GOOD TIMES FROM A GOOD PLACE

Pernod Ricard
Créateurs de convivialité

Sustainable Agriculture

Key Principles

Conviviality with nature and communities

Morgane Yvergniaux

Version 1.0 – Sept 2020

Pernod Ricard's vision to ensure a virtuous business

Lead the transformation of each of our terroirs towards sustainability

&

Offer a framework to explore the most sustainable practices for ecosystems, climate and communities

&

Engage and train all our stakeholders in this aligned way

✖ It is not an additional standard

✔

- RETHINK — Change our mindset and challenge our ways of working
- Learn about and better understand our agricultural issues and opportunities — TER-01, TER-02
- Have a framework to implement new practices and assess the best certifications — TER-03
- Test new approaches by projects to initiate this sustainable transition — TER-04, TER-05, TER-06

01

Our vision

Lead the transformation towards sustainable terroirs

As a business, we are responsible for developing and encouraging sustainable agriculture practices across our supply chain - tackling climate change and ensuring the protection of biodiversity.

We believe in the strength of a holistic and systemic approach to sustainable agriculture. We aim to go beyond conventional agricultural, focusing on the entire farming system to maximize positive impacts and business resilience by:

- Adopting a landscape approach maximizing positive interactions between agricultural and wild ecosystems
- Focusing on soil life and its ability to store carbon on the long-term
- Reducing dependence on agrochemicals
- Managing water resources
- Taking care of people
- Fostering resilient farming

Farmers are our key partners on this journey. We will collaborate with them and all stakeholders to increase the diversity and resilience of their production and ensure economic balances together.

Our ambition is clear and our conviction solid, sustainable agriculture is an opportunity for our business to drive innovation, engage in fair and long-term business practices and create brand value for our consumers.

Our agricultural journey

Sustainable agriculture

Conventional

Business as usual

- Compliance with local regulations
- Focus on yield and product quality
- Potentially solve problems through chemical inputs

Low Impact

Improve the game

- Minimize negative footprint
- Solve problems with more sustainable alternatives
- Substitution of a conventional practice by a sustainable practice
- Dialogue with suppliers to help transition

Regenerative

Change the game

- Think globally and break business as usual mindset
- Regenerate ecosystems and maximize positive impacts
- Create value for communities
- New strategic goals, new understanding and development of farming systems

Great feedback so far...

"The use of minimum tillage and cover crops has resulted in improvement of soil health and structure, organic matter content and soil biodiversity. Agronomist Philip Reck from the Cooney Furlong Gain Company has demonstrated a significant reduction in carbon footprint due to carbon sequestration. The changes have resulted in a reduction in nutrient inputs like fertilizers and an improvement in yields which together deliver economic benefits."

Walter Furlong, farmer and supplier of Irish barley and rye to Irish Distillers
Use regenerative agriculture for over 12 years.

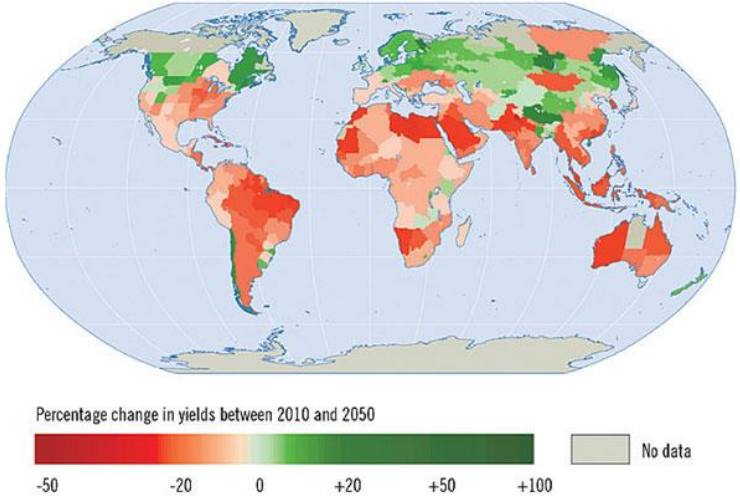
"One of our farmers, Francisco, is very happy about the results from the project. Before we started, he wasn't sure if he could continue to make a living on coffee. Now, after four years, he cannot only make a living - he has also built a farm that he can pass on to his children and future generation"

