Planet

Our commitment to the lowest possible environmental impact is put into practice on several fronts: from technology as an ally to reduce the consumption of inputs and the generation of waste to the preservation of habitats, also contemplating the strategic objective of reducing our GHG emissions

WATER AND EFFLUENTS

Production of grains and fibers with environmental responsibility guides the way we conduct our operation, and we always seek to become more efficient in the use of our own lands and leased lands. The rational use and preservation of natural resources, particularly water, guides continuous research in optimized cultivation and plantation management techniques. Currently, approximately 99% of our planted areas don't require mechanical irrigation – technique known as dryland farming. Plantations from the remaining 1% already count on infrastructure for irrigation and adopt the Sistema Irriga technology. In it, irrigation parameters are defined based on analyses of soil humidity at different depths, water demands of each culture at each phase of cultivation and rain forecast for the regions.

In the farms, we catch water from rivers chiefly to irrigate cultures in Central Pivot system and from artesian wells to maintain activities at the operational seat and in field, such as washing of machines and equipment. Human supply is made only by underground catchments. We monthly monitor the amount consumed with water meters installed in the wells.

99%
of planted area
as dryland farming (without irrigation)

GRI 103-1 | 103-2 | 103-3

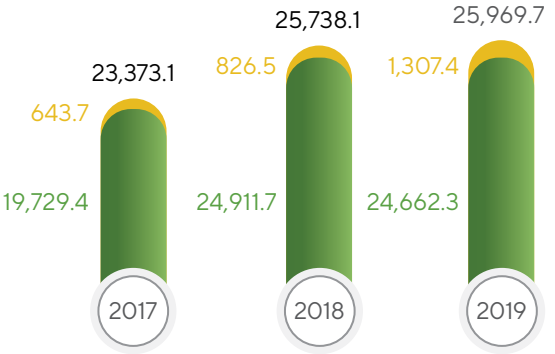
In 2019, the total amount of water caught was 26 million cubic meters, considering all agricultural units. This volume is aligned with that of the previous year, but there was increase in underground catchment due to the increase in the number of artesian wells authorized in the units.

According to the possibilities and opportunities of each locality, we seek to establish plans to reduce catchment supported by action plans and efficiency increase projects. One of the fronts we work is water reuse, made possible in some farms with Effluent Treatment Plants (ETPs). There, operations' effluents are treated and destined to an accumulation pond until they reach conditions for reuse.

We installed, in 2019, one ETP in Panorama farm, which increased reused volume by 23.4% in the year. In total, it represented 138.7 thousand cubic meters of water for reuse, corresponding to 0.53% of the total caught in the period.

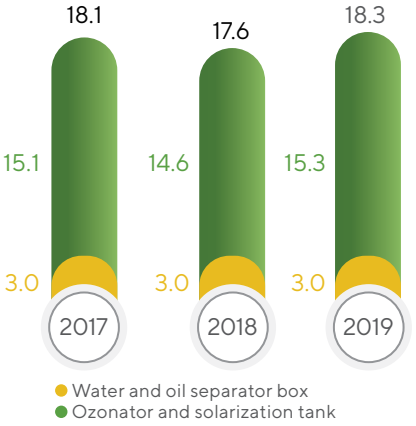
In addition to domestic sewage generation, in units where industrial effluent generation also occurs, we adopted other two treatment methods. The first is the use of oil and water splitter boxes, with destination by infiltration in the soil after treatment. The second involves treatment with ozone and evaporation in solarization tanks. With these methodologies, we treated 18 thousand cubic meters of effluents in 2019, volume 4% higher than that of the previous year.

Water catchment per source (thousand m³)*



Historical data represented.

Disposal of effluents per method (thousand m³)*



* Historical data represented.

WASTE

Destining wastes generated in our operations to recycling or treatment is the best solution to improve environmental performance in our units. For that reason, we prioritize this methodology both for common materials (paper, plastic, glass, metal, etc.) and for those that fit in hazardous category, like lubricants and contaminated materials. Our facilities are equipped with oil collection systems. The oil is destined to companies that re-refine it. Thus, the fluid returns to its original characteristics and can go back to the production chain.

In 2019, we discarded 2.2 thousand tons of wastes, and 85.9% of this total is classified as non hazardous. With regard to destination methods, recycling responded for over 70% of the volume discarded, aligned with the previous year.

Waste disposal per method (t)	2019	2018	2017
Non hazardous			
Recycling	1,333.26	1,060.87	479.43
Landfill	528.30	528.30	565.00
TOTAL	**1,861.56**	**1,589.17**	**1,044.43**
Hazardous			
Recycling	194.04	544.72	412.05
Incineration	110.50	156.28	218.79
TOTAL	**304.54**	**701.00**	**630.84**

Non-recyclable wastes (scraps) produced are disposed of in landfills located in the units. Those framed as hazardous are forwarded to incineration or co-processing. Waste transportation is always made by companies authorized to this type of operation. These partners are considered critical in the processes of suppliers' approval for environmental, health, safety and social responsibility aspects, and so they undergo periodic documental assessment of their compliance.

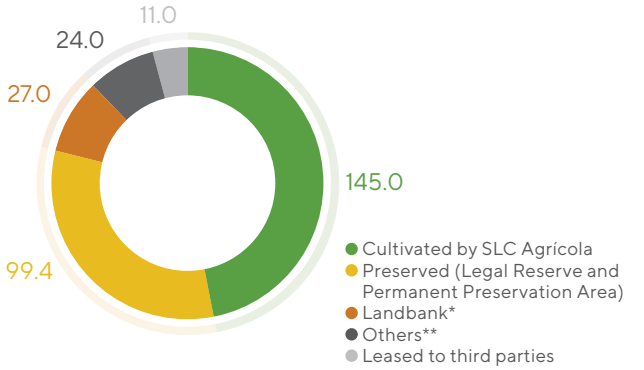
Message
Who we are
Strategy
Innovation management
People
Planet
Prosperity
Annexes

BIODIVERSITY

In our areas, which comprise the 16 farms we operate and also the Paineira farm (leased to a third party) we count on 99.4 thousand hectares of preserved areas that include vegetation typical of the local biomes and water stream springs, in addition to animal species. Destined as Legal Reserves and Permanent Preservation Areas (PPA), as determined by Brazilian environmental legislation, these areas correspond to 32.6% of our entire area.

