions.
13. Paying for registration and certification by EUREP.
14. Paying for the audit by a private company.

While all respondents in Graffham and MacGregor's surveys in Kenya and Zambia stressed the importance of EurepGAP for food safety assurance, and smallholders especially were highly positive about the many advantages and benefits of EurepGAP compliance, all believed that the costs of compliance were too high. With company and donor support the actual cost burden per grower (option 2) was £636 for establishment and £175 per annum to maintain, representing an 80 per cent cost saving over option 1 for establishment and a 77 per cent cost saving over option 1 for annual maintenance of compliance. However, even with these savings smallholders and smaller export companies were struggling with the costs of compliance and one of the large companies has taken the decision to dump remaining smallholders as costs for standards compliance are not justified when compared with income from produce sales.

3. Differences between Version 3 and earlier versions

3.1 Current and previous versions of EurepGAP prior to Version 3

EurepGAP Version 2 was divided into 14 chapters, which were sub-divided into a large number of control points that covered all aspects of agricultural production from seed through to delivery of the product at the farm gate. The chapters from Version 2.1 are listed below:

1. Traceability;
2. Record-keeping and internal inspection;
3. Varieties and rootstocks;
4. Site history and management;
5. Soil and substrate management;
6. Fertiliser use;
7. Irrigation and fertigation;
8. Crop protection;
9. Harvesting;
10. Produce handling;
11. Waste and pollution management, recycling and re-use;
12. Worker health, safety and welfare;
13. Environmental issues;
14. Complaint form.

Each control point had (and this applies to Version 3 as well) specific criteria for measuring compliance, and the system for measurement is via independent audits of the application of EurepGAP on the farm. To make the verification process easy the most important control points were highlighted in red and known as “major musts”. For a farm to pass the certification audit there must be 100 per cent compliance on major musts. The second category of control points was highlighted in yellow and known as “minor musts”, the farm must demonstrate compliance with 95 per cent of these control points at the time of the audit. The final category of control points was highlighted in green and known as “recommended controls”. Failure to comply with the recommended control points could not be used as grounds for withholding a certificate, but a few of the recommended control points are linked to minor and major musts.

3.2 EurepGAP Version 3

Under the first issue of Version 3 the stages in production are split. A fruit or vegetable grower will need to comply with the ‘All Farms Base’ module, the ‘Crops Base’ module, and the ‘Fruits and Vegetables’ protocol. There will be 236 control points in total, of which 74 are compulsory (“major musts”). 125 of the control points fall into the second category, i.e., 19 out of 20 (95 per cent) must be met (“minor musts”). The remaining 37 are recommendations, which will not cause the farm that does not comply with them to fail certification.

In effect, and discounting the recommendations, the farmer will have to comply with 192 of the criteria and will have latitude for only non compliance with only six.

Version 3 requirements now include the following (either in addition to those in earlier versions or supplementary to them). All are either entirely new, or increase compliance to 95 per cent for points that were formerly recommended controls, or to 100 per cent from points that were formerly in the second (“minor musts”) category. (New recommendations are omitted from the list):

1. Potable water must be provided for the work force.
2. Provision of an eating place and a place for workers to store food must be made.
3. There must be training of all workers (written and verbal) in hygiene and workers must be aware of, and able to demonstrate competence in, this area.
4. Records have to be kept and retained for all workers, including seasonal workers.
5. Additional expert support - Version 3 seems to require that farmers have professionals to help with their risk assessments, or must be able to demonstrate that they or their advisers can demonstrate competence or proof of training (see CP 5.2.2 on page 18 and certificates of competence (see CP 3.2.2 on page 15).
6. There must be written health, safety and hygiene policy and procedures.
7. Workers who handle disinfectants, pesticides and other hazardous substances to be certificated in competence.
8. Training records need to be maintained.
9. A First Aider needs to be present (certificated).
10. Detailed hygiene instructions need to be documented and displayed (in the first language of the workers or by means of pictograms) covering a range of issues.
11. Workers need to be able to demonstrate competence in hygiene during the inspection.
12. Potential hazards must be clearly identified by warning signs placed in an appropriate position.
13. Safety advice to be available to workers.
14. A system is now required for cleaning and storing protective clothing.
15. A person to be allocated with responsibility for workers.
16. Records kept for all workers and sub-contractors (for at least 2 years).
17. All possible waste products and sources of pollution to be identified and documented.
18. Farm and premises to be kept clear of litter and waste.
19. Producer must have a management of wildlife and conservation plan.
20. Producer must show monitoring of energy use on the farm.
21. All producers to have a documented recall procedure.
22. Producers must now inform their direct clients of the GMO status of the product.
23. Application of all fertilisers and manure to be timed to maximise the efficacy and/or uptake by target crops.
24. Irrigation water has to be analysed at a frequency in line with the risk assessment (records retained).
25. Organic fertilisers to be stored in an appropriate manner, which reduces the risk of contamination of the environment.
26. Recommendations for application of fertilisers (organic or inorganic) must now be given by competent, qualified advisers holding a recognised national certificate or similar (or producers must be able to demonstrate their competence and knowledge).
27. Any fertiliser application machinery to be kept in good condition and verified annually to ensure accurate fertiliser application.
28. Purchased inorganic fertilisers to be accompanied by documentary evidence of nutrient content (N, P and K).
29. Producer to justify the method of irrigation used in light of water conservation.