Lynne Millar - Purchasing director
The Absolut Company

02

Context

Climate change



Regional Impacts of Climate Change on Agriculture
Reviewing climate change and its effect on crop yields, weather events, crop prices and farmland.
World Bank, September 6, 2018

- Scientists estimate an increase of global temperatures between **2°C (best case) and 4°C (worst case)** by 2065, stemming in part of greenhouse gas emissions. (IPCC, 2019)
- This increase in temperature will have **catastrophic impacts** on all of Earth's inhabitants.
- **The agricultural sector** (with forestry and other types of land use) **accounts for 23% of human greenhouse gas emissions**. (IPCC, 2019)
- The sector also **suffers much of global warmings negative impacts** including droughts, heat waves, pest invasions, etc.
  - *Ex: each day over 30°C, maize yields are reduced by up to 6%**

* 2017 Study from **Potsdam Institute for Climate Impact Research**

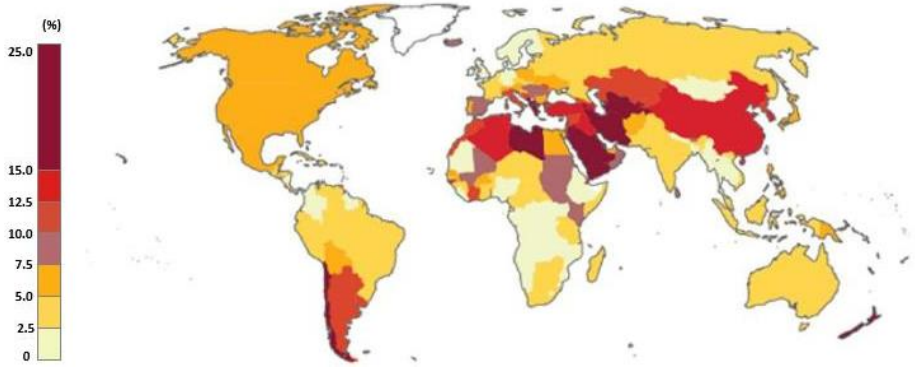
Resource scarcity & degradation

Depletion of soil nutrients is a phenomenon that occurs as a consequence of soil erosion, but also due to poor agricultural practices which do not allow replenishing the stock of nutrients taken from the soil by crops .

- *"When land is degraded, it **becomes less productive**, restricting what can be grown and **reducing the soil's ability to absorb carbon**. This exacerbates climate change, while climate change in turn exacerbates land degradation in many different ways."* IPCC 2019
- The UN estimates that **about 1.9 billion people live in water-scarce areas**. If current trends continue, this number will rise to around 3 billion by 2050, with up to 5.7 billion people living in areas experiencing water scarcity at least one month per year. **Agricultural supply chains** are expected to face **increasing water stress**
- **Land use change**, linked to deforestation, agriculture or urban sprawl, has consequences in terms of soil degradation and erosion, but also on the soils capacity to store carbon.

Biodiversity loss

Predicted loss of 5% to 8% of agricultural world production in the absence of pollinisation



Source : IPBES from FAOSTAT (2013) and Aizen et al (2009)

- *"**Biodiversity** is **fundamental** to **safeguarding** global **food security**, it is the basis of healthy and nutritious food and strengthens rural livelihoods and the resilience of people and communities."* said the Director General of FAO, José Graziano da Silva
- Key figures:
  - **6th mass extinction** of biodiversity due to production and consumption patterns
  - **1 million species are at risk** of extinction (IPBES 2019),
  - Around **80% of flying insects** have **disappeared in Europe** in 30 years (PLoS One study, Germany 2017)
- This could cause a **global collapse of ecosystems**, affecting both **wildlife** and **agricultural ecosystems**

Read more in our Global Biodiversity Guidelines

Social issues & inequality

Kidney diseases for sugarcane workers in Central America

Men bringing cocoa pods to collection area in Côte d'Ivoire

The number of child workers in agriculture worldwide has increased by more than 10% since 2012 driven in part by violent conflicts and disasters.
- FAO