Legal reserves and PPAs are also, in some cases, are adjacent to conservation units or close to parks, environmental reserves and indigenous areas. In all localities, we permanently monitor farms' geographic borders and apply with discipline operational procedures – like the construction of firebreaks and signs for plantations limits – in order to avoid any type of negative impact to the environment.

Use of own land in 2018/2019 crop (thousand hectares)



**Arable areas waiting for licenses or in process of soil correction.*
***Seats, roads and other areas not used for cultivation.*

GRI 103-1 | 103-2 | 103-3 | 304-3

Actions for biodiversity protection

Our company supports and participates in projects turned to fauna and flora protection in regions where our farms are located. Two initiatives were outstanding in 2019 – Cabeceiras do Pantanal (Pantanal Headwaters) and Cerrado Biodiversity Conservation project.

The Pantanal Headwaters' Defense Pact is intended to protect water course springs that start in Cerrado and cover long distances to irrigate the Pantanal plain and keep ecological processes in one of the regions with largest diversity of species in the planet. Around 4.7 thousand species of plants, birds, fish, mammals, reptiles and amphibians were already registered in the biome.

Our company became signatory of the Pact in 2018 and, since then, our teams have contributed to the other entities that participate in the initiative with exchange of experiences such as environmental education, recovery of degraded areas and PPAs.

Cerrado Biodiversity Conservation program is promoted in partnership with Rio Grande do Sul Federal University (UFRGS) at Planalto farm. The objective is to promote academic research in the ambit of doctorate programs, in the areas of legal reserve and PPA of the production units near Parque Nacional das Emas and Parque das Nascentes do Rio Taquari.

The study focuses on assessing the impact of agricultural activities as drivers of the quality of support to the remaining of native vegetation in Cerrado, a biome that hosts 5% of the entire world biodiversity and springs of important national hydrographic basins. The project, started in 2019, is expected to be developed for four years. We seek, based on this study's results, to develop other internal projects and programs aimed at reducing possible impacts within these areas.

GRI 103-1 | 103-2 | 103-3

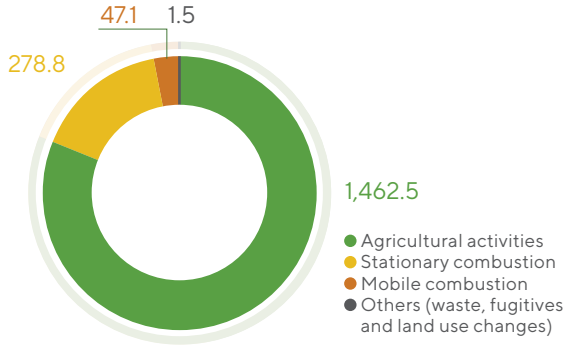
CLIMATE CHANGE

We annually prepare, since 2017, our inventory of greenhouse gases (GHG) according to methodology by the Brazilian GHG Protocol Program. These surveys comprise direct emissions of our operations, accounted as Scope 1, and those resulting from electricity consumption, classified as indirect and registered as Scope 2. The inventory referring to the 2019 activities is in progress and will be published in the **Registro Público de Emissões (Emissions' Public Registry)** in the first half of the year.

For 2020, we are developing a methodology in partnership with Santa Maria Federal University (UFSM) that uses Daycent biogeochemical model. This improvement will provide higher precision in the verification of agricultural emissions, particularly those from soil management, which today respond for over 80% of our activities' direct emissions. That because the GHG Protocol methodology does not distinguish emissions from climate conditions and soil in each farm – and the approach under study with UFSM will provide this distinction. With that, we will have an even more precise view of each unit, contributing to define plans to reduce carbon impacts.

Mitigating our contribution to climate change is also one of the goals defined by the company. We intend to implement, as of 2020, a decennial reduction plan in order to reduce in up to 25% GHG emissions by 2030.

Scope 1 emissions per category in 2018 (thousand tCO_2e)



Inventory of greenhouse gas emissions (thousand tCO_2e)	2018	2017
Scope 1 (gross emissions)	1,790.0	1,499.0
Scope 2 (indirect emissions)	3.9	4.2

GRI 103-1 | 103-2 | 103-3 | 201-2 | 305-1 | 305-2

In the last inventory published, referring to operations throughout 2018, we emitted 1.8 million tCO_2e with our operations, 19.4% rise against the previous year, chiefly cause by the higher volume of emissions from fuel consumption in fixed equipment and increase in cotton culture area, which responds for more use of nitrogen fertilizers. Nevertheless, we reduced by 19.5% the impact caused by fuel consumption in the fleet and agriculture machinery mainly be using technologies and innovations that optimized these vehicles' management.

Agricultural emissions are the most relevant in the company due to soil use and application of fertilizers. On the other hand, improvement in soil conditions is also vital to increase carbon sequestration and, due to that, we have developed a series of initiatives in this field (see diagram). Another system that has been quickly disseminated is the combined use of corn and brachiaria. By means of research we are developing a system where cotton can be combined to some species of coverage, which will make more sustainable the succession between soy and cotton in Mato Grosso Cerrado.

Initiatives that contribute to carbon sequestration in soil