30. Annual risk assessment for irrigation/fertigation water pollution to be completed.
31. Producer must show evidence of implementation of at least one activity that falls in the category of “Prevention” (pest management).
32. Producer to show evidence of implementation of at least one activity that falls in the category of “Observation and Monitoring” (natural enemy role in pest management).
33. Producer to show evidence of implementation of at least one activity that falls in the category of “Intervention”.
34. Invoices of registered plant protection products to be kept.
35. Correct sampling procedures to be followed (residue testing?).
36. Procedures are required dealing with re-entry times (into sprayed fields) and monitoring re-entry.
37. Empty containers to be rinsed either via the use of an integrated pressure rinsing device on the application equipment, or at least three times with water and producer must comply with local regulations on container disposal.
38. Pre-planting interval to be complied with (after soil sterilisation) and details records kept.
39. Laboratory analysis (irrigation water) to be carried out in order to measure the microbial contaminants.
40. Person to be nominated as responsible for implementation of hygiene procedures.
41. Produce containers to be used exclusively for produce.
42. A documented inspection process to be in place to ensure compliance with defined quality criteria.
43. Packed produce to be protected from contamination.
44. Collection/ storage/distribution point of field packed produce to be maintained in clean and hygienic condition.
45. Packing material used for in-field packing stored to protect against contamination.
46. Bits of packaging material and other non-produce waste to be removed from the field.
47. All workers must wear outer garments that are clean and fit for purpose for the operation and able to protect products from contamination.
48. Smoking, eating, chewing and drinking to be confined to designated areas segregated from products.
49. Signs to be clearly displayed in the packing facilities with the main hygiene instructions for workers and visitors (local language or pictograms to be used).
50. Workers in the packing facility to have access to clean toilets and hand-washing facilities in the vicinity of their work.
51. Signs to be clearly displayed instructing workers to wash their hands before returning to work.
52. Cleaning agents, lubricants, etc. to be stored to prevent chemical contamination of produce.
53. Rejected produce and waste material in the packing environment to be stored in designated areas, which are routinely cleaned and/or disinfected.
54. Packing materials to be clean and stored in clean and hygienic conditions.
55. Daylight ingress controlled in longer-term storage facilities for products that are sensitive to light.
56. Process for verifying measuring and temperature control equipment required.

Version 3 sets the bar higher than Version 2, with 11 additional compulsory points and 21 points requiring 95 per cent compliance. Significantly, many of the control points that in Version 2 were “minor musts” (the EurepGAP jargon for compliance points requiring 95 per cent compliance) have been made into “major musts” i.e., they must all be met (100 per cent compliance). In addition,

many recommendations (formerly non-compulsory control points) have been upgraded to the category requiring 95 per cent compliance. It is worth pointing out that the farmer can fail to comply with only six control points out of 199 in these two categories. To comply, farmers need to comply with 100 per cent of the 74 major musts and 95 per cent of the 125 minor musts in three separate modules because the single list of compliance criteria in earlier versions of EurepGAP has now been split. Vegetable growers must comply with the All Farms Base, the Crops Base and the Fruit and Vegetables modules. There are advantages to having the three separate modules in Version 3 for mixed farms (the All Farms Base will not need to be repeated for livestock certification) but this advantage does not apply to smallholder fruit and vegetable growers in developing countries. On the contrary, the compliance under Version 3 becomes significantly more complicated and demanding.

Version 3 requirements now include 56 control points that are either new, or have increased compliance of at least 95 per cent (and must be demonstrably compliant). Additional record-keeping, labelling, testing of water, facilities, and certificated training for workers will create serious new problems. The number of control points in Version 3 are summarised in Table 1 below and the number of new or stricter control points are in Table 2.

Table 1: Control points in Version 3 (based on EurepGAP documentation)

Module	Compulsory	95% compliance required	Recommendations	Total
All Farms Base	12	22	11	45
Crops Base	28	75	17	120
Fruit and Vegetables	34	28	9	71
Total	74	125	37	236

Table: (from EurepGAP website) summarising the added control points and compliance criteria for the three components of All Farms Base, Crops Base and Fruit and Vegetables modules. These apply to growers supplying fruit and vegetables.

Module	Additional compulsory control points	Additional control points requiring 95% compliance	Additional recommendations	Total
All Farms Base	1	7	1	9
Crops Base	3	9	1	13
Fruit and Vegetables	7	5	4	16
Total	11	21	6	38

4. Quality management system (QMS)

The quality management system (QMS) was introduced in September 2005 as a way of formalising systems for management of groups of growers under option 2 of EurepGAP Version 2.1 of the EurepGAP protocol for fresh fruits and vegetables. The QMS system is not applicable to single farms or multiple farm sites operating as a single legal entity certifying under option 1 of EurepGAP. Introduction of a QMS resulted in the need for an additional checklist to cover QMS issues and added approximately 0.5 days to the option 2 audit process. The old QMS checklist had 94 control points all of which required 100 per cent compliance on the day of audit by the certifying body. In order to comply with the requirements specified in the QMS system, farmer groups needed to demonstrate implementation of an ISO (International Standards Organization) compliant document control system with extensive documentation to cover issues of legality and management of the EurepGAP option 2 scheme. In practice the QMS audit could involve demonstrating the inter-relationship between approximately 400 different types of documents on the day of the audit (Graffham et al 2006).

While implementation and auditing of the QMS system probably presents few insurmountable difficulties for farmers who rely on a major exporter as their project management office (PMO), farmer-run groups such as the LACCU (Lubulima Agricultural and Commercial Cooperatives Union) scheme in Zambia (Graffham et al 2006) face problems due to unfamiliarity with ISO compliant management systems. This creates difficulty coping with a complex documentary audit designed to assess the legality and robustness of the PMO management and control systems. In practice LACCU dealt with the QMS audit by sub-contracting responsibility for the quality management system, farm inspection, and internal auditing to the NRDC/ZEGA² Training Trust (NZTT). Personnel in the companies contracted do have the necessary qualifications and experience required to fulfil all of these functions on behalf of LACCU but this approach is an extra cost burden for LACCU. The result is that compliance with the QMS component of EurepGAP is already expensive for them. Even if the LACCU management team could learn to cope with the QMS audit, they would still lack personnel with the necessary educational or professional qualifications to fulfil the requirement for an internal audit or farm inspection. This partly explains why in Zambia the QMS component was the *most challenging part of complying with the EurepGAP fruit and vegetables protocol* (Version 2.1, January 2004).