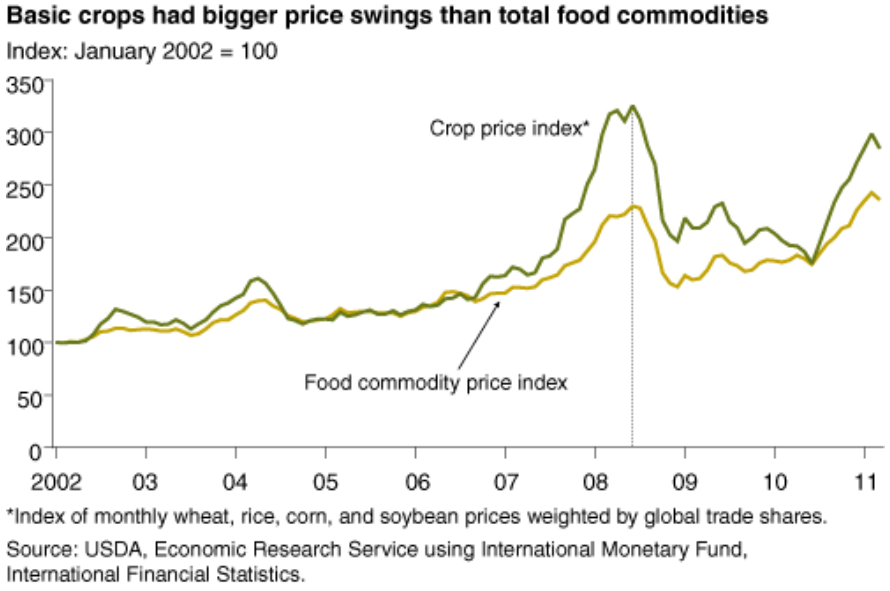
- *According to the World Bank most recent estimates, in 2015, **10 percent of the world's population** or 734 million people lived on **less than $1.90 a day**. **The majority** of the global poor live in rural areas and are poorly educated, **employed in the agricultural sector**, and under 18 years of age.*
- ***40 million people** are estimated to be trapped in **modern slavery** worldwide: 1 in 4 of them are children and almost three quarters (71%) are women and girls.*
- *According to the FAO, **71 percent** of **global child labor** occurs in the **agriculture sector**.*
- *Global Witness revealed the highest number of land and environmental defenders murdered on record in a single year, with **212 people killed in 2019** for peacefully **defending their homes and standing up to the destruction of nature**.*

Read more in our Global Human Rights Policy

Consequence: Increased competition for food products

"Food security will be increasingly affected by future climate change through yield declines – especially in the tropics – increased prices, reduced nutrient quality, and supply chain disruptions,"

Priyadarshi Shukla, Co-Chair of IPCC Working Group III.



03

Leading the journey towards sustainable agriculture

Different systems in detail

Sustainable agriculture

Conventional

Conventional agriculture refers to farming systems which include the **use of synthetic chemical inputs** (fertilizers, herbicides, fungicides, insecticides, etc), **heavy irrigation**, **intensive tillage**, or **concentrated monoculture production**. Conventional agriculture is therefore typically highly resource and energy intensive, but also **highly productive** on **less land** and with **less manual labor**.

