# Unilever Sustainable Agriculture Code

# Contents




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*Disclaimer:* This document has been discussed with the members of the Unilever Sustainable Agriculture Advisory Board (SAAB). The SAAB is a group of individuals, specialists in agricultural practices or representatives of non-governmental organisations (NGOs), who have expertise in different aspects of sustainability. They have agreed to critically assist Unilever in the evolution of Sustainable Agriculture Indicators and good practices for a range of raw material crops. The contents of this document and the choices made therein are, however, the responsibility of Unilever only.


Version 1





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For Suppliers: www.GrowingfortheFuture.com
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Acknowledgements
*Design* A10plus, Rotterdam, www.a10plus.nl
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# 0. General Introduction

## 0.1 Background to the Code

Unilever has always maintained a strong commitment to sustainability. It forms a core part of our company vision to double the size of our business while reducing our overall impact on the environment. At the same time we continue to serve billions of consumers across the world with products and innovations that help them feel good, look good and get more out of life. We expect our suppliers to work alongside us to achieve our ambitious consumer and sustainability targets.

We believe in sustainable development. The Unilever Sustainable Agriculture Code is our definition of Sustainable Agriculture. With this code, we ask our suppliers, and the farmers who supply them, to adopt sustainable practices on their farms. We expect all our suppliers of agricultural raw materials to commit to joining the sustainability journey and to demonstrate that they agree to minimum standards of performance and to continuously improve performance over time.

The Unilever Sustainable Agriculture Code covers practices that all our suppliers should strive to achieve. Where farmers are working with other assurance schemes, our aim is not to duplicate work for farmers. Our code will act as a benchmark and we will only ask for changes in areas where the standard in place and our code are significantly different.

For example, we are committed to sourcing our Lipton tea bag tea from Rainforest Alliance certified growers, our palm oil from RSPO certified sources and Ben and Jerry's ingredients from FairTrade sources. However if for example farmers have found a better solution to increase yield and quality, or reduce pollution, than that listed in our code, we are happy to accept alternative approaches.

### How was this Code derived?

Between 1999 and 2003 Unilever published Good Agricultural Practice documents for our key crops. Over the years, we realised that while there are clear differences between the management of annual and perennial crops, temperate and tropical farming systems and different soils, landscapes and social settings, good farming everywhere has much in common. This collection of sustainable practices has been created and tested by our network of practical agronomists and farmers, consultants and sustainability advisers over the last six years and is, we believe, applicable to all our agricultural raw materials.

### Supporting documentation

Information on how Unilever will implement this code with suppliers is available in our "Unilever Sustainable Agriculture Code Scheme rules". This document along with Implementation Guides and references is available on: http://www.growingforthefuture.com.

## 0.2 Structure of this document

These Good Practice Documents have been written to establish and maintain a Code for all Unilever suppliers of agricultural raw materials. The Code is divided into sections

- Introduction
- Mandatory requirements. Non-compliance with these requirements is unacceptable to Unilever.
- Good practices. This section addresses suppliers and farmers (see below). Within this section, the words "must" and "should" have been used. They are defined as:
  Must – A practice that is obligatory, unless there are exceptional circumstances. Any non-compliances must be temporary and addressed in a development plan or agreed as an exception by Unilever.
  Should - Strongly advised. These actions have the potential to become obligatory requirements ("Must") in the next review of this document.

Terms defined in the Glossary of Terms (Appendix 3) are in blue.

## 0.3 Scope

Unless otherwise stated in the text, the scope of this document is as below:

| Practices referring to | Scope |
|---|---|
| Soils, soil management | Field on which Unilever crops are grown, including fields in rotation with other crops. |
| Crop husbandry | Unilever crops |
| Animal husbandry | Unilever animals. Animal slaughter and transport of animals off-farm is currently out of scope. |
| People, working conditions, health & safety, training | Whole farm |
| Activities stretching beyond the farm, such as some aspects of Biodiversity, Water or Value chain | Whole farm |

## 0.4 Responsibilities

This Code is applicable to all Unilever suppliers of agricultural goods, the farmers producing them and contractors working on farm. We hold our suppliers responsible for implementing this Code. However, many good practices must be applied by farmers, not suppliers.



# Sustainable Agriculture Code

## 1. Overall continuous improvement

| | | *For all sections continuous improvement includes:* | |
|---|---|---|---|
| **1.1** | | Continuous improvement must be made by monitoring compliance with this Code and taking action where deviations demand so. | Mandatory requirement |
| **1.2** | | Where a large number of farmers have difficulties complying with parts of this Code, or where implementation leads to supply issues, this must be brought to our attention, to ensure we can put into place joint solutions. | Mandatory requirement |

## 2. Agrochemicals and fuels

Agrochemicals includes both Crop Protection Products (CPPs) and Synthetic Fertilisers

| **2.1** | **Records** | ***Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:*** | |
|---|---|---|---|
| 2.1.1 | (checklist of records related to this section) | 1. IPM strategic commitment | Must |
| 2.1.2 | | 2. Records to justify agrochemical application:<br>- pest monitoring records for CPPs<br>- nutrient balance calculation for fertilisers | Must |
| 2.1.3 | | 3. Agrochemical application record<br>a) Product name<br>b) Active ingredient/fertiliser type<br>c) Crop area applied to (including location identifier)<br>d) Rate<br>e) Application date<br>f) Operator name<br>g) Re-entry period (CPPs only)<br>h) Pre-harvest interval (CPPs only) | Must |
| 2.1.4 | | 4. Accident/spillage records and action taken in the event of an accident | Must |
| 2.1.5 | | 5. Spray equipment maintenance and calibration records | Must |
| 2.1.6 | | 6. Record of agrochemical store contents | Must |
| 2.1.7 | | 7. Risk assessment record covering all phases of agrochemical use | Must |
| 2.1.8 | | 8. Water quality monitoring records | Should |

| | | | |
|---|---|---|---|
| 2.1.9 | | 9. Training records of applicators and anyone who handles/ manages agrochemical products | Must |
| 2.1.10 | | 10. Details of agrochemical vendors used by the farmer | Must |

| 2.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 2.2.1 | | We will actively phase out the use of the most toxic CPPs starting with WHO Ia and Ib compounds. Unilever suppliers must develop a phase-out plan for these compounds. | Must |
| 2.2.2 | | Suppliers should raise awareness of and share knowledge/ opportunities for sustainable methods of pest and nutrient management, to ensure we capture best available techniques. | Should |

| 2.3 | Nutrient Management | | |
|---|---|---|---|
| 2.3.1 | Introduction | | |
| | Why this is important | Fertilisers and/or composts are important inputs to most farming systems, but it is important for both economic and environmental sustainability that nutrients are used efficiently and not wasted.<br><br>N, P, K and S inputs need to be provided in balance and in association with appropriate micronutrients for maximum use-efficiency. To do this well, regular soil or tissue analyses will normally need to be undertaken, and the nutrient content of synthetic fertilisers, manures, composts and crop residues understood. If practical, nitrogen should be supplied locally by legumes grown as part of the crop rotation or between perennial tree crops and/or by recycling organic wastes (compost, manure etc.) produced on the farm.<br><br>Nutrients wasted, and lost to air or water in the environment, result in lower profits, acid rain, eutrophication of water bodies, and global warming (greenhouse gas production) | |
| 2.3.2 | Mandatory requirements | | |
| 2.3.2.1 | Measuring progress | We (Unilever) want to decrease the amount of nitrogen released into the environment. Our Sustainable Agriculture Metric "Nitrogen balance" provides a measure of that. Our suppliers must provide the necessary data for calculating this metric.<br>Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 2.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to the use of crop nutrients.<br>Regulations typically apply to fertiliser purchase, handling and storage (both synthetic fertilisers and organic manures/ composts); amount and timing of application, application mode and technology; contamination of fertilisers (e.g. with heavy metals); monitoring heavy metal build up; and prevention of losses to the environment, secure storage to prevent explosives manufacture. | Mandatory requirement |
| 2.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 2.3.2.4 | Prohibitions | Disposing of fertilisers and/or containers in rivers, streams or other surface or ground waters is **prohibited**. | Mandatory requirement |
| 2.3.2.5 | | Application of untreated human sewage and human sewage-contaminated water (water from sewers and water that may be contaminated with runoff from sewage treatment facilities directly to our crops is **prohibited**. | Mandatory requirement |
| 2.3.3 | Good practices | | |
| 2.3.3.1 | Ensuring crops get the nutrients they need - the need for a nutrient management system | A crop nutrient management system must be in place, which aspires to optimise all crop nutrient supply, whilst balancing this with nutrient offtake when the crop is harvested. It is recommended that the Fertiliser Best Management Practices be developed on a crop and location specific basis. | Must |
| 2.3.3.2 | Required components of nutrient management system | As a minimum the rationale for making a nutrient application to a crop must include the following: | |
| | | a) Responsibilities must be clearly assigned for planning and carrying out crop nutrition. | Must |
| | | b) Knowledge of the soil's chemical, biological and physical composition must be a basic consideration for the availability and efficiency of nutrients available to crops. For example: the soil type and texture (proportion of sand, silt, clay), soil organic matter content, potential rooting depth (or compaction problems), soil stone content, soil parent material and soil pH. | Must |
| | | c) The nutritional requirements of the crop to reach the desired yield and quality must be known and translated into locally specific operational targets for crop nutrition. | Must |
| | | d) The amount of Nitrogen (N) - and Phosphorus (P) - containing nutrients applied through fertilisers within a season must be justified by a gap between actual and target nutrient supply, taking into account all sources of nutrients already available to the crop, including soil, previous fertiliser applications, harvest residues, legumes, green manures and cover crops. | Must |
| | | e) A calculation must be made of a simple (input/output) nutrient balance of the crop, using best available information, considering nutrient inputs and nutrient off-take with the harvested part of the crop. | Must |
| | | f) Records of the justification (as above) for applying fertilisers must be made, be accessible, and kept for at least 2 years. | Must |

| | | | |
|---|---|---|---|
| 2.3.3.3 | Recommended components of nutrient management system | In addition a crop nutrient management system should consider the following: | |
| | | a) The nutritional status of the crop should be checked and compared against the nutritional targets. Systems to detect and diagnose nutrient deficiency or nutrient excess should be in place, e.g. tissue analysis and/or visual assessment. | Should |
| | | b) There should be a plan for monitoring concentrations of available soil nutrients (specifically any nutrient where there is the risk of deficiency or excess supply – see Soils section). | Should |
| | | c) Where nutrient inputs (including those from soil mineralisation, organic nutrient sources) are not equal to nutrients exported in the harvested product, this should be explained. Both nutrient mining and excess supply of nutrients have implications for sustainable crop production. | Should |
| 2.3.3.4 | Fertiliser application | a) Fertilisers must only be applied to the intended crop area, specifically avoiding water bodies, wildlife habitats and places of work or residential areas. This can be ensured by (1) the use of buffer zones; (2) the use of suitable application technology (e.g. the use of deflector plates or spot applications); (3) safe disposal of washings. | Must |
| 2.3.3.5 | | Measures to avoid N and P being lost to the environment must be taken and provided as documented evidence. These include:<br>1) timing of application (e.g. avoid rainy periods, particularly on steep terrain);<br>2) choice of N-fertiliser type (e.g. nitrate-based are less prone to ammonia loss than urea)<br>3) soil conditions (e.g. ensure soil moisture allows good infiltration, avoid frozen, cracked, water-logged or compacted soils). It is particularly important to keep the N content of soils subject to freeze-thaw and anaerobic conditions in order to limit Greenhouse Gas (GHG) production;<br>4) application technique (e.g. split applications, incorporate or inject organic slurry and urea-based fertilisers). | Must |
| 2.3.3.6 | Protecting people and the environment – Risk assessment | Nutrient applications can pose hazards to people (e.g. pathogens) and the environment (e.g. eutrophication due to nitrate and phosphate losses). A risk assessment should be performed see Appendix 2 covering risks to operators, neighbours/bystanders, consumers, water, soil, air, biodiversity, and GHG emissions.<br>**Please note: assessment of risks posed by synthetic fertilisers are covered in the section "Agrochemical Safety and Risk Assessment" – this section is included to ensure that manures, sludge and composts are also assessed.**<br>The risk assessment should consider the following: | Should |
| | | a) use | Should |
| | | b) transport | Should |
| | | c) storage | Should |
| | | d) handling | Should |
| | | e) contamination, e.g. with pathogens, heavy metals or organic toxins | Should |
| | | f) choice of different nutrient sources | Should |
| | | g) filling, cleaning and maintenance of equipment | Should |
| | | h) handling and disposal of packaging | Should |
| 2.3.3.7 | Monitoring of water quality | Water bodies at risk of being affected by nutrient losses from the farm should be monitored for water quality, and symptoms of eutrophication investigated. | Should |
| **2.4** | **Pest Management** | | |
| 2.4.1 | Introduction | | |
| | Why this is important | Healthy crops are the basis of all agriculture. Ensuring that crops are healthy involves choosing the right crops and varieties for the location, creating ideal growing conditions and controlling pests (including insects, weeds and diseases), where they threaten to compromise yield or quality. Integrated Pest Management (IPM) is the key to sustainable pest control.<br>The objective of IPM is to adopt cultural, biological, mechanical, physical and other strategies to discourage the development of pests in the crop, and by doing so to reduce the need for CPPs.<br>Risks to human health and the environment are minimised by only using CPPs and other interventions when economically justified, by using less hazardous products where these are efficacious, and by adopting safe working practices. This means that all people who handle CPPs must be properly trained and have access to appropriate Personal Protective Equipment (PPE), and that all equipment and storage facilities are well-maintained and secure. | |
| 2.4.2 | Mandatory requirements | | |
| 2.4.2.1 | Measuring progress | We want to reduce the use of hazardous CPPs (WHO classes Ia, Ib, II) linked to the production of our raw materials.<br>We also want to reduce the impact of CPPs on aquatic ecosystems. Our Sustainable Agriculture Metrics "Chemical use" and "Water" provide measures of that. Unilever suppliers must provide the necessary data for calculating these metrics.<br>Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |

| | | | |
|---|---|---|---|
| 2.4.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to pest management and the management, storage, use and disposal of CPPs. | Mandatory requirement |
| 2.4.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 2.4.2.4 | Unilever requirements beyond legislation | We consider Crop Life International's Guidelines 1, 2 and 4 ['Guidelines for the safe and effective use of crop protection products', 'Guidelines for Personal Protection when using crop protection products in hot climates' and 'Guidelines for the safe transportation of crop protection products'] (http://www.croplife.org/librarypublications.aspx?wt.ti=Publications) as the benchmark. Where they exceed standards set by national legislation, Crop Life International Standards must be used instead.<br><br>Regulations typically apply to: approved CPPs, registration and choice of CPPs; user protection; re-entry intervals; waiting periods (pre-harvest interval); application rates and techniques; distance to water courses and no-spray areas; qualification, age and training of operators; handling and storage of CPPs.<br><br>(Restrictions on CPP use linked to chemical residues on products in the country of consumption are covered in the Value Chain section of this code.) | Mandatory requirement |
| 2.4.2.5 | Prohibitions | Allowing children (under 18 years old) or pregnant or nursing women to handle or apply CPPs. | Mandatory requirement |
| 2.4.2.6 | | Allowing operators to apply/handle CPPs without the basic training as recommended by Crop Life International[1] | Mandatory requirement |
| 2.4.2.7 | | Disposing of CPPs, the packaging or containers in rivers, streams or other surface or ground waters.<br><br>For specific advice on dealing with obsolete CPPs, see Pest Management Implementation Guide or Crop Life Guidelines. | Mandatory requirement |
| 2.4.2.8 | | Re-using CPP containers for any purpose other than recycling (i.e. where a proprietary container is refilled professionally by the vendor). | Mandatory requirement |
| 2.4.2.9 | | Applying banned CPPs or making an illegal CPP application. (An illegal application means any application outside of the label instructions, application of expired CPPs and use of CPPs that are not covered by local legislation waivers, for example off-label applications in minor crops). Banned CPPs include products forbidden by local legislation as well as those covered by global bans, e.g. the Montreal Protocol on ozone-depleting substances (includes methyl bromide) and the Stockholm Convention on Persistent Organic Pollutants (POPs). | Mandatory requirement |
| 2.4.2.10 | Strategic commitment | A strategic commitment to Integrated Pest Management must be made, documented in writing (e.g. a company policy or statement) and implemented in practice. | Mandatory requirement |

1 *Crop Life International Guidelines for the safe and effective use of crop protection products http://www.croplife.org/library/attachments/faf51b4e-0739-4660-8f44-c28724a51c6b/6/Guidelines%20for%20Safe%20and%20Effective%20Use%20of%20CPPs.pdf.*

| 2.4.3 | Good practices | | |
|---|---|---|---|
| 2.4.3.1 | **Protecting crops** – need for a **management system** based on Integrated Pest Management (IPM) | An Integrated Pest Management System must be in place. | Must |
| 2.4.3.2 | Required components of an IPM system | The IPM system must include the following: | |
| | | a) Responsibilities must be clearly assigned for planning and carrying out pest control and for implementing IPM. | Must |
| | | b) Processes and criteria for selecting suitable growing areas, fields rotations and varieties. | Must |
| | | c) Cultural control of pests within the agricultural system to prevent build-up or survival of inoculums. | Must |
| | | d) Key pests must be identified, their life cycle understood and action thresholds established[2]. | Must |
| | | e) Actual infestation levels with key pests in the field must be checked and compared against the action threshold, following an appropriate sampling method. | Must |
| | | f) Any use of CPPs must be justified as essential for achieving the yield or quality we require, or for that of other crops in the rotation. For key pests, action thresholds serve as a justification. | Must |
| | | g) Infestation levels and control measures taken must be documented. | Must |
| | | h) A requirement to take into account environmental and human health risk where there is a choice of different CPPs. | Must |
| | | i) The farmers/operator must be supplied, by the customer for the crop, with a list of preferred CPPs for use in the crop. | Must |
| 2.4.3.3 | Recommended components of an IPM system | In addition, an Integrated Pest Management system should include the following elements: | |
| | | a) Minimising resistance to CPPs by rotation of active ingredients with different modes of action. | Should |
| | | b) Actively managing beneficials and antagonists to reduce pest pressure. | Should |
| | | c) Using biological or physical controls before using (and/or in combination with) CPPs. | Should |
| | | d) Establishing and using action thresholds for pests that do not fall under the definition of key pests. | Should |