Changes in the control points relating to stages of production in Version 3 have meant upgrading the QMS component as well. The new QMS, clearly based on the previous version, retains most section headings. A few minor changes reflect developments in thinking on the subject of farmer groups. Sections on the EurepGAP (2.12) trademark and requirements for the internal inspector (2.8.3) have been deleted and are not found in the new version of the QMS document. New sections have been created to provide a clearer definition of what constitutes a farmer group and other sections have been added to explore existing issues in more detail. Some sections have been greatly expanded – for example the section on farmer/farm inspection had 5 control points in the old protocol (2.8.2), in the new protocol there are 16 control points for this section (QM9.2). Overall the number of control points in the main QMS checklist has increased from 94 to 141. In addition the new QMS system has an extra 32 control points which deal with the evaluation of the producer group by the certifying body, which should have no impact upon the grower as they refer to the operations carried out by the certifying body as defined in part II of the new general regulations for the standard covering certifying body rules. However the remaining 141 control points impact upon the activities of the PMO responsible for the option 2 scheme.

² NRDC is the Natural Resources Development College, Lusaka and ZEGA is the Zambia Export Growers Association.

Neither the new section on producer groups – which appears to be designed mainly to prevent multi-site farm operations trading as single legal entity from attempting to certify under option 2 – nor additional control points dealing with the legality of the entity managing the scheme, should present insurmountable problems but might add additional formal procedures. Currently the relationship between the members of primary production cooperatives and secondary management cooperatives (such as LACCU, major exporters, or independent management organisations such as Freshlink in Kenya) may not be sufficiently formalised to meet the new version. Most of the remaining additional requirements in the new QMS are simply issues of detail and should not present a farmer-controlled PMO with much of an additional burden, but the fact remains that the QMS is the most challenging component of EurepGAP for farmer-controlled PMOs.

5. Results

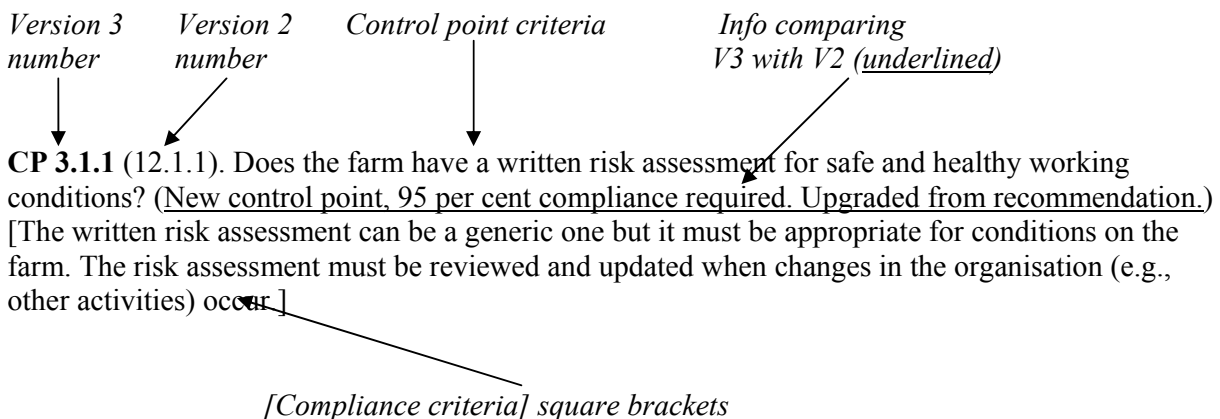
Making direct comparisons between versions 2 and 3 is complicated by the switch from the single list in Version 2 to the three separate modules in Version 3. The numeration has also changed because different control points have been allocated to the three new component modules. There is logic to this split; mixed farms do not have to repeat the All Farms Base assessment for livestock, crops and combinable crops etc. So a single compliance is needed for record-keeping, site history and management, training, use of protective clothing, accident procedures, pollution management and re-cycling. This should have advantages for the overall farm audit and reduce costs from duplication. Smallholder fruit and vegetable growers will not enjoy this saving, but can benefit in Version 3 because for option 2, which is the one that takes care of farmers in groups, the annual internal self-assessment can be made at group level rather than individual farm level. Rather surprisingly the “minor must” control point requiring evidence demonstrating that the correct application rate (following pesticide label instructions) has been used was deleted completely.

To assess the implications of the changes in Version 3 it is necessary to examine the detail. Comparisons between Version 3 and Version 2 are listed point by point below. Where no equivalent control point existed before Version 3 the control point is clearly new, but in addition to these extra control points many of the existing control points have been changed into a category requiring higher compliance. Some recommendations have changed to 95 per cent compliance required. Control points that were in the ‘95 per cent’ category in Version 2 (“minor musts”) have in some cases become 100 per cent compliance (“major musts”) in Version 3.

In the following pages the changes for the (now) three modules that comprise Version 3, i.e. ‘All Farms Base’, ‘Crops Base’ and ‘Fruit and Vegetables’ are described.

- For each control point the numbering system from Version 3 is used. The numbering from Version 2 is given after in round brackets ().
- The underlined descriptions in round brackets indicate what specific changes apply for Version 3 when compared to Version 2, i.e., whether they are brand new control points, or upgraded in respect of compliance (95 per cent or 100 per cent), or a new recommendation.
- The straight brackets [] give certain details on audit criteria associated with some of the control points.

Example of the system used:



5.1 All Farms Base

CP 1.2 (2.2). Groups mentioned specifically for annual self-inspections and records. (Neutral but clarification that group treated as a unit, so requiring single inspection per year.)

CP 2.2 (4.1). Risk assessment now must take account of any new food safety risks and must be updated when any changes in the organisation occur. (Small amount of additional detail needed.)