Low impact

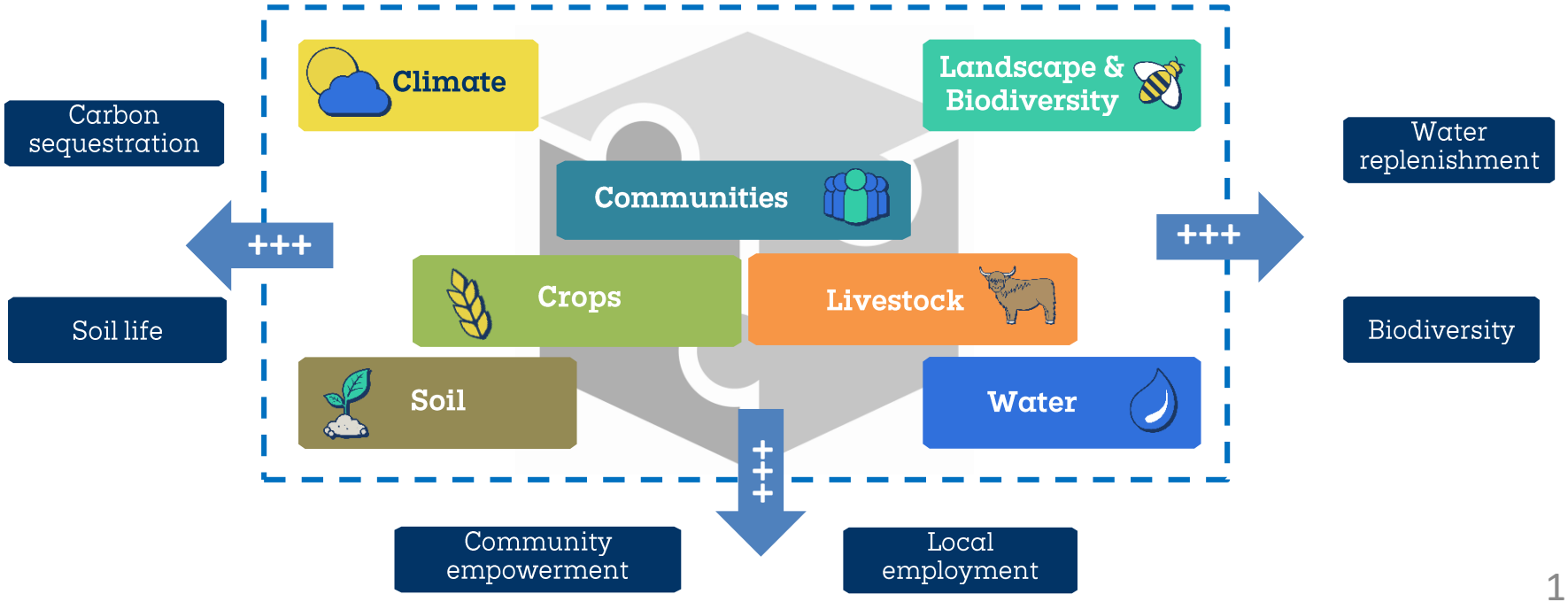
Low impact agriculture covers a range of practices seeking to **limit environmental and social externalities**. This can include **reducing the use of chemical pesticides** known to destroy biodiversity and pose risks to human health. A**lternative solutions** or **precision farming technologies** are used to minimise chemical inputs footprint or reduce water usage.
The goal is to be **economically viable, to not harm the environment** or **human health** (safe for users, healthy food, quality water, jobs and quality of life for farmers).

Regenerative

Regenerative agriculture is a holistic approach that aims to **protect soil life** and **natural fertility**, improve **water retention capacity**, and **protect and enhance biodiversity**.
In the long term, this model aims to improve the **global crop vigor**, maximize **carbon storage in the soil**, ensure **quality** of the harvest and secure **yields**.
As a result, it improves the **overall resilience of the terroir**, particularly in the face of **climate change**, ensures the **health** and **life balance** of farming **communities** as well as long-term **economic viability**.

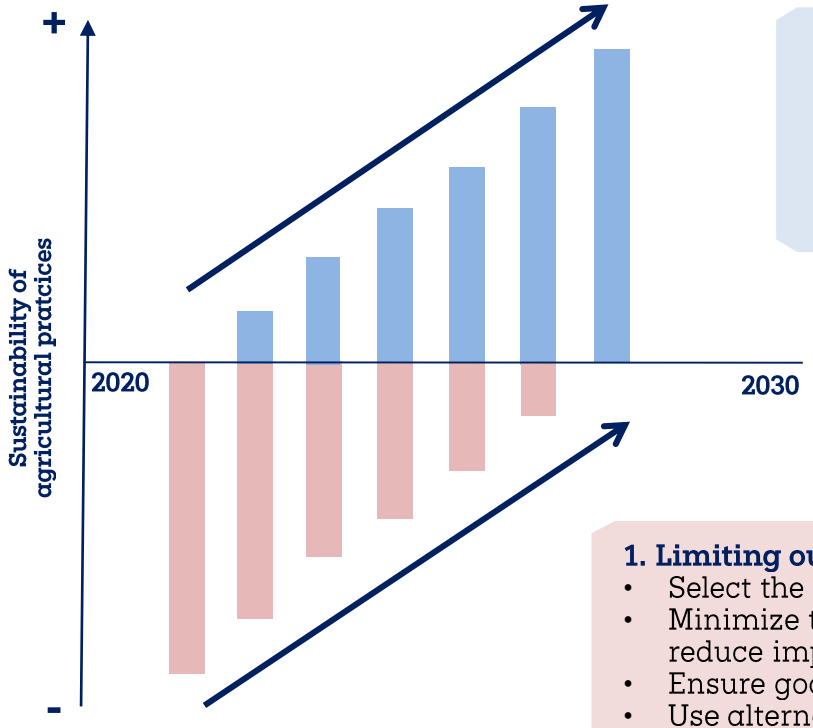
Systemic approach focused on positive externalities