2 *Note: for weeds, where action thresholds are not conventionally used in practice, the expectation is that rational decision-making is in place, based on an understanding of the potential impact of weeds throughout the crop cycle.*

| | | | |
|---|---|---|---|
| 2.4.3.4 | CPP application – general requirements | CPPs must be applied in accordance with the requirements of the label. | Must |
| 2.4.3.5 | | Prior to application of a CPP, the person responsible for pest management must check if the selected CPP is suitable and legally approved for the intended purpose. | Must |
| 2.4.3.6 | | Prior to application of a CPP, the user must check what safety precautions need to be observed. | Must |
| 2.4.3.7 | | Care must be taken that only the intended target area is exposed to CPPs. This can include (1) the use of buffer zones; (2) not spraying at wind speed greater than 5m/sec; (3) the use of low drift technology, spot applications or seed treatments. | Must |
| 2.4.3.8 | | Expired CPP concentrate, sprayer washings, containers, coated seed and any other contaminated material from CPP use must be disposed of safely or recycled safely. | Must |
| 2.4.3.9 | | There must be procedures in place to deal with accidents and spillages of CPPs. | Must |
| 2.4.3.10 | | Application records must be made, at time of application | Must |
| 2.4.3.11 | | The application records must be traceable back to the field treated and contain at least: the reason for applying the CPP; time of application; product or active ingredient name; and amount applied. | Must |
| 2.4.3.12 | CPPs specific applications | If CPPs are used preventively it should be demonstrated that it is the only economic control option and that it poses no higher risk to the environment and human health compared to curative applications. | Should |
| 2.4.3.13 | | If chemical soil fumigation is used it must be demonstrated that it poses no higher risk to the environment and human health compared to other control measures. | Must |
| 2.4.3.14 | | If aerial spraying is used it must be demonstrated that it is the only economic control option and that it poses no higher risk to the environment and human health compared to ground based applications. | Must |
| **2.5** | **Agrochemical Safety and Risk Assessment** | | |
| 2.5.1 | Good practices | | |
| 2.5.1.1 | Protecting people and the environment – Risk Assessment | Agrochemicals can pose hazards to people (e.g. skin irritants, dust inhalation, fire/explosion) and the environment (e.g. effects on non-target organisms, eutrophication). A risk assessment must be performed see Appendix 2 covering risks to operators, neighbours/bystanders, consumers, water, soil, air, biodiversity, and GHG emissions. | Must |
| 2.5.1.2 | Required components of the risk assessment | The risk assessment must consider all of the following: | |
| | | a) use | Must |
| | | b) transport | Must |
| | | c) storage | Must |
| | | d) handling | Must |
| | | e) choice of agrochemicals and equipment | Must |
| | | f) filling, cleaning and maintenance of equipment | Must |
| | | g) handling and disposal of agrochemical packaging or any contaminated material | Must |
| 2.5.1.3 | Recommended components of the risk assessment | The risk assessment should also consider: | |
| | | a) contamination of synthetic fertilisers e.g. with heavy metals. | Should |
| 2.5.1.4 | Human health and safety requirements | If the risk assessment or any label instructions require personal protective equipment it must be provided and fit for use. | Must |
| 2.5.1.5 | | For all agrochemical applications, operators must know what protective equipment to use and how to use it. | Must |
| 2.5.1.6 | | Full label details for agrochemicals must be accessible to operators when using or handling agrochemicals in such a way that they can understand and apply it. | Must |
| 2.5.1.7 | | Washing facilities must be available and used after handling or use of agrochemicals or any items that could have been in contact with agrochemicals, such as PPE or agrochemicals containers. | Must |
| 2.5.1.8 | | If PPE is used it must be cleaned after use and washed separately from other washing. Washing must not be carried out by children under 18 years old or by pregnant or nursing women. | Must |
| 2.5.1.9 | | PPE must be stored separately from agrochemicals and away from other clothes or household items. | Must |
| 2.5.1.10 | | Any health and safety risks from agrochemical applications to bystanders and members of the local community must be avoided. (For example: Taking into consideration where public access points are, observing re-entry intervals, using warning signs and using buffer zones around the crop to minimise exposure to the public and livestock.) | Must |
| | | Note: Medical examinations related to agrochemical use are dealt with under the Social and Human Capital section. | |
| 2.5.1.11 | Labels, packs and vendors | All agrochemicals must be purchased in the manufacturers' original containers or packaging (which have not had seals tampered with and are not leaking) with the original label in a relevant language, with all details on the label legible. | Must |
| 2.5.1.12 | Vendors | Agrochemicals must only be purchased or supplied by nationally approved or industry-recognised vendors, who supply products of known active ingredient quality or nutrient content in the proprietary containers, with appropriate storage and delivery facilities. | Must |
| 2.5.1.13 | | Details of agrochemical vendors used by the farmer must be recorded giving business and agrochemical storage location and up-to-date contact details. | Must |
| 2.5.1.14 | Agrochemical waste (generic) | Agrochemical containers must never be used to store food, water or feed | Must |
| 2.5.1.15 | | Agrochemical waste stores should not be combined with new-material stores | Should |
| 2.5.1.16 | Agrochemical waste (CPP specific) | CPP containers must be reused only for the same chemical product and only when specifically intended and correctly labelled for continuous reuse. | Must |
| 2.5.1.17 | | CPP containers must be returned to suppliers wherever this can be arranged. | Must |
| 2.5.1.18 | | CPP containers must be triple-rinsed and punctured or cut apart (to avoid them being used for water or food) before disposal. | Must |

| | | | |
|---|---|---|---|
| 2.5.1.19 | Agrochemical waste (synthetic fertiliser specific) | If synthetic fertiliser packaging cannot be reused safely it must be disposed of responsibly, ideally through specialised waste handlers. | Must |
| 2.5.1.20 | Off-farm waste disposal | Agrochemical waste disposal off-farm must take place using contractors who have legal approvals to handle the types of waste involved. | Must |
| 2.5.1.21 | | Consignment notes or other documentation should be used to confirm transfer of agrochemical wastes to contractors, and the dates, volumes and types of waste disposed of. | Should |
| **2.6** | **Agrochemical and Fuel Storage and Equipment** | | |
| 2.6.1 | Good practices | | |
| 2.6.1.1 | Equipment and maintenance | Application equipment must be maintained in good working order and safe to use. | Must |
| 2.6.1.2 | | Agrochemical application equipment must be checked before and cleaned after use. | Must |
| 2.6.1.3 | | Agrochemical application equipment must deliver the desired flow rates and allow for even distribution, both within defined tolerances:<br>- As per fertiliser application equipment recommendations for fertilisers<br>- As per Crop Protection equipment manufacturers' recommendations for CPPs. | Must |
| 2.6.1.4 | | Machine applicators (including fertigation systems) must be checked at least once a year to ensure they deliver the correct spread pattern. | Must |
| 2.6.1.5 | | Sprayers must be checked at least once a year to ensure they deliver the correct spray volumes and spray pattern from the nozzles. | Must |
| 2.6.1.6 | | Appropriate nozzles must be used with any equipment, and checked for damage and if damaged, replaced. | Must |
| 2.6.1.7 | | When granular fertiliser is used, the density and particle size will affect the spreading pattern. Machinery should be adjusted for each fertiliser used, in accordance with the recommendations of the operating manual. | Should |
| 2.6.1.8 | | Maintenance records for application equipment should be kept for at least 2 years. | Should |
| 2.6.1.9 | Agrochemical storage | Agrochemicals must be stored safely and correctly. Specifically: | |
| | | a) Any storage facilities must be constructed of suitable materials, kept dry and well ventilated | Must |
| | | b) Agrochemical stores must be constructed and located in such a way as to minimise risks to people or the environment, including during emergencies such as fire or flooding. | Must |
| | | c) Agrochemical stores must be kept secure. Storage facilities and any items that could be contaminated with agrochemicals must be locked to prevent access by children and any unqualified persons. | Must |
| | | d) Fertilisers must not be stored together with CPPs or fuel. | Must |
| | | e) A record of all agrochemicals currently in the store must be kept | Must |
| | | f) Areas where agrochemicals are handled or where equipment is washed must be designed such that spillages can be confined and do not reach the environment or pose a risk to human health. | Must |
| | | g) Agrochemicals and any items (e.g. application equipment, PPE, used containers, measuring/weighing equipment) that could be contaminated with agrochemicals must be stored and handled as specified by the manufacturer, separately from food or feed, living quarters and where people eat or prepare food. | Must |
| 2.6.1.10 | Fuel storage | All fuel must be stored safely, specifically: | |
| | | a) Fuel stores (petrol/ gasoline/ diesel/ gas/fuel oil/ biomass etc) must be constructed of suitable materials. | Must |
| | | b) Fuel stores must be located where they present minimal risks to people or the environment, including during emergencies, such as fire, flood or vehicle impact. | Must |
| | | c) Stores of highly flammable materials must be kept secure. | Must |
| | | d) Fuels must be stored separately from agrochemicals. | Must |

# 3. Soils

| 3.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 3.1.1 | (Checklist of records related to this section) | 1. Soil management and conservation system | Must |
| 3.1.2 | | 2. Risk assessments and resulting actions | Must |
| 3.1.3 | | 3. Decisions and actions on implications of land expansion | Must |
| 3.1.4 | | 4. Monitoring of soil quality parameters | Must |
| 3.1.5 | | 5. Monitoring of soil cover and compaction | Should |
| 3.1.6 | | 6. Training records of farmers in sustainable soil management | Should |

| 3.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 3.2.1 | | Plans must be in place to phase out the use of peat, forest top soil and other non-renewable materials for substrates and soil amendments within 3 years. | Must |
| 3.2.2 | | Suppliers should raise awareness of and share knowledge/ opportunities for sustainable methods of soil management and conservation, to ensure we capture best available techniques. | Should |

| 3.3 | Soil Management | | |
|---|---|---|---|
| 3.3.1 | Introduction | | |
| | Why this is important | Good agricultural practices maintain or improve soils. Soil is fundamental to agriculture and a well-managed soil improves performance of crops and livestock. However, soils become less productive if eroded by wind and water, compacted from improper use of machinery on the land, or damaged by inappropriate fertilisation or irrigation. Eroded soil also creates problems in watercourses and is a major cause of eutrophication and siltation. | |
| 3.3.2 | Mandatory requirements | | |
| 3.3.2.1 | Measuring progress | We (Unilever) want to increase the area of agricultural land under sustainable soil management and conservation practices. Our Sustainable Agriculture Metric "Soil health" provides a measure of that. Our suppliers must provide the necessary data for calculating this metric. Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 3.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to soil management, soil conservation, and soil fertility. Regulations typically relate to: erosion control; riparian strips; maintaining soil structure, organic matter concentrations and chemical and biological quality; application of fertilisers; application of manures, slurry, human sewage sludge and other wastes; contamination and accumulation of CPPs, heavy metals, polyaromatic hydrocarbons (PAHs), veterinary medicines and harmful bacteria. | Mandatory requirement |
| 3.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 3.3.2.4 | Prohibitions | Disposal of wastes and chemicals (including veterinary medicines) on land, unless they are explicitly allowed and safe for application on agricultural land for food production, is **prohibited**. | Mandatory requirement |
| 3.3.3 | Good practices | | |
| 3.3.3.1 | Soil management system | A documented soil management and conservation system must be in place, with the aim of creating and maintaining soils that support healthy crops of high yield and quality. | Must |
| 3.3.3.2 | Components of a soil management system | Evidence is required to prove that, as a minimum, the soil management and conservation system ensure that: | |
| | | a) Responsibilities are clearly assigned to a competent person for planning and carrying out soil management and soil conservation. Risk assessment see Appendix 2 must be part of this approach. | Must |
| | | b) Crops are only grown where soils are proven to be suitable for that crop and in appropriate rotations or with intercrops. This includes managing the risk of soil exhaustion and soil-borne pests (including insects, diseases and weeds) at the planning stage. | Must |
| | | c) Where the area of agricultural land acquired or used is expanded for any period, crop suitability and environmental implications are assessed and decisions and actions are recorded. | Must |
| | | d) The risk of soil erosion and loss is assessed and managed. Sources of soil erosion and loss include water erosion, wind erosion and removal of soil with harvested products or machinery. | Must |
| | | e) The risk of soil compaction is assessed and managed. Sources of soil compaction include machine traffic and farm animals. | Must |
| | | f) The risk of soil chemical degradation is assessed and managed. Chemical degradation includes pH values outside the recommended range, concentrations of available macro and micro nutrients outside the recommended range, high salinity and high Fe, Al, Se, Cu, Mn and Na concentrations. | Must |
| | | g) The risk of soil contamination of new and existing growing land is assessed and managed. Possible contaminants include CPPs, heavy metals, polyaromatic hydrocarbons (PAHs), veterinary medicines and harmful bacteria. | Must |
| | | h) Soil organic matter is managed to reach or maintain the optimum concentration. | Must |

| | | | |
|---|---|---|---|
| | | i) Precautionary measures are taken where the risk assessments or empirical evidence show this is required. This could ultimately include changing the crop, rotation or taking the field out of production. | Must |
| | | j) Corrective action is taken where soils have been damaged by erosion, compaction, chemical degradation, contamination or loss of organic matter. | Must |
| 3.3.3.3 | Protecting the environment | Soils should be managed and kept in condition to reduce emissions of greenhouse gases. This includes avoiding compaction, water logging, keeping soils well aerated. Soils may even take greenhouse gases out of the atmosphere (e.g. through build-up of soil organic matter). | Should |
| 3.3.3.4 | | The risk of sedimentation of water bodies with soil from fields should be assessed and managed (e.g. erosion control, riparian buffer strips, drain design). | Should |
| 3.3.3.5 | | There should be an emergency plan for extreme cases of soil loss and landslides. | Should |
| 3.3.3.6 | | Peat, forest top soil and other non-renewable materials for substrates and soil amendments should not be used. | Should |
| 3.3.3.7 | | A plan must be in place to phase out use of peat, forest top soil and other non-renewable materials for substrates and soil amendments within 3 years. | Must |
| 3.3.3.8 | Soil quality monitoring | The following soil quality parameters must be monitored and records kept for at least five years (but ideally longer): | |
| 3.3.3.9 | Required monitoring | a) Concentrations of available soil macro nutrients (see also Nutrient Management section) | Must |
| | | b) pH | Must |
| | | c) Soil Organic Matter (or Organic Carbon) | Must |
| | | d) Salinity, nutrients and/or heavy metals if there is the risk of associated crop or environmental damage | Must |
| 3.3.3.10 | Recommended monitoring | In addition, the following should be monitored or described and records kept for at least five years (but ideally longer): | |
| | | a) Soil cover | Should |
| | | b) Compaction measures where machinery or draught animals are used (visual assessment, spade tests, penetrometer readings, bulk density, etc). | Should |