CP 3.1.1 (12.1.1). Does the farm have a written risk assessment for safe and healthy working conditions? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [The written risk assessment can be a generic one but it must be appropriate for conditions on the farm. The risk assessment must be reviewed and updated when changes in the organisation (e.g., other activities) occur.]

CP 3.2 (12.1.2). Does the farm have a written health, safety and hygiene policy with procedures including issues of the risk assessment? The health, safety and hygiene policy must at least include the points identified in the risk assessment. The policy must be reviewed and updated when the risk assessment changes. (Significant additional detail needed plus a new control point, 95 per cent compliance required.)

CP 3.2.1 (12.2.1). Training records must have more detail i.e., topic covered, the trainer, the date and attendees. (New control point, 95 per cent compliance required. Upgraded from recommendation.)

CP 3.2.2 (12.2.1). Do all workers handling and/or administering veterinary medicines, chemicals, disinfectants, plant protection products, biocides or other hazardous substances and all workers operating dangerous or complex equipment as defined in the risk assessment in AF.3.1.1 have certificates of competence and/or details of other such qualifications? (Significant additional certification. New control point, 95 per cent compliance required.) [Did all workers receive adequate health and safety training and are they instructed according to the risk assessment?]

CP 3.2.3 (no equivalent in Version 2). Workers can demonstrate competency in responsibilities and tasks through visual observation. If at time of inspection there are no activities, there must be evidence of instructions. (New control point. 95 per cent compliance required.)

CP 3.2.4 (12.2.3). Presence of trained First Aider required. (Two new control points, 95 per cent compliance required. Upgraded from recommendation.)

CP 3.2.5 (no equivalent in Version 2) Does the farm have documented hygiene instructions? (New control point, 95 per cent compliance required.) [The hygiene instructions are visibly displayed: provided by way of clear signs (pictures) or in the predominant language(s) of the workforce. The instructions must at least include: the need for hand cleaning; the covering of skin cuts; limitation on smoking, eating and drinking to certain areas; notification of any relevant infections or conditions; the use of suitable protective clothing.]

CP 3.2.6 (12.2.5). Have all persons working on the farm received basic hygiene training according to the hygiene instructions in AF.3.2.5? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [Both written and verbal training are given as an induction training course for hygiene etc. (additional signature procedure needed).]

CP 3.2.7 (no equivalent in Version 2). Are the farm's hygiene procedures implemented? (Brand new control point, 95 per cent compliance required.) [Workers with according tasks demonstrate competence during the inspection.]

CP 3.2.8 (12.2.6, 12.3.1). Are all subcontractors and visitors aware of the relevant procedures on personal safety and hygiene? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [There is evidence that the relevant procedures on personal health, safety and hygiene are officially communicated to visitors and subcontractors (e.g., relevant instructions are in a visible place where all visitors or subcontractors can read them).]

CP 3.3.1 (12.3.3). Permanent accident procedures must be clearly displayed in accessible and visible location(s). These instructions are available in the predominant language(s) of the workforce and/or pictograms. (Significant additional labelling required.)

CP 3.3.2 (12.3.2). Are potential hazards clearly identified by warning signs and placed where appropriate? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [Permanent and legible signs must indicate potential hazards, e.g. waste pits, fuel tanks, workshops, access doors of the plant protection product/fertiliser/any other chemical storage facilities as well as the treated crop etc. Warning signs must be present.]

CP 3.3.3 (no equivalent in Version 2). Is safety advice available/accessible for substances hazardous to worker health, when required? (Brand new control point, 95 per cent compliance required.) [Information (e.g., website, telephone no., data sheets, etc.) is accessible, when required, to ensure appropriate action.]

CP 3.4.2 (12.5.2). Is protective clothing cleaned after use and stored so as to prevent contamination of the clothing or equipment? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [Protective clothing is regularly cleaned, according to a schedule adapted to the type of use and degree of soiling. Cleaning the protective clothing and equipment includes the separate washing from private clothing and glove washing before removal. Dirty, torn and damaged protective clothing and equipment and expired filter cartridges should be disposed of. Single-use items (e.g., gloves, overalls, etc.) have to be disposed of after one use. All the protective clothing and equipment including replacements filters etc. are stored apart and physically separate from the plant protection products/any other chemicals which might cause contamination of the clothing or equipment in a well-ventilated area.]

CP 3.5.1 (12.6.1). Is a member of management clearly identifiable as responsible for workers? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [Documentation is available that demonstrates that a clearly identified, named member of management has the responsibility for ensuring compliance with existing, current and relevant national and local regulations and the implementation of the policy on workers health safety and welfare.]

CP 3.5.3 (no equivalent in Version 2). Is there information available that provides an accurate overview of all workers of the farm? (Brand new control point, 95 per cent compliance required.) [Records demonstrate clearly an accurate overview of all workers (including seasonal workers) and subcontractors working on the farm. Information must be available concerning full names, date of entry, the period of employment, and the regular working time and overtime regulations. Records of all workers (also subcontractors) which provide the required information must be kept for the last 24 months from the date of first inspection. See AF.3.6.1 as requirement for subcontractors.]

CP 3.5.4 (no equivalent in Version 2). Do workers have access to clean food storage areas, designated dining areas, hand-washing facilities and drinking water? (Brand new control point, 95 per cent compliance required.) [A place to store food and to eat must be available. In addition, hand-washing facilities and potable drinking water must be available to workers.]

CP 3.5.5 (12.6.3). Added that septic pits must be hermetic. (An extra bit of detail that may be hard to achieve in smallholders' lands.)