Consider the agricultural model as a whole and design resilient systems



Our Ambition

Leading the transition step by step



2. Maximizing benefits for all

- Maximize biodiversity
- Restore soil and water resources
- Reinforce carbon sequestration and all practices that can reverse climate change
- Organize circular economy models in localities

1. Limiting our negative footprint

- Select the best places to produce
- Minimize the use of chemicals towards possible phase out to reduce impacts on biodiversity
- Ensure good water management (quantity & quality)
- Use alternative fertilizers to limit carbon footprint

04

Key principles for sustainable agriculture

Main aspects of sustainability

Landscape

1: To rethink the resilience of agricultural models, we must first understand the local impacts of climate change on our terroirs

2: Design a landscape mosaic between agricultural and non-agricultural areas aimed at maximizing positive interactions between spaces and limiting the negative effects on ecosystems.

Stakeholder partnerships and working together are key, to identify common solutions, mutualize investments and implementing sustainable plans with economies of scale.

Landscape

Objectives	Examples of practices	Conv.	Low	Reg.
Know and understand climate change impacts on our terroirs	Understand how climate change impacts the terroir locally (temperatures, precipitation, wind, hail, etc.)	Terroir mapping assessment		
	If priority terroir, perform a climate scenario		x	x
Design a territorial mosaic	Fight against artificial land use change	x	x	x
	No deforestation to plant new crops	x	x	x
	At the watershed level, engage stakeholders in order to manage water, reduce runoff and store water		x	x
	At farm level, divide large plots and install buffer strips (windbreak, biological corridors, etc.)			x
	At terroir level, design a mix between productive and non productive spaces: integrate or initiate alliances and synergies between various stakeholders (public organization, farmer association, industries, etc.)			x

Landscape

Land artificialisation

Wheat monoculture

Territorial mosaic
Mix between productive and non productives areas

Biodiversity

The landscape mosaic is shaped by crops, meadows, and all landscape elements. The functionality of this mosaic is created by the density, the connectivity and also the quality of all landscape elements.

Biodiversity is an important way to increase the resilience of agricultural models:

1: Maximize wild biodiversity by establishing and/or maintaining ecological regulation zones

2: Maximize genetic diversity (annual and perennial crops + livestock) in terms of species and varieties

Biodiversity

Objectives	Examples of practices	Conv.	Low	Reg.
Install and preserve spaces dedicated to wild biodiversity	Know the protected areas and key biodiversity areas present on or in the surrounding areas of the farm	Terroir mapping assessment		
	Protect wetlands and water streams (vegetal strip along surface water for example) as a source of biodiversity		x	x
	Design specific areas for biodiversity on the farm (trees, edges, wildlife habitats, etc.) while avoiding a disconnected biodiversity "oasis"		10%	15%
	Other option: put the emphasis on cover crops and permanent cover which allows conduciveness of agricultural landscapes (as mentioned in the following section)			x
	Maintain or install permanent meadows (conducive to biodiversity and carbon sequestration)			x
	Introduce agroforestry projects			x

Biodiversity

Objectives	Examples of practices	Conv.	Low	Reg.
Maximize cultivated diversity by promoting mixed productions	Maximize the diversity of crops species present on the farm, which can include a mix between perennial and annual crops. Another approach is to minimize the % of the main crop		x	x
	No use of herbicide resistant GMO crops		TBC*	x
	No use of GMO crops			x
	Maximize the diversity of varieties for a same crop (paying attention to hardy varieties)			x
	Introduce livestock in the farm with grazing practices (which can be in partnership with neighboring breeders)			x

** Under discussion, ongoing study, Group position to be confirmed*

Biodiversity

Biological corridor

Areas of ecological interest

Varietal mixtures (wheat)

Agroforestery with cereals

Agroforestery with vineyard

Plant – Animal association

Plant health & soil

The revitalization of soil can be considered as the starting point of more resilient agriculture – an important step in moving towards a more natural balance.

Because soil ecosystems are the engine of the entire plant cycle, maximizing soil and ensuring a soil/plant nutrient balance is essential for growing crops that are more vigorous, more resistant to pests, and have better yields.

This balance also promotes the storage of carbon in the soil and contributes to the fight against global warming.

