



# Social responsibility

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## Our contribution towards reducing the greenhouse effect

The increase of carbon dioxide and other greenhouse gases in the atmosphere is causing a relentless increase in the average temperatures of the planet. Nevertheless, agriculture can make a small but tangible contribution towards resolving this problem by planting new trees and maintaining forests. More than 50% of wood is formed from carbon and it represents an important pool of this element, which can help replenish the CO<sub>2</sub> content in the atmosphere.

For example, the Castello Banfi estate has a ratio of forest to cultivated land equal to 1.5:1, one of the highest among European wine estates. Our forests and scrub areas, which are a fundamental characteristic of the landscape, undergo constant clearing of fire lanes. Planting local species, which are particularly adapted to the environment upgrades these areas, as does the maintenance of small water basins to fight forest fires and provide drinking water for wildlife.

The most common type of forest is thicket (forteto): a mixture of arboreal and shrubby species in which the holm-oak (*Quercus Ilex*), turkey oak (*Quercus Cerris*), bay-oak (*Quercus Robur*), cork-oak (*Quercus Suber*), sessile-oak (*Quercus Pubescens*), stone-pine (*Pinus Pinea*), manna-ash (*Fraxinus Ornus*), cypress (*Cupressus Sempervirens*), black locust (*Robinia Pseudoacacia*), laurel (*Laurus Nobilis*), the mistletoe (*Viscum Album*), heather (*Erica Arborea*), rowan (*Sorbus Domestica*), elder (*Sambucus Nigra*), wild plum (*Prunus Spinosa*), medlar (*Mespilotus Germanica*), wild pear tree (*Pyrus Pyrastrer*), strawberry-tree (*Arbutus Unedo*), privet (*Ligustrum Vulgare*), wild olive-tree (*Olea Europea*), juniper (*Juniperus Communis*), large-pined juniper (*Juniperus Oxicedrus* var. *Macrocarpa*), butcher's broom (*Ruscus aculeatus*), pomegranate (*Punica Granatum*), mastic tree (*Pistacia Lentiscus*), false olive (*Phillyrea Angustifolia*), Christ's thorn (*Paliurus Spina Christi*), yew tree (*Taxus baccata*), cornel-tree (*Cornus Mas*), jujube tree (*Zizyphus Jujuba*), and rosemary (*Rosmarinus Officinalis*) are predominant. During the past 25 years, Castello Banfi has planted row upon row of new cypress trees, which, if lined up, would shade the 50-mile/80-kilometer route between Siena and Florence, and nearly 148 acres/60 hectares of new forests of mixed local species. It has also planted more than 25 acres/10 hectares of mycorrhizae fungus-innoculated *Quercus* spp. for the production of truffles and of *Quercus Suber* oak trees for the production of cork.

A final aspect, which underlines Banfi's concern for limiting the greenhouse effect, is exemplified by the noteworthy reduction of diesel fuel consumption, tied to the various farming operations and management of the wine cellars over the last 25 years.

## Maintaining biodiversity

Perfect integration with the natural environment is an aspect, which strikes anyone who visits the Castello Banfi estate. The typical Mediterranean bush and the natural, cultivated meadows (with alfalfa and clover) provide ample grazing for the rich and varied wild fauna.

The main wildlife to be found are wild boar (*Sus Scrofa*), roe deer (*Capreolus Capreolus*), porcupine (*Histrix Cristata*), badger (*Meles Meles*), fox (*Vulpes Vulpes*), nutria (*Myocastor Coypus*), wild cat (*Felis Silvestris*), bech- marten (*Martes* sp.), and weasel (*Mustela Nivalis*).



The species of wild fowl include hawk (*Falco Peregrinus*), hooded crow (*Corvus Cornix*), magpie (*Pica Pica*), jay (*Garrulus Glandarius*), woodpecker (*Sitta Europea* and *Dryocopus Martius*), blackbird (*Turdus Merula*), thrush (*Turdus Viscivorus*) and many others, including migratory species. While walking in the vineyards one frequently encounters wild hare (*Lepus Europaeus*) and pheasant (*Phasianus Colchicus*), which have been re-introduced. The wildlife has drinking water in correspondence with the collecting basins.

Cereals and fodder crops are grown according to organic principles and not harvested upon maturity, as they serve to sustain the wild fauna, in the context of their natural habitat. The wildlife management plans are carried out following the regulations of the Region. In particular, every effort is made to maintain the optimum quantity of wildlife in relation to the extension and characteristics of the natural environment, using selective culling plans, capture and forced transfer to other areas. In most cases, the presence of numerous species of wildlife requires defending the vegetation and planted crops, such as vertical mulching on vines, metal nets on the young cypresses, various types of dissuasion methods (acoustic, electric, etc.). In the area of Collupino, the estate is raising a small herd of little Amiata donkeys, a particular local breed characterized by a dark cross on their withers. Banfi has made an important contribution to flora conservation by maintaining collections of *Vitis Silvestris* and *Prunus Avium*.