CP 3.6.1 (no equivalent under Version 2). When the producer makes use of subcontractors, is all the relevant information available on farm? (Brand new control point, 95 per cent compliance required.) [Subcontractors must carry out an assessment (or the producer must do it on behalf of the subcontractor) of compliance against the EurepGAP control points relevant to the services provided on farm (including AF.3.5.3). This assessment must be available on farm during the external inspection and the subcontractor must accept that EurepGAP approved certifiers are allowed to verify the assessments through a physical inspection where there is doubt. The producer is responsible for observance of the control points applicable to the tasks performed by the subcontractor by checking and signing the assessment of the subcontractor for each task and season contracted.]

CP 4.1.1 (11.1.1). Have all possible waste products and sources of pollution been identified in all areas of the business? (Additional requirements and detail. Plus it is now a control point, 95 per cent compliance required. Upgraded from recommendation.) [All possible waste products (such as paper, cardboard, plastic, oil, etc.) and sources of pollution (e.g. fertiliser excess, exhaust smoke, oil, fuel, noise, effluent, chemicals, sheep-dip, feed waste, dead or diseased fish, algae produced during net cleaning, etc.) produced by the farm processes have been listed.]

CP 4.2.3 (11.2.3). Are the farm and premises clear of litter and waste to avoid establishing a breeding ground for pests and disease which could result in a food safety risk? (Control point, 95 per cent compliance required. Upgraded from recommendation.) [Visual assessment that there is no evidence of breeding grounds for pests in areas of waste/litter in the immediate vicinity of the production or storage buildings. Incidental and insignificant litter and waste in the designated areas are acceptable as well as the waste from the current day's work. All other litter and waste has been cleared up. Areas where produce is handled indoors are cleaned at least once a day.]

CP 5.1.1 (13.1.1 to 13.2.2). Does each producer have a management of wildlife and conservation plan for the enterprise that acknowledges the impact of farming activities on the environment? (Control point, 95 per cent compliance required. Upgraded from recommendation.) [There must be a written action plan which aims to enhance habitats and increase biodiversity on the farm. This can be either a regional activity or individual plan, if the farm is participating in or covered by it. This includes knowledge of integrated pest management practices, nutrient use of crops, conservation sites etc.]

CP 5.3.1 (no equivalent in Version 2). Can the producer show monitoring of energy use on the farm? (Brand new recommendation.) [Energy use records exist. For example, farming equipment shall be selected and maintained for optimum consumption of energy. The use of non-renewable energy sources should be kept to a minimum.]

CP 7.1 (no equivalent in Version 2). Do all producers have a documented recall procedure to manage the withdrawal of registered products from the market? (Brand new "major must" with 100 per cent compliance required.) [All producers must have access to documented procedures which identify the type of event that may result in a withdrawal, persons responsible for taking decisions on the possible withdrawal of product, the mechanism for notifying customers and the EurepGAP CB (if a sanction was not issued by the CB and the producer or group recalled the products of their own free will) and methods of reconciling stock. The procedures must be tested annually to ensure that they are sufficient.]

5.2 Crops Base

CP 2.4.1 (no equivalent in Version 2). Does the producer keep records on sowing/planting methods, seed/planting rate, sowing/planting date? (Brand new control point, 95 per cent compliance required.) [Records of sowing/planting method, rate and date must be kept and be available.]

CP 2.5.3 (no equivalent in Version 2). Did the producer inform their direct clients of the GMO status of the product? (Brand new “major must” with 100 per cent compliance required.) [Documented evidence of communication must be provided.]

CP 2.5.4 (no equivalent in Version 2). Is there a plan for handling GM material (crops and trials) setting out strategies to minimise contamination risks, such as accidental mixing of adjacent non-GM crops and maintaining product integrity? (Brand new control point, 95 per cent compliance required.) [There must be a written plan that explains how GM material (crops and trials) are handled and stored to minimise risk of contamination with conventional material.]

CP 2.5.4 (no equivalent in Version 2). Are GMO crops stored separately from other crops to avoid adventitious mixing? (Brand new “major must” with 100 per cent compliance required.) [Visual assessment must be made of genetically modified (GMO) crops storage for integrity and identification.]

CP 5.1.1 (no equivalent in Version 2). Is the application of all fertilisers and manure timed to maximise the efficacy and/or uptake by target crops? (Brand new control point, 95 per cent compliance required) [Producer must demonstrate that consideration has been given to nutritional needs of the crop, soil fertility, and residual nutrients on the farm and records must be available as evidence.]

CP 5.2.1 Are recommendations for application of fertilisers (organic or inorganic) given by competent, qualified advisers holding a recognised national certificate or similar? Do producers who use outside professional help (advisers and consultants) regarding the use of fertilisers satisfy themselves that the people on whom they rely are competent to provide that advice? (Additional requirement required – competence of advisers.)

CP 5.2.2 (no equivalent in Version 2). Where such advisers are not used, are producers able to demonstrate their competence and knowledge? (Brand new control point, 95 per cent compliance required.) [Where the fertiliser records show that the technically responsible person determining quantity and type of fertiliser (organic or inorganic) is the producer, experience must be complemented by technical knowledge (e.g., product technical literature, specific training course attendance, etc.) or the use of tools (software, on-farm detection methods, etc.).]

CP 5.4.1 (6.3.1 to 6.3.2). Is fertiliser application machinery kept in good condition and verified annually to ensure accurate fertiliser application? (Brand new control point, 95 per cent compliance required. Upgraded from recommendation.) [There are maintenance records (date and type of maintenance and calibration) or invoices of spare parts for both the organic and inorganic fertiliser application machinery available on request. There must, as a minimum, be documented records stating that the verification of calibration has been carried out by a specialised company, supplier of fertilization equipment, or by the technically responsible person within the last 12 months.]

CP 5.2.2 (6.4.2). The minimum requirement is to prevent cross-contamination between fertilisers and plant protection products by the use of a physical barrier. If fertilisers that are applied together with plant protection products (i.e., micronutrients or foliar fertilisers) are packed in a sealed container, they can be stored with plant protection products. (Relaxation in storage conditions for sealed containers.)