Plant health & soil

Objectives	Examples of practices	Conv.	Low	Reg.
1. Global management	Design a crop system which is resilient and addresses the main issues of the farm. Annual plant protection and nutrition plans to progressively reduce the need of chemicals: prefer cultural methods and varietal choice	x	x	x
	Record practices and data	x	x	x
	Use and store agrochemicals and fertilizers safely	x	x	x
2. Maximize soil life	Perform a soil analysis every 5 years on a significant surface to monitor : x physico-chemical balance x organic matter content / carbon sequestration x if possible : soil life (biological analysis)		x	x
	Conduct a soil pH acidity test		x	x
	Gradually reduce the tillage intensity (tillage without turning) until zero		-50%	-100%
	Avoid bare soil thanks to cover crops in order to optimize the cycle and use of nitrogen, to optimize carbon cycle and other nutrients. Cover crop should be also used as a way to create conducive landscapes.		70%	100%
	Use crop rotation principles (to be defined / more than 3)		x	x
	Maximize organic matter in the soil by reincorporation of crops residues, composts and animal manures			x

Plant health & soil

Objectives	Examples of practices	Conv.	Low	Reg.
3. Ensure soil/plant nutrient balance	Make fertilizer applications based on good knowledge of the needs of the plant and the resources present in the soil thanks to annual suitable analysis (pH analysis, SAP Analysis, etc.)	x	x	x
	Introduce legumes in the rotation		x	x
	Transition from chemical to organic fertilization (% of annual organic fertilization): organic nitrogen and nutrients are much better for plant health and soil biological and chemical balance		30%	>80%
	Install crop associations		x	x
	Use intercrops as green manure		x	x
4. Plant protection	Avoid the most hazardous chemicals used for people and wildlife (CMR for example)		x	x
	Use physical methods to control weeds, pests and diseases		x	x
	Use biocontrol or natural solutions to control pests and diseases (compost tea for instance)		x	x
	Use agrochemicals only when necessary	x	x	x

Plant health & soil

Solar corridors: rows are more than 1.5m (60 inches) from each other. Cover plants are sown between rows. 'We put 30% to 40% less nitrogen to make the same corn we used to make, the same tons per hectare"
Photo: Dominique Gauthier

Sprayer with recovery panels: -30% in quantity brought to the vineyard (Martell)

Date			T1-07 Mai	T2-16 Mai	T3-22 Mai	T4 -29 Mai	T5 - 3 juin	T5-14 Juin	T6 -21 Juin	T7 -02 Juillet	T8- 11 Juillet	T9 18 Juillet	T10- 31 Juillet	T11-12 Août
Stade Physiologique	Pointe verte	Sortie des feuilles	Feuilles étalées	Grappes visibles	Grappes séparées	Boutons floraux séparés	Boutons floraux séparés	Floraison	Nouaison	Petit pois		Fermeture de grappe		Véraison (Optionnel)
Nutrition foliaire			Sulfate Mgo Oligo Elements (B,Bo,Fe,Mn,Cu)	Sulfate Mgo Oligo Elements	Sulfate Mgo Oligo Elements	Sulfate Mgo Oligo Elements	Sulfate Mgo Oligo Elements	Sulfate Mgo Oligo Fe/Mn	Oligo Fe/Mn	Oligo Elements Mgo	Oligo Elements Mgo	Oligo Elements Mgo	Oligo Elements Mgo	Oligo Elements Mgo
Mildiou			Cuivre S.D.P	Cuivre S.D.P	Cuivre Disodium Phosphonate	Cuivre Disodium Phosphonate	Cuivre Disodium Phosphonate	Cuivre Phosphonate K Huile essentielle Orange douce	Cuivre Phosphonate K	Cuivre Phosphonate K	Cuivre Phosphonate K	Cuivre	S.D.P	S.D.P
Oidium			Soufre Mouillable	Soufre Liquide	Soufre Liquide	Soufre Liquide	Soufre Liquide	Soufre Liquide	Soufre Liquide	Soufre Liquide	Soufre Mouillable			
Insecticide (fa)								Insecticide Obligatoire		Insecticide Obligatoire			Insecticide Obligatoire	
Vers de grappe		Confusion Sexuelle												
Anti botrytis									Bicarbonate K					

Integrated Pest Management Program (Martell)

Plant health & soil

Vineyard cover crop trial Martell

Beet grown on living soil (Pour une Agriculture du Vivant - France)

"Agave plants and nitrogen-fixing trees densely intercropped and cultivated together have the capacity to draw down massive amounts of CO2 from the atmosphere and produce more above ground and below ground biomass"
Regeneration International 11/28/2019

Plant health & soil

Conventional system

Conventional agriculture including tillage and short rotation and no covercrop may deplete 300kg of carbon each year.