# 4. Water

| 4.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 4.1.1 | (Checklist of records related to this section) | 1. Irrigation water quality test results | Must |
| 4.1.2 | | 2. Application records:<br>a) Reason for application<br>b) application rate and amount related to evapotranspiration (ET)<br>c) Field capacity<br>d) Time and date<br>e) Location<br>f) Application technique and operator<br>g) Calibration and testing of equipment | Must |
| 4.1.3 | | 3. Qualification and retraining of current irrigation operators and managers | Should |

| 4.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 4.2.1 | | Unilever suppliers should raise awareness and share knowledge/opportunities for sustainable water management to ensure we capture best available techniques. | Should |

| 4.3 | Water Management | | |
|---|---|---|---|
| 4.3.1 | Introduction | | |
| | Why this is important | Only 3% of the world's water is freshwater and only 1% is readily available for use. Around a third of countries are considered to be ''water stressed'' and this is predicted to rise strongly due to increasing demand from a growing population, increasing standards of living and changing supply due to climate change. Many Unilever crops are irrigated, and water is also used on farms for cleaning, as drinking water and in some types of on-farm processing. Water used on-farm should be from sustainable sources, and used efficiently. Farming activities should also be organised so that natural water bodies and drinking water supplies do not become polluted. | |
| 4.3.2 | Mandatory requirements | | |
| 4.3.2.1 | Measuring progress | We want to use water as efficiently as possible and protect its quality. Our Sustainable Agriculture Metric "Water" provides a measure of that. Unilever suppliers must provide the necessary data for calculating this metric.<br>Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 4.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to withdrawing water.<br>Regulations typically apply to abstraction (e.g. abstraction licences), use and discharge of irrigation water; and the protection of water bodies, groundwater and aquatic ecosystems from pollution. | Mandatory requirement |

| | | | |
|---|---|---|---|
| 4.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 4.3.2.4 | Prohibitions | Using streams and rivers as a waste dump is prohibited, particularly disposal of agrochemicals, agrochemical washings, veterinary medicine products, agrochemical containers, plastic waste, manure or untreated human sewage. | Mandatory requirement |
| 4.3.3 | Good practices | | |
| 4.3.3.1 | Consider social and environmental impacts of using water resources | Water resources, from whatever source, should be used efficiently, and a range of environmental and social factors considered: | |
| | | a) Use and recharge rates of water sources for irrigation must be assessed using the best available information to check the sustainability of the source. | Must |
| | | b) Rainwater harvesting techniques (such as contour bunding) and drain design should be used to maximise water retention in the field and minimise run off. | Should |
| | | c) Water harvesting operations must be monitored to check they do not adversely affect downstream users, including areas of high biodiversity value. | Must |
| | | d) Understanding water catchments/watershed impacts is complex, but the business should discuss whether water supply or quality issues exist within the local community (for example with other farmers, businesses, suppliers, village representatives, Water Boards, Environmental Agencies). | Should |
| 4.3.3.2 | Protect and enhance water quality | Surface and ground water must be protected from direct and indirect pollution. In particular, the following must be considered as part of a risk assessment:<br>a) Siltation through sediments<br>b) Pollution from nutrients<br>c) Pollution from agrochemicals and other chemicals<br>d) Pollution from fuels, lubricants or solvents (for example from workshops)<br>e) Pollution from contaminated run-off.<br>f) Pollution from livestock<br>g) Pollution from human sewage<br>h) Pollution from waste water – for example yard or workshop washings. Do these drain directly into ditches or streams or soak away?<br>Note: Most of these risks are also managed by other requirements in this Code. | Must |
| 4.3.3.3 | Irrigation management – **management system** | An irrigation management system must be in place where irrigation is used, ensuring that: | Must |
| | | a) Timing and amount of irrigation must be tailored to crop requirements to meet planned yield and quality levels under the local conditions. | Must |
| | | b) Application techniques should be appropriate relative to the water availability and selected on the basis of local conditions, to ensure the highest efficiency in water usage. | Should |
| | | c) Mechanisms should be in place to ensure irrigation water is not over-applied, i.e. above field capacity level, unless deliberately done to avoid salinisation. | Should |
| | | d) If sprinkling and overhead irrigation is used it should be done to minimise unproductive losses at times of high evapo-transpiration (ET), for example when high wind speed occurs. | Should |

| | | | |
|---|---|---|---|
| 4.3.3.4 | Irrigation water quality | Irrigation water quality must be monitored and managed where necessary to avoid crop damage, crop or soil contamination or soil damage through contamination or erosion. | Must |
| 4.3.3.5 | Irrigation equipment maintenance and calibration | Equipment must be maintained in good working order through the growing season. | Must |
| 4.3.3.6 | | Equipment should be calibrated and tested regularly. | Should |
| 4.3.3.7 | | Water uniformity of distribution should be checked regularly. | Should |

# 5. Biodiversity

| 5.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 5.1.1 | (Checklist of records related to this section) | 1. Strategic commitment to at least one biodiversity initiative | Must |
| 5.1.2 | | 2. Biodiversity Action Plan | Should |
| 5.1.3 | | 3. Records of progress against such a plan / improvements made | Should |
| 5.1.4 | | 4. Any Environmental Impact Assessment or evaluation made before changes in land use. | Should |
| 5.1.5 | | 5. Training records for suppliers, farmers and farm workers | Must |

| 5.2 | Continuous Improvement | *Continuous improvement in this section include:* | |
|---|---|---|---|
| 5.2.1 | | The impact of implementing the Biodiversity Action Plan should be monitored. | Should |
| 5.2.2 | | Unilever suppliers or farmers should participate in research to understand the value of local farmland to biodiversity and the value of farmland ecosystem services to others and how these might be enhanced. | Should |
| 5.2.3 | | Unilever suppliers should raise awareness of and share knowledge/opportunities for biodiversity enhancement, to ensure we capture best practice. | Should |

| 5.3 | Biodiversity Protection and Enhancement | | |
|---|---|---|---|
| 5.3.1 | Introduction | | |
| | Why this is important | Farmland has biodiversity value as well as agricultural value, especially in parts of the world where farming has played an important part in the landscape for many years or where the land is near to areas of high conservation value. We ask for the farming operations that supply our raw materials to consult locally on the most appropriate actions to take and to engage in programmes that link their farming activities with benefits to biodiversity. | |
| 5.3.2 | Mandatory requirements | | |
| 5.3.2.1 | Measuring progress | Unilever wants to help increase the area managed for biodiversity and habitat conservation. Our Sustainable Agriculture Metric "Protect and improve habitats for biodiversity" provides a measure of that. Our suppliers must provide the necessary data for calculating this metric. Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 5.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to biodiversity. | Mandatory requirement |
| | | Regulations typically apply to: Protection of conservation areas on site or near by, habitats or individual species; new development of buildings, farm land amelioration; land conversion, land use change; hunting and gathering; pollution; CPP use. | |
| 5.3.2.3 | | Unilever suppliers must ensure that farmers are aware of national legal obligations as above. | Mandatory requirement |
| 5.3.2.4 | Prohibitions | Destroying important habitats, on-farm and off-farm, is **prohibited**, even if there are concessions. This includes gradual encroachment over time. | Mandatory requirement |
| 5.3.2.5 | | The hunting or poisoning of rare/endangered species is **prohibited**. | Mandatory requirement |
| 5.3.2.6 | | The collecting of rare/endangered species is **prohibited**. | Mandatory requirement |
| 5.3.3 | Good practices | | |
| 5.3.3.1 | Strategic commitment | Our suppliers must commit to supporting at least one biodiversity programme/initiative linked to the farming systems or farmed landscape from where Unilever raw materials originate. | Must |
| 5.3.3.2 | Protecting biodiversity – need for a Biodiversity Action Plan | Unilever suppliers must develop and implement a locally appropriate Biodiversity Action Plan. | Must |
| 5.3.3.3 | Required components of a Biodiversity Action Plan (BAP) | The Biodiversity Action Plan must include the following: | |
| | | a) An assessment of biodiversity issues in and around the land area where the Unilever crops are produced. | Must |
| | | b) A practical plan to make progress in at least one area of biodiversity conservation/protection/ equitable use or education. | Must |
| 5.3.3.4 | Recommended components of a Biodiversity Action Plan (BAP) | In addition, the Biodiversity Action Plan should include the following: | |
| | | a) A basic map of the location of areas important for biodiversity in and around the farms and local area. | Should |
| | | b) An evaluation of the interrelationships between agriculture and these issues. | Should |
| | | c) A realistic evaluation of business influence on these issues. | Should |
| 5.3.3.5 | Hunting, fishing and gathering | Hunting, fishing and gathering wild species must only take place on farms in designated areas, and must not involve direct hunting of threatened or endangered species, or damage to the habitat that supports them. | Must |
| 5.3.3.6 | Purchasing of natural products | The farm must ensure that natural products it purchases or uses (including fuel wood, composts, nursery substrates and manures) have not been collected or extracted illegally and provide evidence of purchase from vendors. This includes natural products produced on farm. | Must |
| 5.3.3.7 | Rare/endangered species or habitats | Where rare/endangered species or habitats are found on local farmland, the Biodiversity Action Plan to support these species or habitats must be developed and implemented as a priority. | Must |
| 5.3.3.8 | | If asked, farmers and farm workers and any hunters, fishermen or gatherers allowed to operate on the farm should be aware of the location of important habitats for rare/endangered species on the farm and of any relevant actions that are necessary for their maintenance. | Should |

| | | | |
|---|---|---|---|
| 5.3.3.9 | Land use and land conversion | Areas unsuitable (e.g. marginal lands, steep slopes) for agriculture or where it is uneconomic to grow or harvest particular crops should be identified and converted to a use conducive to biodiversity. | Should |
| 5.3.3.10 | | Areas taken out of production, and buffer zones around water bodies, offices, housing or public areas (where agrochemical applications are not allowed) should (in order of preference) be:<br>• planted with species helping to create habitats of high biodiversity value (such as native tree species) or<br>• providing useful ecosystem services (water table management, crop pollination, nesting sites for insectivorous birds, plants used by pest predator species); or<br>• allowed to revert to natural vegetation. | Should |
| 5.3.3.11 | | Before any major conversion of > 1 ha of purchased or rented land to agricultural use (such as converting low-intensity grazed lands, savannah, woodlands or wetlands to intensive agriculture or processing facilities) a full Environmental Impact Assessment must be performed and recommendations followed. | Must |
| 5.3.3.12 | | For smaller areas, the environmental implications of extension of agricultural or built-up areas should be considered, and plans to mitigate the impact on biodiversity developed. | Should |
| 5.3.3.13 | | Expansion of agricultural areas should not cut through wildlife corridors or routes used for migration if these are known to exist on the farm. | Should |
| 5.3.3.14 | Alien and invasive species | The risk posed by alien and invasive species (e.g. introduced animals such as rabbits, deer; invasive plants such as water hyacinth; weeds and other pests – see "Pest Management") should be assessed, on and around the farm. | Should |
| 5.3.3.15 | | Problems created by alien and invasive species should be controlled. | Should |
| 5.3.3.16 | Crop and animal genetic diversity | Farms should be able to demonstrate the use of crop and animal varieties derived from a wide genetic base in order to reduce risks of pests and disease outbreaks, improve profitability and reduce the need for CPPs. | Should |
| 5.3.3.17 | Improving on-farm habitat quality | On-farm habitats should be improved, for example by providing nest-boxes, reducing disturbance at critical times of the year and managing grazing intensity. | Should |
| 5.3.3.18 | Reducing off-farm impacts | Agricultural pollution, runoff and drainage should not adversely affect areas of high conservation value (such as nature reserves) or sensitive rare or endangered species (such as amphibians or otters that could use rivers that run through the local landscape) either inside or outside the farm boundary. | Should |
| 5.3.3.19 | | Unilever suppliers and managers of larger farms should join with others on a broader "landscape" or "catchment" scale to consider creating wildlife corridors, migration routes or larger areas of critical habitat needed to support stable populations of desirable species. | Should |
| 5.3.3.20 | | Where such landscape-scale activities involve working with other farms, landowners, NGOs and/or governments, Unilever suppliers and farmers should get involved in group formation and group activities. | Should |
| 5.3.3.21 | Required communication | For farms in parts of the world where there is government support for biodiversity work, Unilever suppliers must ensure and demonstrate that their farmers are aware of the support available and facilitate their access to such support. | Must |
| 5.3.3.22 | | Prohibitions around hunting and the protection of biodiversity must be communicated to staff, workers, hunters, fishermen, wild-harvesters and members of the public allowed to operate on the farm. | Must |

# 6. Energy

| 6.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 6.1.1 | (Checklist of records related to this section) | 1. Energy use records and studies documenting key energy flows | Should |
| 6.1.2 | | 2. Energy management Plan | Must |
| 6.1.3 | | 3. Demonstration of lack of alternatives to using fire in land preparation (if applicable) | Must |
| 6.1.4 | | 4. Quantification of GHG emissions (ONLY for operations that run industrial-scale processing units) | Should |
| 6.1.5 | | 5. Risk assessment and resulting actions | Must |
| 6.1.6 | | 6. Operator training records | Must |

| 6.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 6.2.1 | | Unilever suppliers should raise awareness and share knowledge/opportunities for increased energy efficiency, the use of renewable energy and emission reduction to ensure we capture best available techniques. | Should |
| 6.2.2 | | Unilever suppliers should raise awareness of sustainable energy management. | Should |
| 6.2.3 | | Unilever suppliers should understand key energy flows in the agricultural operations: main uses of energy and energy sources should be identified and quantified through estimation or measurement; and indirect emissions (e.g. from fertiliser production) understood. | Should |
| 6.2.4 | | Operations that run industrial-scale units should have a phased plan for emission reduction. | Should |



| 6.3 | Energy Management | | |
|---|---|---|---|
| 6.3.1 | Introduction | | |
| | Why this is important | Improving energy efficiency, and using renewable energy resources, are both important for improving profitability and reducing pollution. Improved energy efficiency by our suppliers and farmers will reduce the rate of depletion of fossil fuels, and minimise the emissions of greenhouse gases and other polluting gases.<br><br>Unilever suppliers should understand the key energy flows in the agricultural operations that supply them. This is necessary in order to identify the areas where improvements in energy use and energy efficiency can best be made. This means that<br>• the main uses of energy and<br>• energy sources have to be identified and quantified through estimation or measurement; and<br>• the consequences of their use in terms of direct and indirect emissions (e.g. from fertiliser production) understood.<br><br>The greenhouse gas emissions from farming are derived from energy use, combined with aspects of nutrient management and animal husbandry (see appropriate sections of this Code) | |
| 6.3.2 | Mandatory requirements | | |
| 6.3.2.1 | Measuring progress | We want to reduce the greenhouse gas emissions associated with the production of our agricultural raw materials. Our Sustainable Agriculture Metric "Carbon footprint" provides a measure of that. Unilever suppliers must provide the necessary data for calculating this metric. Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 6.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to energy use, energy-use related emissions, greenhouse gas emissions, fuels and electrical power and fuel burning installations where these are relevant for farming. | Mandatory requirement |
| 6.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 6.3.2.4 | Prohibitions | Taking fuel (wood, biomass, peat) from Important habitats or protected natural areas (such as high conservation value forest or peat bogs) where this is forbidden or constitutes a threat to the size or integrity of such areas is **prohibited**. | Mandatory requirement |
| 6.3.3 | Good practices | | |
| 6.3.3.1 | Energy use and efficiency – need for an energy management plan | A documented energy management plan must be in place, designed to reduce energy consumption. | Must |
| 6.3.3.2 | Energy efficiency | Farmers should reduce the energy intensity per unit farm product by reducing the amount of energy required in the production process and/or increasing the output while maintaining the level of energy input. | Should |

| | | | |
|---|---|---|---|
| 6.3.3.3 | Renewable energy | Farmers should increase the share of renewable energy in the energy mix used in farming operations. This may include using renewable fuels for farm operations as well as buying 'green power'. Renewable energy sources include wind and solar energy, hydropower, geothermal, biomass, tidal power etc. | Should |
| 6.3.3.4 | | Biomass (dung, harvest residues, wood, fibrous material), water, wind and sun often offer opportunities for on-farm energy (heat, power) generation and may be eligible for government support. The potential for on-farm energy generation should be investigated systematically and used where feasible. The use of biomass for energy generation should be carefully balanced against other uses, such as maintaining food production, soil organic matter, animal bedding, etc. | Should |
| 6.3.3.5 | Emissions from agriculture | Unilever strongly discourages the use of fire in land preparation. Where fire is used, it must be demonstrated that there are no viable alternatives (normally only on recommendation of an authority, given, e.g. for phytosanitary or public health reasons). | Must |
| 6.3.3.6 | | Where fire is used in land preparation, the smoke should be minimal and should not give rise to complaints from neighbours. | Should |
| 6.3.3.7 | Greenhouse gas (GHG) emissions | Unilever suppliers should strive to avoid or reduce greenhouse gas (GHG) emissions and other energy-use related emissions. A GHG calculator for estimating the GHG footprint of farming operations and primary processing is provided by Unilever. Options to reduce GHG emissions specifically include:<br>• GHG from animal husbandry<br>• GHG and other air pollutants induced by nitrogen-fertiliser use and liming<br>• GHG from energy use, direct and indirect<br>• Methane from paddy rice cultivation<br>• Air pollutants from fuel combustion and fires (SOx, NOx, VOCs, particulates some of which are also GHG). | Should |
| 6.3.3.8 | | Unilever suppliers should investigate and use the potential for carbon sequestration, e.g. through building up organic matter concentrations in soils or reforestation programmes. | Should |
| 6.3.3.9 | | Operations that run industrial-scale processing units should quantify and document their GHG emissions, have a phased plan for emission reduction and investigate the potential for becoming carbon-neutral.<br>A GHG calculator is available on the Unilever sustainable agriculture website www.growingforthefuture.com to help make assessments. | Should |
| 6.3.3.10 | Protecting people and the environment | A health, safety and environmental Risk Assessment see Appendix 2 must be carried out for: | |
| | | a) Liquid fuels and lubricants (transport, storage, handling and spillage, disposal). | Must |
| | | b) Machines, generators, boilers, pumps, power tools etc. | Must |
| | | c) Electrical installations and power lines. | Must |
| | | d) Impacts of sourcing fuelwood and other biomass (e.g. wood, bagasse, fibre, cardboard etc). These should all be from sustainable sources or waste streams. | Should |
| | | e) Disposal of ash in a responsible manner. | Must |

| | | | |
|---|---|---|---|
| 6.3.3.11 | | Waste solvents, plastics, CPPs, medical waste etc. must not be disposed of in boilers or incinerators unless they are explicitly rated as safe for this kind of use (high temperature) and it is legal to do so. | Must |
| 6.3.3.12 | | Appropriate personal protective equipment must be provided and fit for use, where required. | Must |
| 6.3.3.13 | | Operators must know what protective equipment to use and how to use it. | Must |