CP 5.5.3 (6.4.3). The covered area is suitable to protect all inorganic fertilisers, i.e., powders, granules or liquids, from atmospheric influences like sunlight, frost and rain. Based on risk assessment (fertiliser type, weather conditions, temporary storage), plastic coverage could be acceptable. Storage cannot be directly on the soil. Lime and gypsum may be stored in the field for a day or two before spreading. (Significant additional requirement for storage – not on soil.)

CP 5.5.7 (6.4.8). Are organic fertilisers stored in an appropriate manner, which reduces the risk of contamination of the environment? (Control point, 95 per cent compliance required. Upgraded from recommendation.)

CP 5.7.1 (6.6.1). Are purchased inorganic fertilisers accompanied by documentary evidence of nutrient content (N, P and K)? (Control point, 95 per cent compliance required. Upgraded from recommendation.) [Documentary evidence detailing N, P and K content is available for all inorganic fertilisers used on crops grown under EurepGAP within the last 12-month period.]

CP 5.7.2 (no equivalent in Version 2). Are purchased inorganic fertilisers accompanied by documentary evidence of chemical content, which includes heavy metals? (New recommendation.) [Documentary evidence detailing chemical content, including heavy metals, is available for all inorganic fertilisers used on crops grown under EurepGAP within the last 12-month period.]

CP 6.2.1 (7.2.1). Can the producer justify the method of irrigation used in light of water conservation? (Control point, 95 per cent compliance required. Upgraded from recommendation.) [The idea is to avoid wasting water. The irrigation system used is the most efficient available for the crop and accepted as such within good agricultural practice.]

CP 6.3.2 (7.3.2). Has an annual risk assessment for irrigation/fertigation water pollution been completed? (Control point, 95 per cent compliance required. Upgraded from recommendation.) [The risk assessment must consider potential microbial, chemical or physical pollution of all sources of irrigation/fertigation water. Part of the risk assessment should consider the irrigation method and the crop, frequency of analysis, sources of water, the resources and susceptibility for pollutants and drain water of the sources and the environment.]

CP 6.3.3 (7.3.3). Is irrigation water analysed at a frequency in line with the risk assessment? (Additional requirement and control point, 95 per cent compliance required. Upgraded from recommendation.) [The water analysis is carried out at a frequency according to the results of the risk assessment which takes the characteristics of the crop into account.]

CP 7.2 (no equivalent in Version 2). Can the producer show evidence of implementation of at least one activity that falls in the category of “Prevention”? (Brand new control point. 95 per cent compliance required.) [The producer can show evidence of implementing at least one activity that includes the adoption of cultivation methods that could reduce the incidence and intensity of pest attacks, thereby reducing the need for intervention.]

CP 7.3 (no equivalent in Version 2). Can the producer show evidence of implementation of at least one activity that falls in the category of “Observation and Monitoring”? (Brand new control point, 95 per cent compliance required.) [The producer can show evidence of implementing at least one activity that will determine when, and to what extent, pests and their natural enemies are present, and using this information to plan what pest management techniques are required.]

CP 7.4 (no equivalent in Version 2). Can the producer show evidence of implementation of at least one activity that falls in the category of “Intervention”? (Brand new control point, 95 per cent compliance required.) [The producer shows evidence that in situations where pest attack adversely affects the economic value of a crop, intervention with specific pest control methods will take place. Where possible, non-chemical approaches must be considered.]

CP 8.1.1 (8.2.1). All the plant protection products applied to the crop are suitable and can be justified (according to label recommendations or official registration body publication) for the pest, disease, weed or target of the plant protection product intervention. Technically valid (legal) "off label" uses that are supported by the plant protection products (PPP) industry in writing are allowable. If the producer uses off-label PPP there must be evidence of official approval for use of that PPP on that crop in that country. (Additional documentation required.)

CP 8.1.3 (no equivalent in Version 2). Are invoices of registered plant protection products kept? (Brand new control point, 95 per cent compliance required.) [Invoices of the registered plant protection products used must be kept for record-keeping and available at the time of the external inspection.]

CP 8.6.1(8.7.5). Are the correct sampling procedures followed? (New control point, 95 per cent compliance required. Upgraded from recommendation.) [Documentary evidence exists demonstrating compliance with applicable sampling procedures. Sampling can be carried out by the laboratory or by the grower providing the procedure is adhered to. (Reference can also be made to 2002/63/EC - Community methods of sampling for the official control of pesticide residues in and on products of plant and animal origin for more information on sampling.)]

CP 8.7.14 (8.8.15). A stock inventory which indicates the contents (type and quantity) of the store is available and it is updated at least every 3 months. Quantity refers to how many bags, bottles, etc., not on a milligram or centilitre basis. (Additional detail in recording required.)

CP 8.8.2 (no equivalent in Version 2). Are there procedures dealing with re-entry times on the farm? (Brand new control point, "major must" with 100 per cent compliance required.) [There are clear documented procedures which regulate all the re-entry intervals for plant protection products applied to the crops according to the label instructions. Where no re-entry information is available on the label, there are no specific requirements.]

CP 8.8.3 (no equivalent in Version 2). Have the recommended re-entry times been monitored? (Brand new control point, 95 per cent compliance required.) [Documentation (e.g., plant protection products application records) demonstrate that all re-entry intervals for plant protection products applied to the crops have been monitored.]

CP 8.9.6 (8.9.6). Are empty containers rinsed either via the use of an integrated pressure rinsing device on the application equipment, or at least three times with water? (Upgraded to "major must" with 100 per cent compliance.) [Installed on the plant protection product application machinery there is pressure-rinsing equipment for plant protection product containers or there are clear written instructions to rinse each container 3 times prior to its disposal.]

CP 8.9.9 (8.9.9). Are all local regulations regarding disposal or destruction of containers observed? (Upgraded to "major must" with 100 per cent compliance.) [All the relevant national, regional and local regulations and legislation (if it exists), has been complied with regarding the disposal of empty plant protection product containers.]