## Erosion control

The entire province of Siena has always been considered at high risk for erosion because of the soil characteristics and the markedly seasonal pattern of the rains. For example, impressive erosion formations, the so-called “badlands,” characterize the landscape of the Castello Banfi estate that runs from the Casa Nuova offices toward the historic Castello di Poggio alle Mura. Castello Banfi is strongly committed to containing the erosive phenomena, which, if not properly controlled, could threaten the stability of the hilly part of the vineyard. Precisely for this reason, in its 25 years of existence, Banfi has constructed 94 miles/150 kilometers of water drainage ditches, 44 miles/70 kilometers of underground drainage systems, and 6 miles/10 kilometers of stone walls and containment embankments. Moreover, Castello Banfi regularly schedules vineyard turfing, especially on sloping hillsides or on more erosion prone areas (see Chapter on Turfing of Vineyards). Planting turf (sod made from a specific mix of grass and legume species) between the rows is carried out by specially designed seed drilling machines. In this case, the seed is drilled directly into the untilled ground.

Another tool for reducing erosion is mulching with cereal straw which, under certain conditions (Amorosa, Colombaio), has produced some interesting results, even pertaining to the containment of soil water loss.

## Water Conservation

Over the years, the need to optimize the usage of water necessary for emergency irrigation of the vineyards has caused the firm to shift from the traditional sprinkling irrigation to micro-irrigation, which currently is used on 50% of the area. This method uses almost 80% less water than the traditional sprinkling systems. By collecting rainwater in natural water reservoirs and carefully managing of water resources through micro-irrigation, Banfi keeps water drawing from the rivers Orcia and Ombrone to a minimum. They comprise its natural borders to the south and west.

The creation of artificial lakes has provided basins that can hold a total of 130 million gallons/500.000 cubic meters.



## Low input and organic farming

In the last 8 years, Castello Banfi has participated in programs of low input cultivation, promoted by the Region of Tuscany, based on European Union regulations. This means that both the fertilizing and agrochemical treatments employed throughout the vineyards are carefully monitored, with a considerable reduction of the quantities applied. The active ingredients used are exclusively those allowed by the Regional Control Board and they are characterized by low persistence and toxicity and thus are not harsh on the environment. Within this framework, Banfi has developed an intense scouting activity of plant diseases, pests and weeds, with the greatest impetus towards the so-called “guided treatments” based on treating thresholds. In this way, the chemical “load” on the vineyards is truly modest. Moreover, a portion of the Castello Banfi estate’s surface area, corresponding to about half of that dedicated to grapevines, is being cultivated following organic methods for durum wheat and fodder crops for a better relationship with the environment.

## Traceability

Castello Banfi is one of the few major producers that directly control the chain of production: from planting the vine to shipping the bottled wine. This allows complete control of the production process at an agricultural level as well as in the wine cellar with indisputable benefits in terms of production traceability. This information is available for each bottle: grape origin, the management system of the vineyard, the vine maturing conditions that were peculiar to a specific vintage. A careful analysis of the production characteristics makes it possible, through a “backward chaining process”, to identify and examine the causes and conditions that yielded a given technical result. By doing this, it is possible to progressively remove potential obstacles towards obtaining a product with better quality and purity. Annually, during the various production phases and on the finished product, over a thousand physical-chemicals, microbiological and multi-residual analyses are performed to maximize quality control from vine to bottle.

## Safeguarding human resources

The Castello Banfi estate is a fine place to live and work. Banfi rewards all workers with 20 years of service and has a widely approved incentive system. For each worker, a standard, above-standard and below-standard performance evaluation is defined, and it is re-defined every 4 months. The evaluation is based on reliability, efficiency, capability, and consistency, as well as the care of equipment and materials. Moreover self-evaluation procedures of employees and managers, as well as cross-evaluations, are carried out routinely. Through formal and informal courses, the number of work-related accidents has been noticeably reduced. This is due to the use of tools and equipment that comply with the norms and the preparation of systems and codification of procedures for the different operations (e.g., wire-pulling, management of the stakes, etc.).