# 7. Waste

| 7.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 7.1.1 | (Checklist of records related to this section) | 1. Waste management plan. | Should |
| 7.1.2 | | 2. Justification for not adopting any reduction, reuse or recycling options available. | Should |
| 7.1.3 | | 3. Estimations of major waste streams and routes of disposal. | Should |
| 7.1.4 | | 4. Evidence of on-farm incinerators, landfills and other methods of waste-disposal being fit-for-purpose. | Should |
| 7.1.5 | | 5. Demonstration of lack of alternatives to using fire for disposal or harvest residues (if applicable). | Must |
| 7.1.6 | | 6. Training records. | Must |

| 7.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 7.2.1 | | Unilever suppliers should raise awareness and share knowledge/opportunities for improved waste management to ensure we capture best available techniques. | Should |
| 7.2.2 | | A project or programme should be in place to identify opportunities for reducing waste, and implement improvement. | Should |

| 7.3 | Waste Management | | |
|---|---|---|---|
| 7.3.1 | Introduction | | |
| | Why this is important | Unilever suppliers need to have a good understanding of the waste streams emanating from the agricultural system that supplies us (especially their own raw materials) and to be trying to reduce waste and find ways to reuse or recycle waste where reduction is not practical. All waste disposals must be carried out safely and responsibly. Waste poses many opportunities in agriculture for cost-positive contributions, and part of the purpose of this Code is to ensure Unilever suppliers are not missing these opportunities. Reusing and recycling organic waste for its nutrient and soil-conditioning benefits is covered in this section and also under "Nutrient Management". | |
| 7.3.2 | Mandatory requirements | | |
| 7.3.2.1 | Measuring progress | Unilever is concerned about waste, and is measuring and monitoring waste. However, our monitoring efforts are focused on our own operations and downstream (mainly packaging) waste. We do not want to burden our suppliers and farmers with reporting waste volumes. | |
| 7.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to reuse, disposal and recycling of both hazardous and non-hazardous waste<br>Regulations typically apply to: safe storage handling and disposal of waste, hazardous and non-hazardous; burning and land-filling of waste; recycling; licensing of waste-handling contractors and disposal sites; manure storage, application of manures and composts, sewage etc to land (see also Nutrients section); disposal of animal carcasses. | Mandatory requirement |
| 7.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 7.3.2.4 | Prohibitions | Storage of hazardous waste in areas where unauthorised people have access is **prohibited**. Hazardous waste must be stored securely, to prevent access by unauthorised people. | Mandatory requirement |
| 7.3.2.5 | | Storage of hazardous waste in locations where foreseeable events (such as heavy rain or machinery breakdowns) may result in leakage or losses to the environment is prohibited. Hazardous waste must be stored in locations and facilities where the risk of escape is minimal. | Mandatory requirement |
| 7.3.3 | Good practices | | |
| 7.3.3.1 | Waste management plan | Minimising waste (rather than recycling waste) is often the best option for improving profitability and minimising pollution.<br>A waste management plan must be in place, based around the following hierarchy of options:<br>1. Reduce,<br>2. Reuse,<br>3. Recycle (including composting),<br>4. Energy recovery…and only as a final resort<br>5. Disposal. | Must |
| 7.3.3.2 | | The plan must include estimates of the major waste flows that emanate from the production of the farm and/or the Unilever raw material. | Must |
| 7.3.3.3 | | The management plan must list the waste reduction, reuse and recycling options already in place and those under investigation, and routes of energy recovery or disposal for other wastes. | Must |
| 7.3.3.4 | | The management plan should be documented. | Should |
| 7.3.3.5 | | The reasons for not adopting any reduction, reuse or recycling options available should be justified and documented. | Should |
| 7.3.3.6 | | Wherever possible, Unilever suppliers and farmers should design their systems together in order to reduce waste. | Should |
| 7.3.3.7 | | Processors, farmers' groups or larger farms should identify which of their current waste streams might be able to generate value, rather than being a disposal problem. | Should |
| 7.3.3.8 | Waste segregation and storage | The farm must separate waste streams and store and manage them separately.<br>Segregation of waste streams is extremely important to enable wastes to be recovered, recycled or disposed of properly. | Must |
| 7.3.3.9 | | Waste storage locations and storage management systems should be designed to discourage vermin, limit unpleasant odours and limit flies and leaching. | Should |

| | | | |
|---|---|---|---|
| 7.3.3.10 | | Waste storage locations must not create a safety or health hazard, e.g. storing inflammable materials close to flames, waste blocking escape routes, etc. | Must |
| 7.3.3.11 | | Waste must be properly labelled and contained. For larger storage facilities, containment involves impermeable shelving, solid walls and floors, bunding and/or channels to contain potential spillage or leachate. | Must |
| 7.3.3.12 | | Waste stores should not be combined with new-material stores (e.g. used CPP containers should not be kept in the main CPP store). | Should |
| 7.3.3.13 | Storage of hazardous waste | If there are no national regulations for the storage of different types of hazardous waste, e.g.<br>• old oil,<br>• oily rags,<br>• clinical waste,<br>• old paint pots,<br>• wrapped asbestos roofing<br>guidance on the best available options locally for safe storage must be sought. | Must |
| 7.3.3.14 | | Hazardous waste stores must be constructed and located to minimise risks to people and the environment, including during emergencies such as fire or flood, and separated from non-hazardous waste (e.g. in a fenced, locked area or cabinet). This includes clinical waste for larger farms or plantations with hospitals or clinics. | Must |
| 7.3.3.15 | | There must be separate storage for different types of hazardous waste. | Must |
| 7.3.3.16 | | Procedures must be in place (e.g. for provision and use of spill kits, sandbags, drain covers, bunding) to ensure that hazardous waste "escapes" do not lead to significant human or environmental risks. | Must |
| 7.3.3.17 | Storage of non-hazardous waste | There should be separate storage for different types of non-hazardous wastes e.g.<br>• plastics,<br>• glass,<br>• scrap metal,<br>• inert materials such as inorganic wastes from demolished buildings,<br>• organic wastes, whether or not they will be composted. | Should |
| 7.3.3.18 | Litter | Farms should be clean and tidy. Plastic waste and other litter should not be left in fields, field margins or around the farm and roadsides. | Should |
| 7.3.3.19 | | Large farms and plantations should provide litter bins around the farm for workers to use, empty them regularly and train workers to use the bins. | Should |
| 7.3.3.20 | Waste disposal | If there are no national regulations for the disposal of different types of hazardous waste, guidance on the best available options locally for safe disposal of all hazardous wastes must be sought. (see Agrochemicals and Fuels and Energy sections for more detailed guidance on specific wastes) | Must |
| 7.3.3.21 | On-farm disposal – fire and incineration | Unilever strongly discourages the use of fire for disposal of harvest residues and stubble. Where fire is used, it must be demonstrated that there is no viable alternative (normally only on recommendation of an authority, given e.g. for phytosanitary or public health reasons). | Must |
| 7.3.3.22 | | Where waste is burnt/incinerated on-farm, the smoke should be minimal and should not give rise to complaints from neighbours. | Should |
| 7.3.3.23 | | Incinerators and burning sites must be in legal locations and fit for purpose. | Must |
| 7.3.3.24 | | Care must be taken to ensure that waste materials such as PVC and certain other plastics are never burnt on open fires or in low-temperature incinerators, since these materials give rise to hazardous fumes when burnt inefficiently. | Must |
| 7.3.3.25 | On-farm disposal – land and water management | On-farm landfill and/or discharge to drains, sewers, surface water, land or groundwater (including cess pits, soakaways, septic tanks and pit latrines) must be documented, the risks to human and environmental safety assessed, and attempts made to improve the situation if significant risks are identified. | Must |
| 7.3.3.26 | | On-farm waste disposal and composting areas (e.g. for domestic waste) should be at safe distance as determined by the risk assessment from living areas and/or waterways. | Should |
| 7.3.3.27 | | All waste buried on-farm (including domestic waste) must be covered with a layer of soil. The depth of the soil layer needed will depend on local conditions and regulations, but would normally be at least 50cm. | Must |
| 7.3.3.28 | | Sanitary landfills must be designed according to the requirements of applicable national legislation. Where legislation does not exist, sanitary landfills must comply with World Health Organization (WHO) guidelines. | Must |
| 7.3.3.29 | | Litter and other general waste must not be thrown into ditches, streamways or holes that might flood (and thereby give rise to ground- or surface-water flow-blockage or contamination). | Must |
| 7.3.3.30 | Off-farm disposal | Waste disposal off-farm should take place using contractors who have legal approvals to handle the types of waste involved. | Should |
| 7.3.3.31 | | Consignment notes or other documentation should be used to confirm transfer of wastes to contractors, and the dates, volumes and types of wastes disposed of. | Should |
| 7.3.3.32 | Protecting people and the environment | A risk assessment see Appendix 2 must be performed, covering all hazardous farm waste streams, and the outcome used to prioritise actions needed to protect people and the environment from significant hazards. | Must |

# 8. Social and Human Capital

| 8.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 8.1.1 | (Checklist of records related to this section) | 1. Evidence of prior consent where provisions are deducted from wages | Must |
| 8.1.2 | | 2. Evidence of the recognition of unions, where to do so is required by law | Must |
| 8.1.3 | | 3. Record of person(s) responsible for workers rights, fair treatment, fair wages, safe working conditions and workplaces. | Must |
| 8.1.4 | | 4. Documented Health and Safety management system | Must |
| 8.1.5 | | 5. Formal acknowledgement of the Unilever Business Partner Code | Must |
| 8.1.6 | | 6. Records of wages and other benefits awarded to staff, clearly showing the difference between salaries/wages and benefits, and evidence of industry norms where required. | Must |
| 8.1.7 | | 7. Contracts and working agreements | Must |
| 8.1.8 | | 8. Training records for suppliers, farmers and farm workers | Must |
| 8.1.9 | | 9. Accident and sickness records | Must |
| 8.1.10 | | 10. Medical consultation records (if carried out at work and relevant to the job) | Must |
| 8.1.11 | | 11. Standard Operating Procedures (SOPs) | Must |
| 8.1.12 | | 12. Evidence of security of tenure | Must |
| 8.1.13 | | 13. Evidence of clarity on land-users' rights and responsibilities | Must |
| 8.1.14 | | 14. Records of meetings between suppliers and farmers or farmer groups | Must |

| 8.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 8.2.1 | | We recognise that social and human capital can be a difficult concept for suppliers and farmers to appreciate. Where there are difficulties in understanding, interpreting or implementing this part of this Code, suppliers must contact Unilever or local or national governments or NGOs for advice and support. | Must |

| 8.3 | Social and Human Capital | | |
|---|---|---|---|
| 8.3.1 | Introduction | | |
| | Why this is important | The challenge of using natural resources sustainably is fundamentally a social one. It requires collective action, the sharing of new knowledge and continuous innovation, employing people who understand and appreciate the benefits of a sustainable approach to agriculture and who have the knowledge to implement it. Building both social and human capital is key to success.<br><br>Good relationships with the workforce and their dependants, local community, suppliers, customers, local government and responsible non-governmental organisations (NGOs) are vital for long-term sustainability of a business. Healthy, well-educated people are assets to any enterprise.<br><br>Groups are useful for negotiating with suppliers, customers and governments. Unilever suppliers are expected to create or interact with groups of farmers or smallholders in order to provide input into government decision-making and to access useful information on subsidies, tax structures and support for farmers (especially agricultural extension support). Groups are usually much more effective in these areas than are organisations or individuals working separately.<br><br>Unilever suppliers may also benefit from involvement with public policy development and dialogue with NGOs. | |
| 8.3.2 | Mandatory requirements | | |
| 8.3.2.1 | Measuring progress | We want to improve the livelihoods of the farmers and farmworkers who grow Unilever's raw materials. Our Sustainable Agriculture Metric "Livelihoods" provides a measure of that. Unilever suppliers must provide the necessary data for calculating this metric.<br>Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 8.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to worker welfare, employment rights, training, health and safety at work, on land they own, manage directly or from where they purchase farmed produce. | Mandatory requirement |
| 8.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 8.3.2.4 | | A farm's "licence to operate" and the security needed to invest in more sustainable agriculture is dependent on lack of conflict on land ownership, tenancy or the right to farm. Unilever suppliers and farmers must be able to demonstrate with evidence legal entitlement to carry on their businesses in the current locations (e.g. by legally binding tenancy documents, title deeds or accepted customary rights). | Mandatory requirement |
| 8.3.2.5 | | In addition to legal obligations, suppliers must be aware of and ensure their activities are conducted in accordance with the Unilever Business Partner Code (http://www.unilever.com/ourvalues/purposeandprinciples/business_partner_code/default.asp). | Mandatory requirement |

| | | | |
|---|---|---|---|
| 8.3.2.6 | Prohibitions | Child and forced labour are **prohibited**. | Mandatory requirement |
| 8.3.2.7 | | Employers must not ask for payment in return for employment. | Mandatory requirement |
| 8.3.2.8 | | Provision of accommodation and food for workers must not be deducted from wages without workers being given a choice as to whether to accept these benefits. Evidence of prior consent is required and that the provision is at or lower than the local market rate for the services provided. | Mandatory requirement |
| 8.3.2.9 | | Employers must provide evidence that they understand and recognise the roles and responsibilities of properly and legally constituted unions or farm-worker representative groups. | Mandatory requirement |
| 8.3.2.10 | Strategic commitment | Unilever suppliers and farmers must have a named and competent individual responsible for ensuring workers' rights are respected for the following:<br>• fair treatment<br>• fair wages<br>• grievance procedures<br>• opportunities to improve themselves (training, forming farmer discussion groups etc)<br>• safe working practices and conditions in the work place. | Mandatory requirement |
| 8.3.3 | Good practices | | |
| 8.3.3.1 | Health and safety management system | A documented health and safety management system must be in place. | Must |
| 8.3.3.2 | Mandatory components of health & safety risk assessment | The management system must be based on a Risk Assessment approach see Appendix 2 and must include the following components: | |
| | | a) Risks from CPP use. The exposure and risks for individuals who handle and apply CPPs must be considered, particularly whether health checks are necessary. | Must |
| | | b) Risks from fertiliser use. The exposure and risks for individuals who handle and apply fertilisers must be considered. | Must |
| | | c) Risks linked into energy use. The exposure and risks for individuals who handle fuels and lubricants must be considered, | Must |
| | | d) Risks from waste. The exposure and risks for individuals who handle waste must be considered. | Must |
| 8.3.3.3 | Recommended components of health & safety risk assessment | The Health and Safety Risk Assessment should also consider the following: | |
| | | a) Machinery | Should |
| | | b) Use of hand tools and sharp implements | Should |
| | | c) Working at height e.g. ladders | Should |
| | | d) Lifting and moving heavy and/or awkward objects | Should |
| | | e) Workshops (e.g. where machinery is repaired, or on-farm engineering takes place) | Should |
| | | f) Chemicals other than agrochemicals | Should |
| | | g) Electrical safety (including power lines) | Should |
| | | h) Traffic and transport | Should |
| | | i) Fire | Should |
| | | j) Accommodation | Should |
| | | k) Buildings | Should |
| | | l) Stores | Should |
| | | m) Medical issues | Should |
| 8.3.3.4 | Implementation of management system | Input from workers' representatives and agreement on priority setting must be taken into account. | Must |
| 8.3.3.5 | | Health & Safety awareness training must be provided. | Must |
| 8.3.3.6 | | First aid (=rescue emergency care) training must be provided and first aid kits made available in the workplace. | Must |
| 8.3.3.7 | Respect and fair treatment in the workplace – Unilever Business Partner Code | Most requirements are laid out in the Unilever Business Partner Code. Further guidance and sources of advice are available in the Implementation Guide. | |
| | | a) There shall be respect for human rights, and no employee shall suffer harassment, physical or mental punishment, or other form of abuse. | Must |
| | | b) Wages and working hours will, as a minimum, comply with all applicable national, local and sector wage legislation. Where no applicable labour legislation exists, evidence of industry or sector norms will be provided. | Must |
| | | c) There shall be no use of forced or compulsory labour, and evidence provided that employees shall be free to leave employment after reasonable notice. | Must |
| | | d) Safe and healthy working conditions will be provided for all employees. | Must |
| | | e) There shall be no improper advantage sought, including the payment of bribes, to secure delivery of goods or services to Unilever companies. | Must |

| | | | |
|---|---|---|---|
| 8.3.3.8 | Respect and fair treatment in the workplace – additional parameters | Free access to potable water and shelter for breaks and mealtimes must be provided for all workers. | Must |
| 8.3.3.9 | | All workers must have access to first aid medical services during work hours and in emergencies. | Must |
| 8.3.3.10 | | Where workers are engaged in hazardous work, voluntary annual medical checks should be performed to ensure the worker is able to continue with the work without deterioration of their health. Workers must always be informed of the results of the tests and counselled appropriately. | Should |
| 8.3.3.11 | | Management should have mechanisms in place to take up ideas and suggestions from the workforce and provide regular opportunities for two-way dialogue with workers. | Should |
| 8.3.3.12 | | Workers must be hired without discrimination. | Must |
| 8.3.3.13 | | Workers must have a documented grievance process that is fair and transparent. | Must |
| 8.3.3.14 | | Disciplinary procedures must be documented, proven to be reasonable and understood by workers. | Must |
| 8.3.3.15 | | We are aware that in many parts of the world, farm labour is often temporary, seasonal or performed by migrant workers. Seasonal and temporary workers must have the same rights to a safe working place and working conditions as full-time regular workers. | Must |
| 8.3.3.16 | | Employers should show respect for all religious and cultural views so as to minimise potential conflict. | Should |
| 8.3.3.17 | Social capital along the supply chain | Good relationships along supply chains are important. Sustainable businesses operate within a climate where trust can be built and mutually beneficial outcomes developed. All actors along supply chains (including farmers) should: | |
| | | a) Pay and supply on time and at the agreed price | Should |
| | | b) Understand the advantages of contractual arrangements, and the long-term advantages of becoming involved in supply chains that value sustainable agriculture | Should |
| | | c) Develop a good understanding of their suppliers' requirements and future plans in order to meet them (e.g. through regular meetings) | Should |
| | | d) Develop a good understanding of their customers' requirements and future plans in order to meet them (e.g. through regular meetings). | Should |