CP 2.1.2 (no equivalent in Version 2). Is any pre-planting interval complied with? (Brand new control point, 95 per cent compliance required.) [Pre-planting interval must be recorded.]

CP 2.2.2 (5.2.2 to 5.2.3). If chemicals are used to sterilise substrates for reuse, have the location, the date of sterilisation, type of chemical, method of sterilisation, name of the operator and pre-planting interval been recorded? (Control point upgraded to "major must" with 100 per cent compliance.) [When the substrates are sterilised on the farm, the name or reference of the field,

orchard or greenhouse is recorded. If sterilised off-farm then the name and location of the company which sterilises the substrate are recorded. The following are all correctly recorded: the dates of sterilisation (day/month/year); the name and active ingredient; the machinery (e.g. 1000 l-tank etc.); the method (e.g. drenching, fogging); the operator's name (the person who actually applied the chemicals and did the sterilisation); and the pre-planting interval.]

CP 3.1.1 (7.3.4). According to the risk analysis (CB.6.3.2), does the analysis consider the microbial contaminants (Control point upgraded to 95 per cent compliance.) [According to the risk analysis (if there is a risk of microbial contaminants), there is a documented record of the relevant microbial contaminants through a laboratory analysis.]

5.3 Fruit and Vegetables

CP 4.1.1 (9.1.1). There is a documented and up to date (reviewed annually) risk analysis covering physical, chemical and microbiological contaminants and human transmissible diseases, customised to the products. It must also include FV.4.1.2 to FV.4.1.9. The risk analysis shall be tailored to the scale of the farm, the crop, and the technical level of the business. (Possible interpretation as allowing some latitude for small farms.)

CP 4.1.2 (Appears to be no direct equivalent but not acknowledged as a new control point). The farm manager or other nominated person is responsible for implementation of the hygiene procedures. (Apparently a brand new control point, “major must” requiring 100 per cent compliance.)

CP 4.1.3 (no equivalent in Version 2). Have workers received basic instructions in hygiene before handling produce? (Brand new control point, “major must” with 100 per cent compliance required.) [There must be evidence that the workers received training regarding personal cleanliness and clothing, e.g., hand washing, wearing of jewellery, fingernail length or cleaning, etc.; personal behaviour, e.g., no smoking, spitting, etc.]

CP 4.1.4 (no equivalent in Version 2). Are hygiene instructions and procedures for handling produce to avoid contamination of the product implemented? (Brand new control point, “major must” with 100 per cent compliance required.) [There is evidence that the workers are complying with the hygiene instructions and procedures. Packers must be trained, using written (in appropriate languages) and/or pictorial instructions, to prevent physical (such as snails, stones, insects, knives, fruit residues, watches, mobile phones etc.), microbiological and chemical contamination of the product during packing.]

CP 4.1.9 (9.2.1). Are produce containers used exclusively for produce? (Made stricter and upgraded to “major must” with 100 per cent compliance required.) [Produce containers are only used to contain harvested product (i.e., no agricultural chemicals, lubricants, oil, cleaning chemicals, plant or other debris, lunch bags, tools, etc.). If multi-purpose trailers, carts, etc. are used as produce containers, they must be cleaned prior to use.]

CP 4.2.2 (no equivalent in Version 2). Is a documented inspection process in place to ensure compliance with defined quality criteria? (Brand new control point, “major must” with 100 per cent compliance required.) [An inspection process is in place to ensure products are packed according to documented quality criteria.]

CP 4.2.3 (no equivalent in Version 2). Are packed produce protected from contamination? (Brand new control point, “major must” with 100 per cent compliance required.) [All field packed produce must be protected from contamination.]

CP 4.2.4 (no equivalent in Version 2). Is any collection/storage/distribution point of field-packed produce maintained in clean and hygienic conditions? (Brand new control point, “major must” with 100 per cent compliance required.) [If packed produce is stored on farm, storage areas must be cleaned.]

CP 4.2.5 (no equivalent in Version 2). Is packing material used for in-field packing stored to protect against contamination? (Brand new control point, “major must” with 100 per cent compliance required.) [Packing material must be stored to protect it against contamination.]

CP 4.2.6 (no equivalent in Version 2). Are bits of packaging material and other non-produce waste removed from the field? (Brand new control point, 95 per cent compliance required.) [Bits of packaging material and non-produce waste must be removed from the field.]

CP 5.2.3 (no equivalent in Version 2). Are all workers wearing outer garments that are clean and fit for purpose for the operation and able to protect products from contamination? (Brand new recommendation.) [All workers wear outer garments (e.g., smocks, aprons, sleeves, gloves) that are clean and fit for purpose for the operation according to the risk analysis. This will depend on the product and operation.]

CP 5.2.4 (no equivalent in Version 2). Are smoking, eating, chewing and drinking confined to designated areas segregated from products? (Brand new control point, 95 per cent compliance required.)

CP 5.2.5 (no equivalent in Version 2). Are signs clearly displayed in the packing facilities with the main hygiene instructions for workers and visitors? (Brand new control point, 95 per cent compliance required.)

CP 5.3.1 (10.1.3). Do workers in the packing facility have access to clean toilets and hand-washing facilities in the vicinity of their work? (Control point upgraded to “major must” with 100 per cent compliance.) [Toilets in a good state of hygiene must not open directly onto the produce handling area, unless the door is self-closing. Hand washing facilities, containing non-perfumed soap, water and hand dry facilities must be accessible and near to the toilets (as near as possible without the potential for cross-contamination).]

CP 5.3.2 (no equivalent in Version 2). Are signs clearly displayed instructing workers to wash their hands before returning to work? (Brand new control point, “major must” with 100 per cent compliance required.) [Signs must be visible with clear instructions that hands must be washed before handling products, especially after using toilets, eating, etc.]