## Certification for Castello Banfi: “From Vineyard to Bottle”

Certification is a fundamental process to fully evaluate the research and development carried forward by the estate. In this way the results are verified, communicated and shared both internally and with the



greater community, creating a solid base upon which to continue and develop future work. The Castello Banfi vineyard estate has since 2001 been certified for following the norms of ISO 9001 (system of quality) and ISO 14001 (environmental). The first examines and guarantees the satisfaction and loyalty of consumers, verifying the efficiency and the effectiveness of client relations. The second, on the other hand, regulates the correct rapport between the producer and its territory, preserving the environment and avoiding waste. Finally, in December 2005 the SA 8000 system of social responsibility was implemented, adding a certification for ethics. Banfi is one of the few companies in the world with this standard, and the first winery in the world to guarantee everything along the path of production, from the vineyard to the winery. The ethical and social commitment of Castello Banfi was attested to by Det Norske Veritas (DNV), among the most important international certification agencies and one of the few in the world accredited for SA 8000. This agency has verified – after analyzing all documentation, visiting production sites and interviewing workers in groups and as individuals – all the aspects relevant to the safety and health of employees, as well as respect for their rights. This is but one example of the focus of Banfi's approach to human strategies and proves the estate's willingness to engage in appropriate and open communication with employees and local institutions. One of the principal points of SA 8000 reflects a favoring open dialogue and good relations with unions, with whom Banfi has always enjoyed utmost collaboration. With the certification process, and more generally with its general approach, Banfi participates actively in affirming the idea that not only individuals, but the business itself, collectively, must support ethical values as part of the definition of its responsible behavior.



## OTHER ACTIVITIES ON THE ESTATE

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Grapevines, specialized farming and natural environment blend perfectly on the Castello Banfi estate, resulting in a fascinating mixture of technology and nature, governed by the homo agronomicus. Throughout the years, besides the grapevine, which is the primary crop, the estate has developed other agricultural activities, aimed at improving the landscape with diverse agronomic characteristics and potential. Here, in detail, are the major crops and surfaces. Among tree crops, the European plum, which produces California-type prunes, enjoys very good ripening and developing conditions. To maintain the lowest possible chemical levels, all the planted surfaces are micro-irrigated and fertigated, thus satisfying even the most rigorous criteria of the “fresh products for baby food” niche. In fact, pests and plant diseases are kept under control only when the danger levels of the parasites are exceeded, while the situation is constantly monitored with the aid of pheromone-based traps and scouting of crop areas. Where possible, physical methods of pest and parasite control are preferred. For example, glue is used to control attacks of wood-eating insects. It is applied to the collar of the plants and works as a sticky trap for the grubs. The technique of sexual confusion is used against many plant-eaters. The prune tree crop is mostly located in 2 areas: Casine delle Rose, marked by gravelly terrain, near the river Orcia, and Centro Frutta-Ricciarde, with its cooler and more fertile soil. Both are micro-irrigated and fertigated to minimize water consumption and fertilizer input. The management of this crop requires a high level of technical skill especially regarding: pruning, water reintegration and nutrition. Over time, thanks to soil/ plant analysis and control, yields have stabilized to medium-high levels, even though some years were negatively impacted by spring frosts. Most of the prune production, after mechanical harvest, is dried at the farm's Fruit Center, in the four ovens, which have a capacity of 50 tons per day. After that, the dried fruit is sent to Modena to a cooperative center where it is sorted, calibrated and packaged.

The cherry-tree is the farm's other important tree fruit crop. Its area is bound to increase considering the positive market results. Banfi has an important collection of European and North American varieties, on more or less dwarf rootstocks, with different training systems and ripening-times that span over 40 days. The harvest is mostly manual, with the exception of the quota destined for processing. The principal characteristics of the Banfi cherry are its size, color, aroma and lasting shelf life. These qualities are tied to the favorable ecological ripening conditions, the right varietal choices and careful plant nutrition.

The olive-tree is ever present in Banfi's scenery, even though, over the years, the total area dedicated to this crop has been reduced. A small number of ancient trees were recently restored, thanks to the work of artisans who are experts in the art of disinfecting and consolidating old wood. Even the more recent plantings have contributed greatly and begun to be ecologically important. In fact, during recent years the area managed as a single central trunk has been reduced in favor of the “vaso pesciatino,” a traditional Tuscan training system associated with the vine. The produce, which is highly distinguished by the ecological characteristics of its environment and manual plant harvesting, is sent on a daily basis to a renowned mill of the area that immediately crushes the olives using the cold press method. This takes place in a controlled atmosphere in order to keep the initial acid content of the oil very low. The estate sells this oil exclusively in its own shops. A separate chapter could be dedicated to the woods of oak (*Quercus* spp. Mycorrhizated), which were planted starting from 1984. This production, which is harvested between October and December, varies according to the summer climate. Nonetheless, in recent years, production has generally increased both in quantity and in quality.