| | | | |
|---|---|---|---|
| 8.3.3.18 | Community involvement | There must be evidence of security of tenure for the farm and farming business. This means that the farm has a legal right to operate, and that there are no major outstanding disputes over the land title. | Must |
| 8.3.3.19 | | There must be evidence of clarity on the rights and responsibilities of other farmland users in the area (for example, rights of way, use for traditional and leisure activities, biodiversity value, catchment value) and enhancement of farmland for such users. | Must |
| 8.3.3.20 | | Farms should offer employment opportunities to people already living in the local area. | Should |
| 8.3.3.21 | | Where the workforce is of mixed ethnicity/religion/origin, efforts should be made to ensure that incomers and locals get on well with each other. | Should |
| 8.3.3.22 | | The farm should provide support for farm workers who wish to remit money to their family (e.g. time off during banking hours; access to translators). | Should |
| 8.3.3.23 | | Participation/support should be shown for local initiatives such as festivals, farming fairs and competitions etc, for local or farm-organisation social initiatives (e.g. literacy, training, health, infrastructure) and for educational opportunities. | Should |
| 8.3.3.24 | | Neighbours should be informed of planned activities that might affect them in a timely manner | Should |
| 8.3.3.25 | Working with farmer groups and other organisations | Unilever operations and their suppliers should use existing groups in the community, and/or build new farmer groups that are able to achieve the following:<br>• Articulate the needs of farmers or farm workers for fair conditions and work towards agreement with suppliers on terms and conditions for payment<br>• Identify health and safety risks and potential ways to reduce problems<br>• Provide a place for group training, for example in aspects of crop quality, sustainable agriculture, supervisory skills, farm management<br>• Provide welfare facilities, mutual support or joint purchasing schemes (e.g. for agrochemicals, foodstuffs or consumer goods) to members<br>• In some cases, government-recognised groups may be eligible for grants or other forms of support. | Should |
| 8.3.3.26 | Large farms and plantations | Plantations or large farms in many countries manage village accommodation, schools, hospitals, medical centres, water and fuel supplies to family homes, sports facilities, transport, domestic waste disposal etc and may also provide banking or shopping facilities on-site. | |
| 8.3.3.27 | | Where providing the above services is a legal requirement, Unilever suppliers should not only comply but go beyond the legal minimal requirements. | Should |
| 8.3.3.28 | | Where the company provides resources or facilities voluntarily these should be at a higher standard than those available otherwise in the region. | Should |
| 8.3.3.29 | | As significant parts of the local (and often national) economy, plantation companies should support the development of clear and useful legislation applying to their own industry and freedom from export or other discriminatory taxes.<br>To do this, the involvement of plantation management in trade associations and/or government bodies and local councils may be required. | Should |

# 9. Animal Welfare

| 9.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 9.1.1 | (Checklist of records related to this section) | 1. Application records for veterinary medicines/CPPs given to animals. | Must |
| 9.1.2 | | 2. Training records of animal stock persons. | Must |
| 9.1.3 | | 3. Records of withdrawal periods following the administering of medication/CPPs to animals. | Must |
| 9.1.4 | | 4. Animal health plan. | Must |

| 9.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 9.2.1 | | Unilever suppliers should raise awareness and share knowledge/opportunities for monitoring improved animal welfare. | Should |
| 9.2.2 | | Unilever suppliers should stimulate farmers to start monitoring, benchmarking and improving animal welfare. | Should |
| 9.2.3 | | Unilever suppliers should support the farmers in finding the right tools and information to improve animal welfare. | Should |

| 9.3 | Animal Welfare | | |
|---|---|---|---|
| 9.3.1 | Introduction | | |
| | Why this is important | Animal welfare is an often-used term, but also a much debated concept. During the last 25 years, scientists have engaged in defining animal welfare, but no consensus has been reached. While the complexities of defining animal welfare and the limitations of any definition are recognised, the 'five freedoms' are considered an adequate and appropriate working basis for monitoring and improving animal welfare[3]. The five 'freedoms' are:<br>1. Freedom from thirst, hunger and malnutrition<br>2. Freedom from discomfort<br>3. Freedom from pain, injury and disease<br>4. Freedom to express normal behaviour<br>5. Freedom from fear and distress.<br>These 'five freedoms' form the basis for the Unilever Code. | |
| 9.3.2 | Mandatory requirements | | |
| 9.3.2.1 | Measuring progress | Not defined. No requirement at the moment. | |
| 9.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to animal welfare.<br>Regulations typically relate to diet, availability of water, accommodation, prevention/diagnosis of disease, sufficient space for normal behaviour, facilities, companionship, conditions which prevent mental and physical suffering, and in the case of severe illness asking for adequate help (preferably from a veterinarian). | Mandatory requirement |
| 9.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal requirements as above. | Mandatory requirement |
| 9.3.2.4 | Prohibitions | Direct physical abuse and mental suffering of animals is prohibited. | Mandatory requirement |
| 9.3.2.5 | | Supplying animal products (e.g. meat, milk, and eggs) without taking into account the legal waiting times for supplying medicines (like antibiotics) is prohibited. | Mandatory requirement |
| 9.3.2.6 | | Feeding animals with ingredients that have been treated with CPPs without taking into account the legal waiting times is prohibited. | Mandatory requirement |
| 9.3.3 | Good practices | | |
| 9.3.3.1 | Food and water provision | Animals must have freedom from hunger, thirst and malnutrition by ready access to fresh water and a diet to maintain full health and promote a positive state of well-being. | Must |
| 9.3.3.2 | | Feed and water must be distributed in such a way that animals can eat and drink without undue competition. | Must |
| 9.3.3.3 | Environment | The environment in which animals are kept must take into account their welfare needs and be designed to protect them from physical and thermal discomfort, fear and distress, and allow them to perform their natural behaviour. | Must |
| 9.3.3.4 | Management | A high degree of caring and responsible management and stockmanship is vital to ensure good animal welfare. Managers and stock-keepers must be thoroughly trained, skilled and competent in animal husbandry and welfare, and have a good working knowledge of their system and the animals under their care. | Must |
| 9.3.3.5 | Animal health | Animals must be protected from pain, injury and disease. | Must |
| 9.3.3.6 | | The environment in which animals are kept must be conducive to good health. | Must |
| 9.3.3.7 | | All producers must develop a documented health plan in consultation with their veterinary surgeon. | Must |
| 9.3.3.8 | | Antibiotics and hormones should only be used prudently with the aim of optimising therapeutic efficacy and minimising the development of antibiotic resistance. | Should |
| 9.3.3.9 | | The health plan records must be accessible and kept for two years after disposal of the animal. | Must |
| 9.3.3.10 | | The health plan records must be traceable back to the animal and contain: the reason for applying the treatment; time of application; product or active ingredient name (where relevant); and amount applied (where relevant). | Must |

*3 The 'five freedoms' were developed by the Farm Animal Welfare Council (FAWC), which was established by the British Government in 1979, http://www.fawc.org.uk/freedoms.htm.*

# 10. Value chain & local economy

| 10.1 | Records | *Unless specified elsewhere in the text, all records must be accessible and kept for at least 2 years. Records to be kept in this section include:* | |
|---|---|---|---|
| 10.1.1 | (Checklist of records related to this section) | 1. HACCP-based risk assessment for raw materials entering Unilever or suppliers' factories. Including how this links into a traceability system. | Should |
| 10.1.2 | | 2. Quality specifications for farmers to achieve. | Should |
| 10.1.3 | | 3. Yield per unit area. | Should |
| 10.1.4 | | 4. Simple book-keeping, basic gross margin per crop. | Should |
| 10.1.5 | | 5. Training records for QA and HACCP procedures. | Must |
| 10.1.6 | | 6. Market information for crops grown. | Should |

| 10.2 | Continuous Improvement | *Continuous improvement in this section includes:* | |
|---|---|---|---|
| 10.2.1 | | Unilever suppliers should raise awareness and share knowledge/opportunities for improvement along the value chain. | Should |

| 10.3 | Value Chain & Local Economy | | |
|---|---|---|---|
| 10.3.1 | Introduction | | |
| | Why this is important | The fortunes of farmers, processors and ultimately Unilever are all linked in the value chain. Many "Good Practices" in this indicator require liaison, co-ordination and flow of information (and, of course, money) among participants in the value chain.The value flow along the chain should be managed so as to ensure all players, including farmers, are able to capture a reasonable share of the added value generated as a result of more sustainable agricultural practices.<br><br>The information flow along the chain should also be managed in both directions.<br>• Farmers, our suppliers and Unilever as links in the chain should address complaints and strive for continuous improvement.<br>• Unilever should transmit its customers' needs and inform and educate suppliers and farmers on requirements of markets and consumers, urging them to produce higher volumes of better quality product for which they receive a fair price.<br><br>Farmers and Unilever suppliers often participate in several value chains as part of their strategy to manage risks and diversify sources of income, in the face of uncertainties linked to climate, price fluctuations, market size variation, pests and diseases. | |

| 10.3.2 | Mandatory requirements | | |
|---|---|---|---|
| 10.3.2.1 | Measuring progress | We want to use scarce agricultural land resources in a productive way. Our Sustainable Agriculture Metric "Produce more with less" provides a measure of that. Unilever suppliers must provide the necessary data for calculating this metric.<br>Data requirements for the metrics are outlined in Appendix 1. | Mandatory requirement |
| 10.3.2.2 | Legal compliance | Unilever suppliers must be aware of and demonstrate compliance with national legal obligations with respect to quality and economic/financial/business propriety. | Mandatory requirement |
| 10.3.2.3 | | Unilever suppliers must ensure that farmers are aware of all national legal obligations as above. | Mandatory requirement |
| 10.3.2.4 | | All crop products must be proven to be within legal or trade standard limits for CPP residues, microbial contamination, heavy metals and significant foreign bodies and any other substances potentially harmful to consumers. | Mandatory requirement |
| 10.3.2.5 | Prohibitions | Not complying with Unilever Food Safety and Quality requirements – internally for Unilever companies or externally for third-party contract manufacturers and suppliers or farmers is **prohibited** see Appendix 2 for information on Risk Assessment, HACCP, QA & TCO. | Mandatory requirement |
| 10.3.3 | Good practices | | |
| 10.3.3.1 | Crop and farm profitability | Both the crop (or other farm product) itself and the farm as a whole should be in profit and have sufficient cash flow in order for the farmer to have the confidence to invest in improvements and to stay in business. | Should |
| 10.3.3.2 | Partnering and sharing information | Given the need for farm profitability, suppliers who buy directly from farmers (in ways that do not intrude unreasonably into the farmers' businesses) should therefore take steps to: | |
| | | a) Help farmers monitor and evaluate local market information on crop profit margins in order to ensure that the crops grown are profitable. | Should |
| | | b) Understand opportunities available to farmers to improve their profit margins, and share this information with farmers (i.e. understand the cost benefit effects of proposed sustainable practices). | Should |
| | | c) Work with farmers and farmer groups to generate opportunities for money-saving, and yield or quality improvements.<br>Examples of services more available to groups than individual farmers are:<br>• Bulk purchasing of seed, seedlings, fertiliser, other inputs and advice.<br>• Opportunities for processors to pass on insights into the value chain to their farmers, e.g. on aspects of quality management or business opportunities for new crops or products.<br>• Opportunities for farmers to take advantage of processors' insights into the market to develop new products or higher-value products.<br>• Opportunities for agronomic and farm management advice and training from outside the farmers processor link in the chain (health and safety, good farming practices, integrated pest and disease management, opportunities to benefit from government support schemes, business and accountancy skills etc). | Should |

| | | | |
|---|---|---|---|
| | | d) Depending on the supply chain involved, customer agronomists or supply managers may be in a position to coordinate information from farmers and suppliers to create useful dialogues with plant breeders, research organisations, innovators and/or regulators or others who will affect the value chain in the future.<br>Unilever suppliers should encourage and/or facilitate such information flow. | Should |
| 10.3.3.3 | Crop yield | Farmers should aim to optimise their profit margins at tolerable financial risk. This means that they should not always aim for the highest yield, but should optimise yields, taking into account safety, quality, sustainable use of inputs, good agricultural practices and costs. | Should |
| 10.3.3.4 | | Unilever suppliers should select farmers for their ability or potential to produce good yields of high quality product. | Should |
| 10.3.3.5 | Avoiding waste in the value chain | Planting and intended yield should be planned and scheduled to match factory processing capacity:<br>• In many cases, several varieties, provenances or clones of planting material need to be used to spread yield more evenly throughout the year.<br>• For annual crops, processors often schedule sowing times to ensure a spread of harvesting dates. | Should |
| 10.3.3.6 | | Unilever suppliers (processors) should inform farmers as soon as possible if their produce is not required by a processor, so they can make other arrangements for using the land, labour or product if at all possible. | Should |
| 10.3.3.7 | | Harvesting efficiency should be optimised: This means the harvest is triggered when the maximum yield at the desired quality has been achieved, correct harvesting standards/ techniques are used, and the harvest is carried out at the right time. | Should |
| 10.3.3.8 | | The economic implications of sub-optimal harvesting should be understood so that rational decisions can be made about practices such as:<br>• how important it is to undertake a second operation on the field to gather material not harvested the first time (for example, collecting loose fruit, a second cut of spinach, a second round of fruit collection or increasing the frequency of harvesting tea).<br>• the implications of early-harvesting (e.g. to avoid bad weather or to improve factory utilisation and avoid factory over-capacity). | Should |
| 10.3.3.9 | | Field-edge storage, transportation times and container filling should be optimised to prevent losses in raw material quality for processing. | Should |
| 10.3.3.10 | | Factories should maintain high factory extraction/ conversion efficiency and minimise waste. If harvesting, transportation, sorting or processing of the raw material inevitably produces "second grade" products, attempts should be made to generate income-streams from these, e.g. by encouraging the development of complementary small-scale local businesses, to gain value from these rather than disposal through the waste stream. | Should |
| 10.3.3.11 | | Good Manufacturing Practice (GMP) as defined by the Unilever category supply chains must be adopted in Unilever factories as prescribed in the Unilever Quality policy in order to maintain quality, profitability and the confidence of both suppliers and customers. | Must |

| | | | |
|---|---|---|---|
| 10.3.3.12 | | Suppliers must also have in place their own GMP as outlined in the Unilever General Requirements for Third Parties, Contract Manufacturers & Suppliers, supplying to Unilever Foods. | Must |
| 10.3.3.13 | Maintaining and enhancing quality and food safety | Quality for agricultural raw materials starts in the field, not only in the factory, and quality can be lost anywhere along the value chain between field and factory.<br>Failures in safety or product quality increase the Total Cost of Ownership (TCO) of our product. | |
| 10.3.3.14 | | Unilever suppliers must have a HACCP plan for agricultural raw materials (for Unilever's own factories the plan must comply with specific standards). Details are available in Appendix 2, Risk Assessment, HACCP, QA & TCO. | Must |
| 10.3.3.15 | | The HACCP-based plan must extend to farms, following a field-to-fork principle. | Must |
| 10.3.3.16 | | Unilever suppliers must ensure they have explained to their farmers their roles and responsibilities in order to comply. The key areas in Unilever's quality assurance policy, underpinned by HACCP, cover the following:<br>1. Consumer safety<br>2. Product quality. | Must |
| 10.3.3.17 | Variety selection | The highest quality product can only be produced if high quality varieties are used, which are constantly reviewed for performance. This means that we and our suppliers must regularly test or update awareness of varietal developments in specifications for quality, pest and disease resistance and yield improvements, and recommend, specify or supply the seed or seedlings for farmers to plant. | Must |
| 10.3.3.18 | Harvesting management | Mechanical harvesting should not reduce product quality. All semi-mechanical or mechanical harvesting systems should therefore be managed to achieve high product quality. | Should |
| 10.3.3.19 | Harvesting scheduling | Crops should be harvested at the correct stage of maturity. It is generally better to optimise the harvesting schedule rather than sort out under-ripe or over-ripe produce during or after harvest.<br><br>For many annual crops, careful management of variety choice, sowing date and inputs (fertiliser, irrigation) by processors on behalf of all farmers can help farmers achieve optimal harvesting insofar as is practical. This process needs to be fair and transparent in order to retain farmer confidence. | Should |
| 10.3.3.20 | Rotations | Crop rotations which minimise risks of contamination (for example by weeds or pathogens) and disease should be adopted. | Should |
| 10.3.3.21 | Logistics | Quality losses can often occur between harvesting and factory receipt. This involves: | |
| | | a) Logistics should be well organised so that the transport time between farmers' fields and factory receipt is minimised. | Should |
| | | b) Farmers, and their produce, should not be made to wait for long periods before receipt by transporters or factory. This wastes farmers' time and often leads to deterioration in product quality. | Should |
| | | c) Transport systems should be designed to minimise quality loss. This may mean insulation, cooling and reducing crushing in the load. Specialised trailers and/or trailer inserts may be required. | Should |

| | | | |
|---|---|---|---|
| 10.3.3.22 | Traceability | Traceability between the field and factory – and from there into the rest of the value chain – can be vitally important if quality problems are discovered in the product at any stage. This is because traceability enables problem batches to be isolated (and minimises the financial and/or reputational losses incurred) and the problem traced to its origin. Where traceability is in place, there are also opportunities for developing different product streams for different qualities of product or markets.<br><br>We recognise that full traceability can be impractical for some agricultural products (e.g. vegetable oils that have been through crushers and refineries), but even in these circumstances partial traceability is useful. | |
| 10.3.3.23 | | Systems that enable traceability back to the product's field of origin should be put in place. | Should |
| 10.3.3.24 | Local sourcing | Raw materials and employment should be sourced close to the factory and farm wherever practical. | Should |