CP 5.3.3 (no equivalent in Version 2). Are there suitable changing facilities for the workers? (Brand new recommendation.) [The changing facilities must be used to change clothing and protective outer garments as required.]

CP 5.3.4 (no equivalent in Version 2). Are there lockable storage facilities for the workers? (Brand new recommendation.) [Secure storage facilities must be provided at the changing facility to protect the workers' personal belongings.]

CP 5.4.2 (10.4.4). Are cleaning agents, lubricants, etc. stored to prevent chemical contamination of produce? (Control point upgraded to 95 per cent compliance.)

CP 5.4.4 (no equivalent in Version 2). Are all forklifts and other driven transport trolleys clean and well maintained and of suitable type to avoid contamination through emissions? (Brand new recommendation.)

CP 5.4.5 (10.4.3). Is rejected produce and waste material in the packing environment stored in designated areas, which are routinely cleaned and/or disinfected? (Control point upgraded to 95 per cent compliance.)

CP 5.4.6 (10.4.6). Are breakage-safe lamps or lamps with a protective cap used above the sorting, weighing and storage area? (Control point upgraded to “major must” with 100 per cent compliance.)

CP 5.4.8 (no equivalent in Version 2). Are packing materials clean and stored in clean and hygienic conditions? (Brand new control point, 95 per cent compliance required.) [Is a documented inspection process in place to ensure compliance with a defined quality standard?]

CP 5.5.3 (no equivalent in Version 2). For products that are sensitive to light (e.g. potatoes), is daylight ingress controlled in longer-term storage facilities? (Brand new control point, “major must” with 100 per cent compliance required.)

CP 5.5.4 (no equivalent in Version 2). Is stock rotation being managed? (Brand new recommendation.)

CP 5.5.5 (no equivalent in Version 2). Is there a process for verifying measuring and temperature control equipment? (Brand new control point, 95 per cent compliance required.)

6. Discussion

A technical manager in one of the leading export companies in Kenya said: “cost of achieving requirements of EurepGAP (Version 3) will go up for the small-scale farmers and outgrowers and may exceed the income generated from farming operations, yet there is no premium price for the certified product. The cost of achieving EurepGAP standard may exceed the income generated and thus they (smallholders) will not go for certification”.

Graffham and MacGregor predicted in 2006 that EurepGAP Version 3 was expected to increase the compliance costs for producers including small-scale growers. The evidence in this report supports their conclusions. The 11 additional compulsory points and 21 extra points now requiring 95 per cent compliance are inevitably now more difficult to achieve and more expensive to administer than previously for all farmers, but particularly for smallholders.

Farm costs for smallholders to obtain compliance under Version 3 of EurepGAP are likely to become increasingly unaffordable. Additional requirements include extra training of personnel, building compliant stores and packing sheds, providing further facilities for workers, keeping more and a general increase in administration associated with new control points in Version 3 and the new QMS.

Increased challenges in Version 3 are offset to a small degree by a relaxation of some seven control points but the overall tendency is for a more strictly controlled farm regime involving difficult or unaffordable compliance criteria for smallholders in developing countries.

Content and wording of the quality management system appears to be geared towards conditions in Western Europe. The QMS checklist and supporting sections of the general regulations (parts III and II) have a strong legal flavour to the wording. While this may strengthen a ‘due diligence’ defence in the event any legal action resulting from serious health issues associated with product covered under a EurepGAP option 2 scheme, it is not a component of the QMS system that contributes directly to consumer protection. By forcing grower groups to seek (and pay for) outside support the new QMS document will put further strain on the viability of small farm export market access.

During the current review exercise various stakeholders were contacted and asked to give their opinions on the new version of EurepGAP and its likely impact on small-scale growers in sub-Saharan Africa (positive or negative). A representative of a major donor-funded EurepGAP support programme commented that the new QMS was “much simpler than the previous version and therefore better for small-scale growers”. A comparison of the two systems provided no evidence that would support this view.

Ironically, some groups such as auditors, trainers, and advisers – whose job it is to run the stricter standards and carry out assessment of farms are – are finding new opportunities. One influential exporter expressed the private opinion that people involved with running the standards are “sitting on a gold mine” in reference to the industry that has built up. Already, exported produce is increasingly coming from larger farms that are better able to cope with the increasingly strict compliance criteria imposed by European buyers (who are dominated by the supermarkets). This trend will continue as many smallholder farmers in particular will struggle and fail to achieve or maintain compliance.

7. Conclusions

It will be more difficult for smallholders to comply with Version 3 of EurepGAP.

As of mid-2006 in Kenya, 60 per cent of the estimated 45,000 smallholders supplying exporters in 2003 had already been dropped by their export company or withdrawn from compliance schemes as a direct result of inability to either comply, or retain compliance, with EurepGAP. Feedback from company management teams at that time indicated that a further reduction in smallholder involvement was planned for 2007. Version 3 will exacerbate this trend.

While compiling this report (August 2007) the author has had very strong indications from key stakeholders involved in the export industry in Kenya that they expect EurepGAP Version 3 to be more restrictive and to discourage smallholder farmers from going for certification.

The QMS component, already considered as the most challenging part of complying with the EurepGAP fruit and vegetables protocol, has become even more detailed in Version 3 and alone may reduce the chance of successful compliance under option 2.

The farmer in a developing country such as Kenya faces ever higher hurdles to achieve and retain European market access. Despite the efforts of exporters and aid agencies, this is a significant and increasing barrier to trade. Although not intended to prevent participation of smallholders in the export chain, this is a likely but very regrettable outcome of the newer, stricter version of the EurepGAP standard.

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For more information contact:
contact@agrifoodstandards.net



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International Institute for
Environment and Development,
3 Endsleigh Street,
London WC1H 0DD, UK
tel: +44(0)2073882117,
fax: +44(0)2073882826