Soil tillage increasing mineralisation and few carbon inputs decreasing carbon storage and renewal. This kind of agriculture is very low in terms of biological activity and ecological services. The reduction of soil organic matter content reduces the resilience of the parcel and its ability to store water, nutrients and its resistance to compaction. Practices therefore distrupt ecosystem services leading to a higher dependence on inputs.

Regenerative system

Agroecological agriculture which includes covercrop and soil coverage, lengthening crop rotation and direct seeding - may store +600kg of carbon each year.

The reduction of soil mineralization by reduced tillage (-30% mineralization average), and the carbon inputs increase by using cover crops explain these results. This agriculture develops biological soil diversity and activity by reducing major disruptors: energy shortage (carbon from plants) and mechanical disruptions. Soil life may increase by 300% and store carbon as well. Biodiversity and soil life produce ecosystem services, and the increase in SOM content ends in a plot which increase global soil fertility.

Water

Global warming is causing an increased frequency and severity of extreme weather events (droughts, high temperatures, etc.).

The design of a high-performance hydraulic system, which means maximizing water infiltration and soil holding capacity, is developed at the watershed level.

Specific practices can be implemented at the farm level in order to:

1. Minimize the water footprint and use only the necessary volumes
2. Restore water quality by setting up buffer zones

Water

Objectives	Examples of practices	Conv.	Low	Reg.
Minimize our water footprint	Know the precise water needs of the crops	x	x	x
	Record practices and data	x	x	x
	Use moisture-sensing technologies for irrigation (sensors, decision-making tools)		x	x
	Use equipment for precision irrigation (drip irrigation, underground irrigation, etc.)		x	x
	When the terroir permits, do without irrigation entirely (Cognac vineyards for example)			x
Restore the quality of natural sources of water supply	Restore and maintain all the water points around the production areas (around the plots / ditches / watercourses / ponds, etc.)			x
	Explore the opportunity of designing a hydraulic system at a terroir scale (collective equipment for capture, transfer, storage and irrigation)			x

Water

Maize underground drip irrigation

Drip Irrigation system

Tailor-made irrigation systems

Oasis crops in arid areas

Rice cultivation in a hydraulic agrarian system (landscape design) - Philippines

Human Rights & working conditions

The sustainability of our supply chains is largely based on the unique and key relationships we have with our suppliers.

Beyond disseminating and ensuring the application of the Pernod Ricard Supplier Standards, we wish to initiate ethical relationships with our suppliers, both in terms of working conditions and fair renumeration practices committed to the environment, health and Human Rights.

Read more in our Global Human Rights Policy

Human Rights & working conditions

Objectives	Examples of practices	Conv.	Low	Reg.
Human Rights	Respect of the Pernod Ricard Supplier Standards	Supplier Standards		
	No land grabbing from local communities	x	x	x
	Pay attention to the food security of local communities	x	x	x
Working conditions	Have employment contracts & specify the terms (not use unfair and insecure employment contracts)		x	x
	Guarantee living wage & equity (equal pay for equal work)		x	x
	Install transparency and social dialogue: communicate internal information with employees. Listen and address worker complaints in a transparent way		x	x
	Provide areas for resting and having meals and sanitary facilities		x	x
	Offer housing (when relevant for seasonal workers): housing should meet local rental requirements, with rent values at or below market value, and the conditions and infrastructure of the housing ensure a reasonable level of comfort			x

Human Rights & working conditions

Objectives	Examples of practices	Conv.	Low	Reg.
Purchase contracts & fair distribution of value	Know and evaluate your supply chains (tier 1, 2, x) up to the farmer (mandatory for the French law: Devoir de Vigilance)	x	x	x
	Build fair and equitable contracts: including fair and transparent negotiations, long-term commitments (minimum volumes and prices)		x	x
	Pay attention to the cost relating to the implementation of sustainable agricultural practices by remuneration mechanisms (bonus, guaranteed minimum price, etc.)		x	x
	Fair pricing: pricing between buyers and producers is mutually agreed by all through dialogue and participation by both to provide fair pay to producers. As often as possible, disengage from market prices to be as close as possible to the real production costs of the various links in the chain			x
	When possible, offer direct contracts to the farmers (or tri-partite with cooperatives) for full transparency			x
	Set up pre-financing funds			x