# 11. Training

| 11.1 | Records | | |
|---|---|---|---|
| | (Checklist of records related to this section) | Records of the course contents and attendance must be kept for the duration of the employment (to show that employees are trained) or two years (to show that training is provided), whichever is longer. | Must |

| 11.2 | Training Requirements | | |
|---|---|---|---|
| | Introduction | | |
| | Why this is important | Training provision is a key element for the implementation of sustainable agriculture practices, and for the development of social and human capital | |
| 11.2.1 | Soil | Training and extension programmes should be in place to empower farmers to achieve sustainable soil management, specifically to: | |
| | | a) raise awareness of the importance of soil management and conservation for growing healthy crops of high yield and quality; | Should |
| | | b) train farmers and field staff to recognise symptoms of soil degradation from erosion, loss of soil structure, compaction, chemical deterioration, contamination or low organic matter concentrations; this can include simple tests and assays; | Should |
| | | c) empower them to take appropriate preventative or corrective action | Should |
| | | d) improve understanding of the role of soils in sequestering and emitting greenhouse gases ($CO_2$, $N_2O$, $CH_4$). (See Implementation Guide and Greenhouse Gas Calculator[4]) | Should |
| 11.2.2 | Agrochemicals generally | Operators working with agrochemicals must be trained in their use and be in good health. After training, they must be competent to work safely with agrochemical products. | Must |
| 11.2.3 | | Operators must be able to apply agrochemicals at the correct application rate and be trained in the use of application equipment. | Must |
| 11.2.4 | | Training must include safety (e.g. exposure reduction measures, hygiene, personal protective equipment) storage and environmental impacts of using agrochemicals. | Must |
| 11.2.5 | | Training must ensure that operators are able to understand (in a relevant language) and carry out the agrochemical label instructions, including the meaning of symbols often found on packaging and container labels (typically hazard warnings). | Must |
| 11.2.6 | CPPs specifically | Training must emphasise that persons under the age of 18 and pregnant and nursing women must not handle or apply CPPs of any type. | Must |

*4 GHG Calculator can be found on www.growingforthefuture.com.*

| | | | |
|---|---|---|---|
| 11.2.7 | Nutrients specifically | Training should ensure users of nutrients are aware of the risk of N and P losses due to volatilisation, leaching, run-off and erosion and of how to reduce such losses. Users should be aware of the role of $N_2O$ (nitrous oxide) as a greenhouse gas (GHG). | Should |
| 11.2.8 | Biodiversity | A training/awareness raising programme should be developed. | Should |
| | | The programme should be based on local issues that are relevant to farmers and farm workers. Local NGOs and universities are usually a good source of expertise and information. The following elements should be included: | Should |
| | | a) Awareness of the value of crop genetic diversity as a key feature of preventing disease and pest build up. | Should |
| | | b) Awareness of the value of biodiversity for its ecosystem services – such as water catchment stability, beneficial insect reservoirs and soil stability – and the links between farm activities and the enhancement of such services on farmland. | Should |
| | | c) Awareness of the value of landscape mosaics and habitat diversity and the inter-connectedness of habitats and wildlife corridors within the landscape for biodiversity. | Should |
| 11.2.9 | Energy | Operators of power tools, machines and electrical installations must be trained. After training, they must be competent to handle machinery safely | Must |
| 11.2.10 | | Operators must be trained in the use of protective equipment and safety procedures. | Must |
| 11.2.11 | Waste | All farm management and staff must be made aware of the need for waste segregation and proper storage and disposal, and waste management practices on the farm. | Must |
| 11.2.12 | Water | Irrigation managers, supervisors, operators should be trained in sustainable water use and in irrigation scheduling and management. | Should |
| 11.2.13 | Social & Human capital | Beyond the specific training requirements described in the other chapters of this Code, Unilever suppliers and farmers must provide employees with general training in Health & Safety in the workplace. | Must |
| 11.2.14 | Animal welfare | People working with animals must be trained to do so and have sufficient skills to take care that the five freedoms of animal welfare are complied with. | Must |
| 11.2.15 | Value chain | Unilever suppliers must ensure that factory staff are trained in the relevant QA and HACCP procedures. | Must |



# Sustainable Agriculture Code - Appendix 1

## Metrics

February 2010

## Changes in farming practice through the Unilever Sustainable Agriculture Programme

### Goal Statement

Expression of intent for the Unilever sustainable agriculture programme
Unilever will buy all its agricultural raw materials from sources applying sustainable agricultural practices, so that

- Nature and biodiversity are protected and enhanced
- Soil fertility of agricultural land is maintained and improved
- Farmers and farm workers can obtain a liveable income and improve living conditions
- Nitrogen fertilisers are used efficiently and don't harm the environment
- Water availability and quality are protected and enhanced
- Greenhouse gas emissions are reduced

### Consumer proposition

Statement of relevance for responsible consumers, **expressed for Unilever as a whole**
By buying Unilever products, you help to

- reduce the land used by Unilever for cultivation by x hectares
- Protect and improve x ha of habitat for biodiversity
- Improve soil health on x ha of land
- Improve the livelihoods of x farmers and farm workers
- Reduce N-fertiliser potentially lost to the environment by x kg
- Improve quality of x kt of water
- Reduce toxic chemical use by x kg
- Save x tonnes of greenhouse gases ($CO_2$ equivalent) from entering the atmosphere





Unilever has shaped the sustainability work in agriculture around 11 indicators.
(See www.growingforthefuture.com\brochures)

Agriculture is a complex production system, which needs to deal with natural variability in plant varieties, rainfall patterns, temperatures, etc. The 11 indicator framework is already a simplification, even too much of a simplification according to some. Yet we have worked with it to satisfaction for a number of years.

At the start of the Unilever programme we tried to organise monitoring of parameters (there are a number of parameters per indicator) within the indicator framework. But the differences between localities of farmer programmes, between crops, between farming systems and so on, led to a plethora of parameters that made it impossible to develop coherent communication about progress in the programme as a whole.

So we have tried to devise a consumer proposition. What would consumers value in terms of non-tangible attributes in the products they buy? The consumer proposition shown on the previous page was developed following recent, relevant trends in media and NGO communications.

The consumer proposition also points directly to metrics to express and measure progress.

## Produce more with less

Over the last 50 years, food availability per capita has increased. This despite the fact that the world population has grown from 2 billion to 6 billion people. Breeding plant varieties that responded favourably to synthetic (nitrogen) fertiliser and the development of pesticides to protect crops from pests and diseases were the major breakthroughs that allowed this increase. However, the area of land under cultivation has also grown.

The future challenge for agriculture is perhaps even bigger: to meet the growing demand for food from a population that is predicted to grow to almost 10 billion by the year 2150 and at the same time demand more animal protein in the diet as a result of higher disposable incomes. This will put huge pressure on the remaining natural habitat to be converted into cultivated land. Add to that the recent growth in crops grown for biofuels, which will compete for land with traditional crops (for food, feed and fibre), and the conclusion is clear.

We need to produce more with less. More food (and feed, fibre and fuel), with less natural resource, especially land. This requires another revolution in agriculture, to further increase yields per hectare.

The potential for this is substantial. Agronomists know about the yield gap between experimental plots (carefully controlled field trials, with the best available varieties of plants, best nutrient management, best pest and disease management) and the yields good farmers get in reality. Farmers know about the yield gap between good farmers and not so good farmers. Targeted breeding programmes will go some way to address this, but increased knowledge and optimised inputs will also help.

We believe it is essential that farmers have access to the best varieties, best fertilisers and best knowledge required to optimise their yields, within ecological boundaries. We believe our sustainable agriculture programme will help them do that.

We therefore intend to start comparing the total number of hectares required to grow our raw materials, applying best practices, with the number of hectares required using less optimal practices. The difference between the two is the number of hectares we have "saved".

We realise that this approach ignores a number of issues which also affect yield:

- Higher yield might require more inputs (but inputs should not exceed ecological limits)
- Water might prove to be a constraint, so specific attention will have to be given to water efficiency
- It might not always be possible to grow crops on soils most suited for these crops. We will therefore always use local or national yield data as benchmarks.

### Metric

| | |
|---|---|
| Reduction in the hectares of land used by Unilever for cultivation | *Hectares required for Unilever volume of specified quality as per the average yield of our suppliers, compared to the hectares required for Unilever volume as per the average yield in the local country. The difference (if UL supplier yield is higher than the average) counts as an area saved. |

* *The term yield here should be read as optimum yield at optimum quality as required by Unilever. Since the tea sector is in a situation of structural oversupply, tea will not be included in this metric.*

### Formula:

(Unilever volume/avg local yield) – (Unilever volume/avg yield Unilever supplier) = ha saved

## Protect and improve habitats for biodiversity

Land is finite. Agricultural and urban expansion is taking place into many of the world's rainforests, wetlands and other areas of high conservation value, leaving less wild land available for biodiversity conservation. Farmed landscapes are becoming more important for conservation.

Unilever is encouraging the farmers who grow our raw materials not only to conserve existing high biodiversity wildlife habitats on their own farms, but also to enhance the farmed landscape for biodiversity. This can be done, for example, by creating wildlife corridors, roosting sites, low-intensity grazed areas or by managing field margins or the crops themselves in such a way that they provide useful habitat. Enhancing the farmland biodiversity value is often possible without reducing the land value for farming. Some land managers and foods businesses (including Unilever) also support off-site conservation programmes, such as local nature reserves.

To create a simple metric, we will add together the land areas that we know are part of such schemes and relate this area to the total land area we estimate is used to grow Unilever crops worldwide.
We are well aware that this way of evaluating our contribution to biodiversity and conservation is an enormous oversimplification. It does not, for example, take account of:

- effort expended in reducing the loss of habitat by agricultural expansion into high conservation value areas,
- reducing pollution, which often improves habitat both inside and outside farmed areas,
- managing the spatial arrangement of habitats on-farm and within the farmed landscape to increase the value of the land for biodiversity and
- contributions to expensive conservation efforts that operate on only a small land area or off-shore.

### Metric

| | |
|---|---|
| Total area is the sum of the following: | Conservation programmes for natural habitats within farm or plantation boundaries, size in ha, proportional to cropped area for Unilever. |
| | Any off-site conservation programme, size of such programme in ha, proportional to Unilever support or control. |
| | Includes field margins, period of stubble after harvest**. |

** *Any feature is weighted by the amount of time that it is present in one year; for example, 10ha of stubble present for three months count as 10x3/12 = 2.5ha; on the other hand, 1ha of permanent hedge counts as 1ha*

### Formula:

(Conservation area within farm or plantation x proportion of crop bought by Unilever[1]) + (Conservation area off-site but managed/supported/sponsored by grower x proportion of crop bought by Unilever) = ha of natural habitat.

1 *For Unilever-owned operations, the proportion of the crop bought by Unilever is not factored into any of the metrics (i.e. sustainable practices are taken into account if they are carried out by Unilever companies, regardless of whether the raw material is actually used in Unilever products).*

## Soil health

Soils are the single most important production factor for human nutrition and, globally, increasingly under threat of erosion and physical and chemical deterioration. Soils are highly complex ecosystems, accommodating millions of individual organisms per cubic metre including bacteria, fungi, insects and other arthropods, mammals and plant roots. Together with the mineral components of the soil, water and air, and dead organic material, they form a unique living unit with multiple functions for nature and mankind.

Managing soils to provide the best growing conditions for their crops is an art farmers have learnt over millennia. It tries to optimise (a) the soil structure, to ensure aeration and water movement; (b) the chemical conditions, such as pH, levels of available nutrients, organic matter and salinity; (c) the composition and functioning of the community of soil organisms. At the same time, sustainable soil management requires protecting soils from loss through water and wind erosion or dislodgement with the harvest products; as well as protecting it from pollutants, such as heavy metals, that may be in water, fertilisers or other agricultural inputs.

Unilever's Good Agricultural Practices, as encoded in our standards, provide guidance to managing and protecting soils sustainably. The total area of agricultural land managed in accordance with these standards is therefore a metric of the extent to which we achieve sustainable soil management.

### Metric

| | |
|---|---|
| Improve soil health on x ha of land: | Total land area used to grow Unilever raw materials under sustainability practices. |
| | Where applicable, indicators that need to show improvement and/or meet minimum standards are:<br>• Soil organic matter (maintained or improved)<br>• Nutrient balance (no nutrient mining, no over-supply)<br>• Status of micro nutrients (monitored and managed)<br>• Soil pH (monitored and managed)<br>• Salinity, alkaline conditions (monitored and managed)<br>• Soil conservation measures controlling erosion<br>• Soil conservation measures controlling compaction |
| | |

### Formula:

Total area of land used to grow Unilever raw materials under verified sustainable practices x proportion of crop bought by Unilever[2]

*2 As with previous metric, for Unilever-owned operations the proportion of the crop bought by Unilever is not considered relevant.*



## Livelihoods

In order for the food industry to be sustainable, farming has to be sustainable. In order for farming to be sustainable, farmers and farm workers have to be able to earn a living and live a decent and dignified life. We therefore intend to start counting the number of farmers and farm workers[3] who are benefiting from a decent income by virtue of being involved in the production of our agricultural raw materials. We also intend to start counting the number of farmers and farm workers in our supply chains who have access to a proper range of welfare facilities. These two components of our metric (income and welfare) cannot currently be ascribed to the same individuals, so we will report them separately[4]. Wherever possible we will use gender disaggregated data.

Income The vast majority of people who are involved in the production of our agricultural raw materials are not our own employees but are either employed by our suppliers or self-employed and under contract to us or our suppliers. To find out whether the wages and commodity prices that they are being paid are adequate in an absolute sense and in relation to local norms, we have referred to the work of major international development agencies and devised a formula based on their work. This formula takes three main factors into consideration: the statutory national or regional minimum wage; the average income (GDP/capita) for the agricultural workforce in the region; and the international poverty line (adjusted upward to $4/day, except for the lowest income countries in which case $2/day line is used). Henceforth, as long as the wages and payments of these workers are equal to or above the maximum of these three thresholds (unless no minimum wage is set, in which case we use the other two thresholds only), then we are satisfied that they are receiving a decent income[5].

Welfare In addition, by counting the number of farmers and farm workers who have access to decent welfare facilities (where the data is available and applicable) we are attempting to increase the scope of this metric beyond the purely economic. The metric will be monitored according to workers' access to a set of six different types of welfare facilities, namely housing, drinking water, sanitation, healthcare, education and advanced training. Since it will not often be possible to ascribe access to these different facilities to the same individuals, the absolute number of individuals who benefit from access to each different type of facility will be counted and reported separately. We will also collect and incorporate anecdotal evidence where appropriate.

Having made these commitments, we must also acknowledge that in some cases it will be very challenging to obtain the information we require. In the case of first-tier suppliers (where direct contact can be made with farmers and farm workers), we have the opportunity to collect and verify data pertaining to both income and welfare, but this data will not always exist. However, in the case of second- and third-tier suppliers we will (normally) only be able to obtain data relating to income. Therefore the metric may underestimate the true impact of our programme. Two other factors currently unaccounted for by the metric methodology include the impact on off-farm employment generation and the impact on the livelihoods of dependants.

### Metric

| | |
|---|---|
| Improve the livelihoods of x farmers and farm workers | Components of a decent livelihood:<br>• Decent farmer and farm worker income<br>• Access to welfare facilities<br><br>(In addition, working conditions and human rights standards are enforced through Unilever's Business Partner Code) |

*3 This metric does not include workers involved in the processing of raw materials. In order to be consistent with the other metrics it takes the 'field gate' as its boundary for inclusion.*

*4 As well as checking income levels and welfare improvements, we are also committed to ensuring that workers enjoy decent working conditions and workers' rights. However, this work comes under another initiative. Unilever's* **Code of Business Principles** *(for our own business) is enforced as a matter of company policy. Our* **Business Partner Code** *is currently being rolled out to all our suppliers and is monitored by an independent auditing NGO.*

*5 The approach will normally be calculated at the national level but might have to be modified either up or down to reflect important sub-national fluctuations. This is probably best dealt with on a case-by-case basis and most applicable in countries with significant internal income and cost of living variations such as Brazil or China.*

## Formula:

### Income

Number of people that benefit from a decent income = number of farmers and farm workers in our supply chain who earn at least the MAX out of (Minimum wage; Avg. GDP/capita for the agricultural workforce; International Poverty Line)

### Welfare

The numbers of different people with access to welfare facilities are reported against each type of improvement separately, resulting in six different figures:

1. The number of workers with access to improved housing
2. The number of workers with access to improved drinking water
3. The number of workers with access to improved sanitation
4. The number of workers with access to advanced education or training above the requirements of the job
5. The number of workers whose children have access to formal primary education
6. The number of workers with access to healthcare for themselves and their families

### Third party certification

Both components that make up our metric are covered by Rainforest Alliance and RSPO certification, including access to all six kinds of welfare facility. Henceforth, farmers and farm workers who work within certified operations can be reported against each part of the metric.



# Nitrogen balance

Nitrogen (N) is vital for plant growth, high crop yields and quality. At the same time it can also harm the environment when lost from fields. The N-balance is a measure of how much of the N applied to a crop is actually used, and how much of it is potentially lost to the environment.

Nitrogen is one of the most important plant nutrients: N is a key element in all proteins and plays a vital role in photosynthesis. Plants take up N from the soil through their roots. In natural ecosystems, all N in the soil is either fixed from the air by specialised micro-organisms, which, when they die, release the N; or N is deposited with airborne particles, e.g. from volcanic eruptions. In managed ecosystems, such as agriculture, N applied through organic and inorganic fertilisers becomes the most important source of N to crops.

As N is a ‘precious’ mineral, natural ecosystems systems recycle it very efficiently from dead plant and animal bodies, faeces and litter. When crops are harvested, the N contained in them is removed, thereby breaking this cycle. Farmers replenish the N pool in the soil through fertilisation. As N is normally a limiting element, it also has a signalling function for plants: if there is little available in the soil, they will react with restricted growth while high amounts of available N in the soil encourage strong crop growth and high yields. N is also important for quality in crops that are high in protein, like cereals. This is why in many crops farmers apply more N than the crop will take up, in order to attain high yields and quality crops.

However, when N is applied over and above what crops take up it can also be lost to the environment and cause harm there: N becomes a pollutant when (a) surplus N leaches in the form of nitrate and pollutes ground water; (b) it ‘fertilises’ natural ecosystems that are adapted to low nutrient availability. High levels of available N favour the development of fast-growing species that can then out-compete the original species in the ecosystem; (c) high applications of N favour the formation of various gaseous N-compounds that can contribute to climate change, air pollution and acidification. Finally, synthetic fertilisers require high amounts of energy for production, thereby contributing to greenhouse gas emissions.

Loss of N from agricultural fields is one of the most important sources of environmental impact from farming. It represents the biggest source of embedded fossil fuel. It is the biggest contributor to fresh water contamination through run-off and leaching, leading to eutrophication. It is the biggest contributor to greenhouse gas emissions from farms, since N fertiliser (and N bound by legumes) partly decomposes to nitrous oxide $N_2O$, a greenhouse gas 296 times more potent than $CO_2$.

Unilever strives to apply as much N as needed to ensure high yielding high quality crops while losing as little of it as possible to the environment. A simple metric of how successfully we avoid losses to the environment is the N balance (N inputs minus N outputs), which is a measure of N efficiency. Detailed knowledge of N requirements during the crop growth cycle, ensuring good soil and growing conditions, choosing the right fertiliser for each purpose and using advanced application techniques are all factors by which farmers can improve the N efficiency and work towards balanced inputs and outputs.

## Metric

| | |
|---|---|
| Reduce the amount of nitrogen lost to the environment | The N balance can be expressed as the difference between N inputs from fertiliser and N outputs with the crop |

## Formula:

N lost (kg/yr) = N input (kg/yr) – N output (kg/yr), where N input is the sum of all organic and inorganic fertilisers and N output the N taken off with the harvested proportion of the crop. The summation takes place over the reporting unit. No. of kilos lost fewer than previous year is reported.

## Chemical use

In this context, chemical use means Crop Protection Products (CPPs). The majority of farmers who supply raw materials to Unilever apply CPPs to their crops.

We have been working with our suppliers and growers to minimise the use of CPPs whilst still maintaining the yield and quality of raw materials we need for our business. We have restricted the number of CPPs which can be applied in contract crops and are encouraging our suppliers and influencing at the sector level for pest control systems which maximise non-CPP methods of control.

The use of CPPs is an emotive issue in agriculture and can quickly become over-complex in communication terms. For ease of communication, we have created a simple metric which reports the reduction in the amount of CPPs used from one year to the next, including the toxicity. The toxicity rating uses the World Health Organization's hazard classification of CPPs. Through our work on good practices with our suppliers and growers linked to CPP usage, we believe this metric's trend will be a shift towards the use of less toxic CPPs as well as a reduction in the amount of CPPs applied.

We realise the metric is an oversimplification, which doesn't take into account:

- CPP usage which is influenced by a number of natural factors beyond our control, such as weather conditions, which can lead to increases in usage between seasons.
- The fact that the WHO hazard classification is not an environmental hazard classification.
- CPP residue levels in food products.

### Metric

| | |
|---|---|
| Reduce toxic chemical use | Report on Active Ingredient use in three classes: WHO (Class 1a + Class 1b), Class 2, Class 3, Class U, Class Not Listed. |

### Formula

Report WHO (Class 1a + class 1b), Class 2, Class 3, Class U, Class Not Listed: Number of kgs less than previous year.

## Water

Water is a precious and, in many regions, an increasingly scarce resource. Agriculture uses water to irrigate crops, and fertilisers, CPPs and eroded soil can pollute water. Each of these factors can also affect the supply to users downstream. Unilever can improve the quality and availability of water in areas where our crops are grown in two ways: firstly by reducing the amount of CPPs or fertilisers used, i.e. improving water quality, and secondly by improving the efficiency of water use for irrigation.

### Water Quality

Calculating the volume of water whose quality is improved by sustainable agriculture is complex and difficult to do when aggregating up a supply chain. We have chosen to link our metric to the idea that 'he solution to pollution is dilution', and calculate the theoretical volume of water required to dilute the negative effects of fertilisers and CPPs to an acceptable level. By reducing these inputs, Unilever reduces the volume of water potentially affected.
To calculate the amount of water 'saved' in this way, we:

- Calculate the amount of water needed to dilute to the acceptable level the effects of fertilisers and CPPs lost
- Compare this amount with the amount theoretically needed for dilution in previous years.

| | |
|---|---|
| Improve the quality of run-off water from fields | Express fertiliser and CPP loss to water as a volume of water by diluting volume of CPPs used to NOEC (No Observed Effect Concentration); dilute to drinking water limits for N, ignore P. Compare to theoretical volume required in previous year. Volume of water "saved" each year is reported. |

### Water Use Efficiency

To calculate the total amount of water 'saved' by increased efficiency in irrigation systems, we:

- Calculate the total amount of water used by our growers to irrigate crops
- Compare with water use in previous year.

| | |
|---|---|
| Reduce the volume of water used for irrigation | Compare volumes/ha water for irrigation with previous year. Volume of water "saved" each year is reported. |

### Formula:

1. Calculate volume affected by diluting chemicals to either drinking water concentrations (for nitrogen) or NOEC (for CPPs) (assume 1% CPP applied ends up in water[6]), and compare with previous year;
2. Calculate difference between previous year water use and current year water use;
3. Add the two volumes.

When the two 'saved' volumes are added together, this represents the total amount of water 'saved' by Unilever's sustainable agriculture programme. We are well aware that this metric does not account for all effects of agriculture on water resources addressed in the sustainable agriculture programme, e.g. the sustainability of access to water at catchment level. Neither does it address other water issues such as flooding or ground-water management. The simplified metric is for communication purposes.

6 *Morten Birkved, Michael Z. Hauschild (2006) PestLCI A model for estimating field emissions of pesticides in agricultural LCA, Ecological modelling 198 (2006) 433–451*

## Crop greenhouse gas footprint

Global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004. According to the Fourth Assessment Report of the UN Intergovernmental Panel on Climate Change (IPCC)[7] the atmospheric concentrations of the three main greenhouse gasses (GHGs) – $CO_2$, $CH_4$ and $N_2O$ – have increased markedly from their pre-industrial values as a result of human activities. The atmospheric concentrations of $CO_2$ and $CH_4$ today exceed by far the natural range over the last 650,000 years.

Global increases in $CO_2$ concentrations are due primarily to fossil fuel use, with land-use change providing another significant contribution. The observed increase in $CH_4$ concentration is predominantly due to agriculture and fossil fuel use. The increase in $N_2O$ concentration is primarily due to agriculture.

Warming of the world's climate system due to these increased GHG concentrations is now unequivocal and evident from observations in real climate data. Changes are taking place faster and more strongly than projected in the past. Also, observational evidence shows that many natural systems are being affected by regional climate changes.

The agricultural sector contributes around 6 Gt $CO_2$-equivalents/yr or 13% of mankind's greenhouse gas (GHG) emissions – as much as transport. Farming emits:

- Nitrous oxide ($N_2O$), mainly through nitrogen fertiliser use, soil tillage, manure management and peat land cultivation and energy use for producing inputs and carrying out field operations. $N_2O$ is around 300 times more potent as a GHG than $CO_2$
- Methane ($CH_4$), mainly from fermentation from the digestive system of livestock, paddy rice cultivation, manure management and energy use for producing inputs. $CH_4$ is over 20 times more potent as a GHG than $CO_2$
- Carbon dioxide ($CO_2$), mainly through conversion of land, such as forest and savannah to crop land or grassland to arable land; and energy use for producing inputs.

Farming has two means by which it can contribute to GHG mitigation:

1. Reducing emissions of $N_2O$, $CH_4$ and $CO_2$ – decreasing the flow of GHGs into the atmosphere
2. "Absorbing" $CO_2$ from the atmosphere by storing carbon (C) in soils and standing biomass, such as trees – increasing the flow of C into long-term stores (so-called carbon sequestration).

However, most of these flows (emissions and sequestration) take place in natural systems: the farmed environment. Other than in industrial processes, flow into and out of natural systems are very variable and difficult to measure. This makes them difficult to manage at the field and farm level, where farmers could actually influence them.

Unilever is working with its partners to enhance the understanding of agricultural GHG flows at field and farm level and to come up with practical guidance for GHG mitigation for farmers. While we acknowledge that, at this stage, we may not yet be able to always effectively manage them, we can try to quantify the emissions from our operations by using a common GHG emission estimation tool.

This metric therefore estimates the following GHG emissions from our cropping operations:

- $N_2O$ from soils, fertiliser use and fossil fuels combustion
- $CO_2$ and $CH_4$ from fossil fuel combustions.

We are using our Greenhouse Gas Calculator, published on www.growingforthefuture.com, for the calculation of the GHG footprint of our crops (see website for more information). A future revision would include GHG emissions from livestock as well as possible carbon sequestration.

We will report both the absolute footprint (in $CO_2$-equivalents) and the change compared to the previous year.

*7 IPCC 2007, Fourth Assessment Report (http://www.ipcc.ch/ipccreports/assessments-reports.htm).*

### Metric

| | |
|---|---|
| Amount of GHG emitted from cropping | Sum of<br>$N_2O$ from soils, fertiliser use and fossil fuels combustion<br>$CO_2$ and $CH_4$ from fossil fuel combustions,<br>Weighted by their 100-year Global Warming Potentials. |

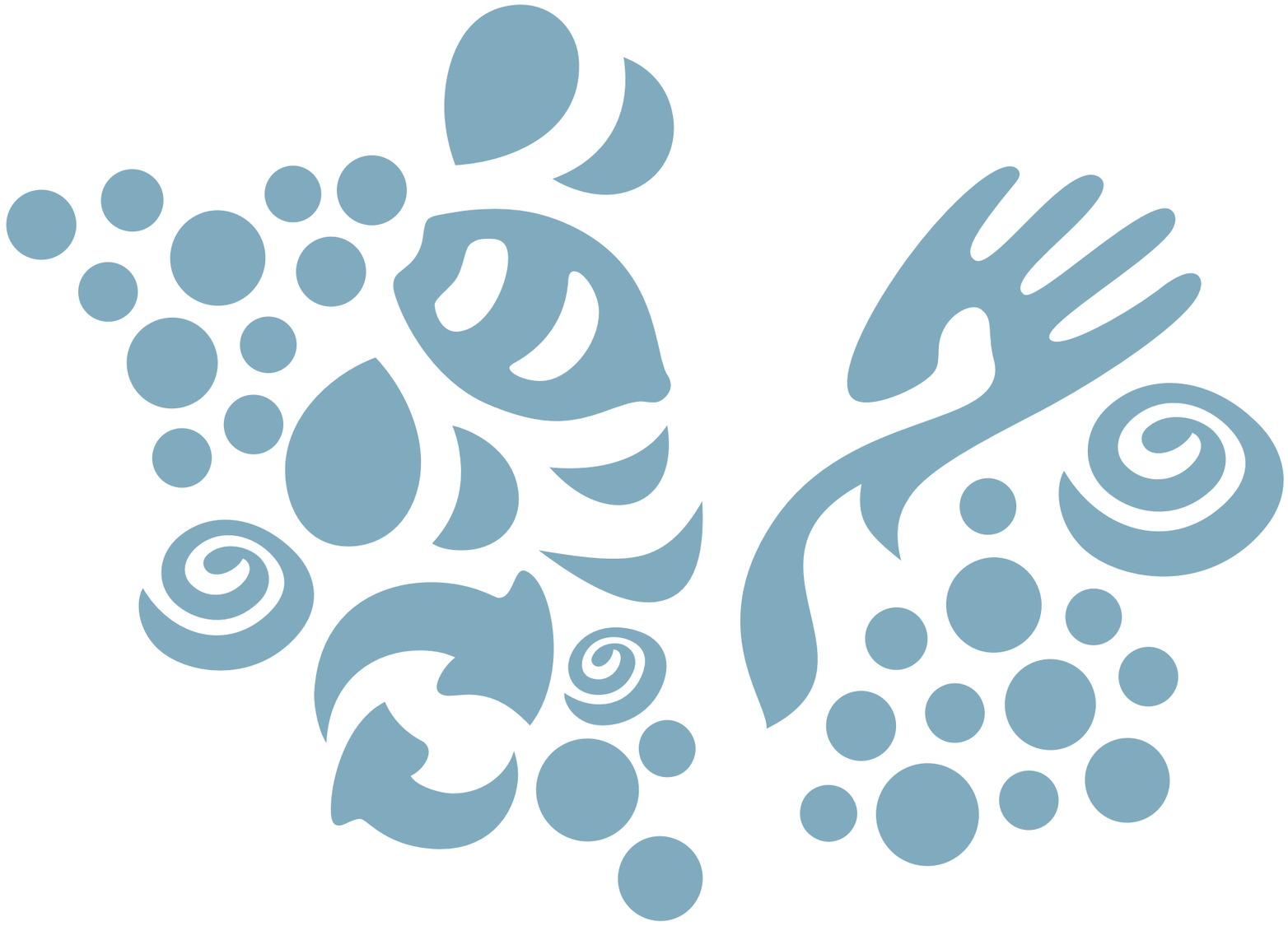
### Formula:

GHG emitted from cropping = sum of $CO_2$ emitted x 1 + sum of $N_2O$ emitted x 296 + sum of $CH_4$ emitted x 23[8]

*8 The Global Warming Potentials of $N_2O$ and $CH_4$ used here are from the IPCC's Third Assessment Report. Slightly higher GWPs have been published in the Fourth Assessment Report (2007): $N_2O$ – 298; $CH_4$ – 25.*

# Sustainable Agriculture Code - Appendix 2

## Risk Assessment, HACCP, QA, and TCO



## 2.1 Introduction

Many Good Practices require a Risk Assessment to be performed and risk-based management systems put in place. In the "Value Chain" section we ask that all risk assessments be brought together under the general HACCP approach to Quality Assurance (QA).

## 2.2 Risk Assessment - General Principles

### Risk Assessment and Risk Management

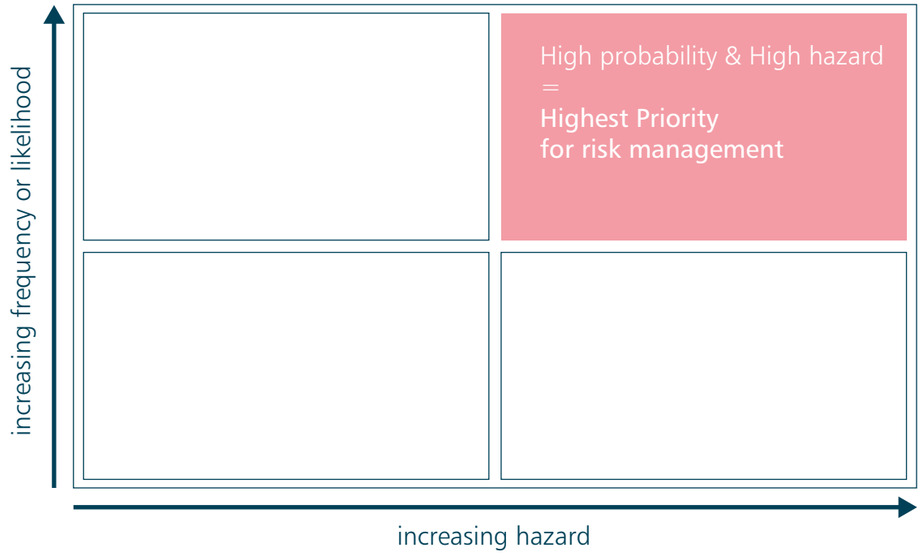
Human health and safety, environmental and other social risks must be assessed according to hazard and probability. The basic idea behind risk assessment is to combine assessments of hazards with assessments of **probability** that the event will occur. See Risk Matrix below.

- The hazard is any source of potential damage, harm or adverse effects. It is assessed in terms of how serious the consequences of any event or behaviour are.
- Probability refers to the likelihood of the event happening at all, or the frequency with which it occurs.

For all risks, the expected exposure routes must be taken into account.

Appropriate measures to mitigate risks are then put in place.

### Risk Matrix




A serious hazard, combined with a high likelihood (= highest **risk**) should be assigned the highest priority for risk management.