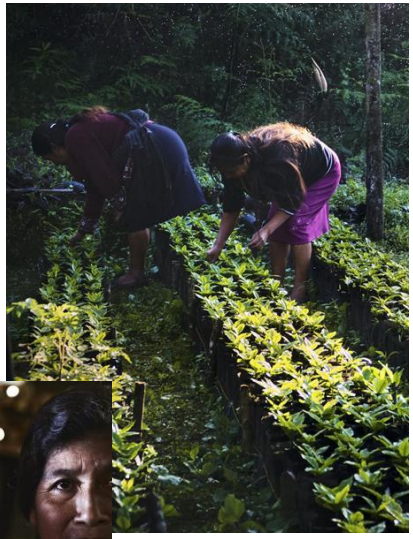
Human Rights & working conditions

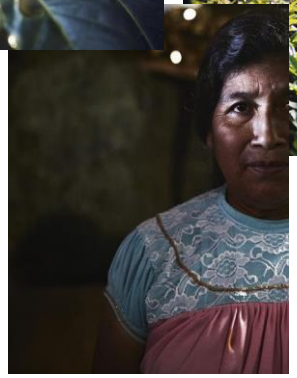
KAHLÚA

Coffee for Good

In Mexico, Kahlúa is working with the NGO Fondo Para La Paz and Ocotempa, a Mexican coffee community, to develop a sustainable model for coffee production. This "Coffee for Good" program comprises social, economic and environmental criteria.

By 2022, 100% of the coffee sourced by Kahlúa will be sustainably grown





05

Implementation Guidelines

Our S&R commitments

Our own production sites

Our supply chains

2030 Goals

Certification:
- 100% of key raw material sourced and certified according to selected sustainability standards*

Sustainable Agriculture Projects
- Engage in projects to address the most pressing sustainablity issues in 100% of key raw material terroirs
- 5000 farmers impacted & engaged

Regenerative Agriculture pilot programs
- 8 wine regions with experimentation pilots on regenerative viticulture

**verified when own internal standard is built*

Our agricultural journey

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Conventional

Business as usual

- Compliance with local regulations
- Focus on yield and product quality
- Potentially solve problems through chemical inputs

Low Impact

Improve the game

- Minimize negative footprint
- Solve problems with more sustainable alternatives
- Substitution of a conventional practice by a sustainable practice
- Dialogue with suppliers to help transition

Regenerative

Change the game

- Think globally and break business as usual mindset
- Regenerate ecosystems and maximize positive impacts
- Create value for communities
- New strategic goals, new understanding and development of farming systems

Three agricultural levels

Our journey towards sustainability (% of spent)

	2020	2025	2030
Conventional	80%	35%	**0%**
Low impact	20%	60%	**90%**
Regenerative	0%	5%	**10%**

Process & timeline for priority terroirs

Understand our footprint

Terroir mapping

To identify the most pressing issues (env. and social) on each of your priority terroirs

Integrate the Sustainable Agriculture Key Principles

Gap Analysis

To identify strengths and weaknesses and levers for action

Standards selection

Sustainable sourcing strategy

Implement certification programs and introduce standards in sourcing requirements

Lead the change

Project to engage the transition

Implement pilot program to address most pressing issues

Standard examples

For sustainable agriculture

FSA FARM SUSTAINABILITY ASSESSMENT BY SAI PLATFORM — FSA GOLD

BON SUCRO — The global sugarcane platform

NEW ZEALAND SUSTAINABLE WINEGROWING

ASSURED FOOD STANDARDS

SRP Sustainable Rice Platform

HAUTE VALEUR ENVIRONNEMENTALE

ROC Regenerative Organic Certified™

fair for life

Parnter examples

Move towards regenerative agriculture

Pour une AGRICULTURE du VIVANT

RODALE INSTITUTE

Savory
Savory Institute
HOLISTIC MANAGEMENT

IFOAM
INTERNATIONAL FEDERATION OF ORGANIC AGRICULTURE MOVEMENTS

REGENERATION INTERNATIONAL

Aranya
AGRICULTURAL ALTERNATIVES
Permaculture India - Forest Farming

India

Vía Orgánica

Agave - Mexico

SAN

SOIL CAPITAL

SUSTAINABLE HARVEST INTERNATIONAL

These are some potential resources with which the Group does not yet have contracts but which may be relevant on specific topics. Others also exist locally.

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