**Risks** should be re-assessed once risk mitigation procedures are put in place, to address the residual risk.

This is a continual process.



For suppliers with little experience of risk assessment, we recommend an excellent general introduction and process guide to risk assessment (focused on Health and Safety) available from the source below:

'Five Steps to a Risk Assessment': http://www.hse.gov.uk/risk/fivesteps.htm

Once a risk assessment approach has been developed for health and safety, it is relatively easy to see how a similar approach to environmental, reputational, quality and other social risks can be developed.

Other documents which may help are available at: http://www.hse.gov.uk/risk/expert.htm

**Risk assessments** must be based on relevant and up-to-date expertise.

## 2.3 HACCP

**The HACCP (Hazard Analysis Critical Control Point) approach** to consumer safety and product quality is a mandatory form of risk assessment for Unilever third parties, Contract manufacturers and **direct** suppliers to Unilever foods businesses.

Suppliers should contact Unilever directly for "Unilever General Requirements, Third Parties, Contract Manufacturers & Suppliers supplying to Unilever Foods, July 2004. Guideline for the Implementation of HACCP in Unilever (internal to Unilever only)"

For more distant and secondary suppliers, for whom HACCP is advisable but not mandatory, excellent advice on implementing HACCP can be obtained from "Codex Basic Hygiene text + Codex HACCP":
www.codexalimentarius.net/download/standards/23/cxp_001e.pdf)

and the "FAO HACCP Training Handbook": http://www.fao.org/docrep/W8088E/W8088E00.htm).

The application of HACCP to agriculture is also described in
"HACCP in Agriculture & Horticulture Guideline No. 10" (2nd ed.) 2000 and supplement 4, 2003. Campden & Chorleywood Food Research Association.

Many contamination and quality issues and risks (e.g. CPP contamination, stones, insects, enteric bacteria) arise during agriculture. The HACCP approach should therefore not be confined to factory situations but should extend into the field and agricultural operations. Any HACCP study for food processing must cover inbound raw materials (and therefore agricultural production) to fully understand where Critical Control Points are. Farmers must understand their responsibility.

HACCP is linked to Quality Assurance (QA) and can be used to identify where cost optimisation opportunities may exist through working in partnership with suppliers using the Total Cost of Ownership (TCO) concept.
The TCO is an estimate of the life-cycle costs of owning a product or asset, and therefore includes the purchase price, any additional costs related to sub-optimal performance, and any additional training or maintenance requirements (for example, increased cost of handling out-of specification product; damage to reputation, re-packing or re-cleaning costs incurred by a product recall).

Consideration of TCO results in

- Avoidance of hidden costs
- clearer specifications, and
- by taking a holistic cost calculation along the value chain from raw material purchase to consumer purchase, it becomes easier to eliminate extra/hidden on-costs linked to reputation (product boycotts) or quality (consumer complaints)

HACCP, QA, TCO are not difficult, complicated or bureaucratic, unless an organisation makes them so. What is necessary is a thorough understanding of the value chain, through every step of agricultural production, including those factors that cause concern to customers (internal and external), consumers and key opinion formers.

## 2.4 HACCP and Agriculture

Stages in a HACCP study extending into agricultural production are:

### Planning

1. Define the terms of reference
2. Select the HACCP team (a team might not be required for a small operation)
3. Describe the essential product characteristics
4. Construct a flow diagram of how the raw material is grown, including seed/transplant/clone production, through harvest to delivery to a Unilever factory.

### Application

1. List all the hazards associated with each process step, conduct a hazard analysis and consider measures to control the identified hazard (HACCP Principle 1)
2. Determine Critical Control Points (HACCP Principle 2)
3. Establish critical limits for each CCP (HACCP Principle 3)
4. Establish a monitoring system for each CCP (HACCP Principle 4)
5. Establish a corrective action plan (HACCP Principle 5)
6. Establish verification principles (HACCP Principle 6)
7. Establish documentation and record keeping (HACCP Principle 7)
8. Review the HACCP Plan

### Critical Control Points

A point beyond which no further hazard elimination, removal or reduction to a safe level can occur. This must not be confused with actions, which can reduce the level of hazards.

## 2.5 Safety and Quality hazards

**Typical Crop Safety and Quality Hazards** include:

### Biological

- Variety
- Pathogenic bacteria, e.g. E.coli, Salmonella
- Fungal toxins
- Plant toxins, (e.g. glycoalkaloids from solanaceous weeds)
- Fungal bodies or plant berries (e.g. ergot, nightshade)
- Genetically modified materials (derived from GMOs)
- Fungal moulds and bacterial rots (spoilage)
- Plant diseases
- Insects
- Animal or human matter,– e.g. faeces

### Chemical

- CPP residues, (e.g. exceeding MRLs (Maximum Residue Limits) or using CPPs not permitted in destination country).
- Nitrate levels – certain leafy crops such as spinach
- Heavy metal levels, (e.g. Lead (Pb), cadmium (Cd)
- Mineral oils – lubricants, hydraulic oil, diesel
- Composition, (e.g. protein, sugars, oil)
- Dry matter content

### Physical

- Glass
- Metal
- Stones
- Wood
- Extraneous vegetable matter (EVM) – contamination with other plant parts
- Foreign EVM – contamination with plant parts not from the crop
- Physical damage and blemishes
- Size/shape
- Colour
- Soil contamination

## 2.6 Other risk assessments

### Typical Scope of Risk Assessments

The general risk assessments (i.e. those not specifically linked to quality or contamination where HACCP is the required methodology) must cover **all areas of risk**:

- People (e.g. operators, neighbours and bystanders)
- Environment (e.g. soil, water, air and biodiversity)
- Economic (e.g. profitability)

and consider

- Normal (routine use and management),
- Non-routine or abnormal (e.g. when handling CPPs ‘abnormal’ means extraordinary but planned situations, such as refilling fuel tanks or change of oil filters) and
- Emergency (e.g. during fire or flooding) circumstances.

For example, properly constructing, bunding and using a tank of diesel will help manage risks during routine activities. Non-routine situations, like replacing a valve, and emergency circumstances, like a fire, may introduce additional risks (spillage, explosion), which are not effectively managed by the above measures.

Non-routine situations can be regularly arising (e.g. maintenance of equipment; staff exiting a building by a secondary exit instead of the normal exit); or they may never have happened to date, but are theoretically possible (e.g. power cut; livestock epidemic). Non-routine situations can increase the significance of a risk or introduce additional risks, compared to routine activities.

## 2.7 Risk management

Any identified control or mitigation measures must be hierarchical in approach
For risks associated with **Nutrients**, for example, we ask:

1. **Fertiliser choice** Can a formulation be used that reduces the identified risk (e.g. pellets rather than liquid fertilisers, organic fertilisers rather than synthetic inorganic ones, ammonium nitrate rather than urea)?
2. Can the identified risks for the selected fertilisers be controlled through **engineering approaches** to **prevent or reduce exposure** e.g. bunded storage systems, riparian strips, enclosed tractor cabs?
3. What are the best **handling procedures to reduce or minimise exposure**? e.g. ensuring competent/trained operators, proper calibration of equipment, mixing practices, hygiene practices etc.
4. Finally and only after all other approaches have been assessed, what Personal Protective Equipment (PPE) is necessary to control any residual risk?

For risks associated with **Pest Management**, for example, we ask:

1. **Substitution** – can another pest control method be used not involving the application of chemicals?
2. Can a **safer CPP or formulation be used**? The use of Manufacturers Safety Data Sheets or public domain risk assessment tools should be encouraged - for example Unilever's PRoMPT system.
3. Can the identified risks for the selected CPP be controlled through **engineering approaches to prevent or reduce exposure**? e.g. improved store security, closed transfer systems, enclosed tractor cabs, CPP formulations in water soluble bags
4. What are the best **handling procedures to reduce or minimise exposure**? e.g. ensuring competent/trained operators, appropriate nozzle height, mixing practices, hygiene practices etc.
5. Finally and only after all other approaches have been assessed, what **PPE** is necessary to control any residual risk?
6. The exposure risks for individuals who spray CPPs must be considered, particularly to determine whether health checks are necessary.

Guidelines (to help inform risk assessments related to the use of Crop Protection Products) on how to deal with CPP poisoning in an emergency can be found on the Crop Life site at: http://www.croplife.org/library/attachments/67b01792-9a04-46fe-ad06-2938f92fd6b2/6/Guidelines_for_Emergency_Measures_in_cases_of_Crop_Protection_Product_Poisoning.pdf

The management of **Health and Safety at Work** in agriculture must be based on a risk assessment approach, and be accompanied by

- Input from workers representatives & agreement on priority setting
- Provision of Health and safety awareness training
- Provision of first aid training and first aid kits in the workplace

There are risks to people, the environment, our products and our reputation arising FROM agricultural practices, and also risks arising from outside farms and the supply chains TO agricultural operations. This inevitably results in some risks appearing more than once in the Unilever Sustainable Agriculture Code.



# Sustainable Agriculture Code - Appendix 3

# Glossary of terms

## Agrochemicals
The term agrochemicals in this document includes **Crop Protection Products (CPPs)** and **Synthetic Fertilisers**.

## Biodiversity Action Plan (BAP)
An action plan for the protection and sustainable use of biodiversity. The concept of the BAP was originally defined by the Convention on Biological Diversity (CBD) to enable implementation of the convention at national and local levels. It is taken here to encompass any kind of conservation plan and biodiversity management system, so long as it fulfils the three key actions that are recommended by the Sustainable Agriculture Code implementation guide (a Unilever "pro-forma" for creating a BAP is available on www.growingforthefuture.com).

## Buffer zone
A defined area either bordering a protected area or separating two areas managed for different objectives in order to prevent **agrochemicals**, run-off or dust from passing from one area to the other. Most commonly used to protect riparian zones, **water bodies**, wildlife habitats, workplaces, housing, livestock habitation, public areas and public access points from contamination.

## Child
A person under 15 years of age. There are two exceptions to this definition (in accordance with the ILO Minimum Age Convention 138: 1973):

1. Where the local minimum age, under the law, for work or compulsory education is higher. In these cases the higher age would apply.
2. Where the local law sets minimum age of 14 in accordance with developing-country exceptions under ILO Convention 138. In this case the lower age will apply.

## Crop Protection Products (CPPs)
Substances used to prevent, control or eliminate **pests** (insecticides, herbicides and fungicides), substances intended for use as plant growth regulators, defoliants, desiccants or agents for thinning fruit or preventing the premature fall of fruit, or substances applied to crops to protect them from deterioration during pre- or post-harvest storage and transport. We have used this term (rather than "pesticides") in this code because we want to make it clear that we wish to refer to a wider range of substances than those used to control **pests**.

## Destroy (important habitat)
Cause significant damage to an ecosystem, whether by direct or indirect action. This can be as a result of tree-logging; extraction of non-timber products and wild-harvesting; burning; application of **agrochemicals**; partial or complete conversion to agricultural land, urban use, development or wasteland; introduction of invasive or exotic species; changes to the depth or direction of a watershed, draining of wetlands, etc.

## Fertigation
The practice of distributing fertilisers to plants using irrigation water.

## Fertilisers
Natural or man-made substances containing plant nutrients, including organic (manures, composts etc) and **synthetic** (inorganic/mineral) **fertilisers**.

## Good Manufacturing Practice (GMP)
That part of quality assurance which ensures that products are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the product specification. GMP is concerned with both production and quality control.

## Greenhouse gases (GHG)
Atmospheric gases that absorb infrared radiation and so contribute to the "greenhouse effect", global warming and climate change. The main GHGs considered to be responsible for climate change and global warming are carbon dioxide ($CO_2$), methane ($CH_4$) and nitrous oxide ($N_2O$). Agriculture is a major emitter of both nitrous oxide (derived from **fertilisers**, and nitrogen-fixation by legumes) and methane, which are estimated to have the global warming potential of 298 and 25 times that of carbon dioxide respectively. Use of energy for vehicles and food processing also releases a great deal of carbon dioxide into the atmosphere.

## HACCP (Hazard Analysis Critical Control Point)
Approach to consumer safety and product quality that is a mandatory form of risk assessment for Unilever third parties, contract manufacturers and direct suppliers to Unilever foods businesses. HACCP is also recommended for food processors who supply Unilever indirectly. Further information and references are available in the Risk Assessment section of **this code** (Appendix 2).

## Important Habitat
A habitat is a place or type of site where an organism or population naturally occurs. An important habitat is a habitat listed and protected under national legislation or otherwise internationally recognised (e.g. Ramsar Sites, Important Bird Areas, areas of Primary or High Conservation Value Forest or other ecosystems of High Conservation Value, Nature Reserves or other critical sites for **rare** or **endangered** species).

## Industrial-scale processing units
Large on-farm or off-farm drying, freezing, pasteurisation, extraction, storage and refining facilities or factories. Such units typically serve either one large farm/plantation or many smaller farms and may be run as part of the farm business or separately. They will usually employ managers, engineers and workers. Industrial-scale processing units are often managed by Unilever **suppliers**.

## Integrated Pest Management (IPM)
Pest management which uses: techniques (e.g. cultural, genetic) to prevent or minimise **pest** occurrence; action thresholds and monitoring to ensure control methods are used only when necessary; a range of **pest** control methods (e.g. cultural, biological and chemical) which aims to minimise risk to people, property and the environment.

Many more definitions of IPM exist (see http://www.ipmnet.org/ipmdefinitions/defineIII.html#90's for examples). The above definition outlines the aspects that Unilever considers essential.

## Irrigation
The application of water to land or crop canopies to assist in the growing of crops and pastures. The specific purpose can vary, but it is normally to bridge the gap between actual and potential evapotranspiration.

## Nursing (women)
Women who are feeding an infant or young child with breast milk (also known as 'breastfeeding'). Nursing women are especially vulnerable to **CPP** exposure because of the physiological burden of supporting their developing children. Their infants, who absorb a larger intake of pesticide residues per body weight in their food than adults, are also vulnerable to exposure by intake of contaminated breast milk.

## Pest
Any organism that damages crops, injures or irritates livestock, or reduces the fertility of land. Includes rodents, birds, insects, mites, bacterial, viral and fungal diseases and weeds.

## Rare, threatened or endangered species
All species that are either:

(a) indicated as rare, threatened, vulnerable or endangered under national, state or provincial laws
(b) listed in the International Union for Conservation of Nature and Natural Resources' (IUCN) Red List of Threatened Species as vulnerable (VU), endangered (EN) or critically endangered (CR); see http://www.iucnredlist.org/
(c) listed in the three CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Appendices; see http://www.cites.org/eng/app/appendices.shtml.

The Red List of Threatened Species is a list of threatened taxa, which classifies and provides taxonomic, conservation status and distribution information. The classifications used by the IUCN include: extinct, extinct in the wild, critically **endangered**, **endangered**, vulnerable, near-**threatened**, least concern, data-deficient and not evaluated. The Red List and any local Red Lists inform decisions on conservation priorities for any part of the world. When deciding conservation priorities for farmland, Red List information will usually be combined with information on habitats on and around the farmland (for example nature reserves, important bird areas and any wildlife corridors or migration routes) and an assessment of the cost, likely benefits, and likelihood of support by farmers, of proposed action.

## Reuse

Use of an item more than once. This includes using it for the same purpose as its original use (e.g. using a plastic shopping bag more than once as a shopping bag), and using it for a new purpose (e.g. using a plastic shopping bag first as a shopping bag and then as a bin liner). Like recycling, reuse can also involve salvaging component materials from complex products, but it does not involve reprocessing.

## Recycle

Reprocessing of used materials and **waste** into new products. Recycling can either produce a fresh supply of the same material (e.g. paper to paper) or of different materials (e.g. paper to cardboard). It can also involve salvaging and reprocessing component materials from complex products.

## Suppliers

Suppliers are usually the organisations with whom Unilever has direct contact for buying raw materials, but also applies here to organisations further down the supply chain who have direct relationships with farmers. These organisations are usually food processing businesses who run drying, freezing, pasteurisation, extraction, storage and refining facilities or factories. In some cases suppliers may be traders or Unilever may buy from suppliers *via* commodity markets.

## Synthetic fertilisers

Fertilisers made from inorganic chemicals and minerals unlike organic fertilisers (manures, composts and other nutrient-rich materials which are derived from organic materials). Commonly used synthetic fertilisers include N:P:K compound fertilisers, urea, and TSP.

## This Code / Code

This document, including all appendixes and implementation guides. The Unilever Sustainable Agriculture Code is intended as a guide to acceptable behaviour for all suppliers of agricultural raw materials to Unilever.

## Total Cost of Ownership (TCO)

An estimate of the life-cycle costs of owning a product or asset, including the purchase price, any additional costs related to sub-optimal performance, and any additional training or maintenance requirements (for example, increased cost of handling out-of-specification product; damage to reputation; repacking or re-cleaning costs incurred by a product recall).

## Unilever Business Partner Code

Code committing Unilever to establishing mutually beneficial relations with our suppliers, customers and business partners. Partners are expected to adhere to business principles consistent with our own. Available at:-
http://www.unilever.com/ourvalues/purposeandprinciples/business_partner_code/default.asp

## Waste

Unwanted or undesired material or substance.

## Water bodies

Any accumulation of water, including oceans, seas, estuaries, coastal waters, lakes, streams, ponds, puddles, ditches, wetlands, groundwater bodies and aquifers. Water bodies may be man-made or naturally formed. They may form on the Earth's surface or beneath it and they can either gather and transport water or they can store it. Some water bodies are naturally more sensitive to pressures and risks than others.