

# Agraz Sustainability Report **2014**



## INTRODUCTION BY AGRAZ SUSTAINABILITY MANAGER

Dear Business partners:

Welcome to our 5<sup>th</sup> Sustainability report.

In spite of September and October rains, 2014 has been a good tomato agricultural year.

Our group keeps on working in the reduction of different inputs related to the tomato cultivation, which target to do more with less, being totally different from the organic system, has been reached:

- Water: is not a problem currently in Spain, more sensible in this matter but we need to keep on working to reduce the usage. our farmers are more and more sensitive in this issue and those equipped with soil moisture probes are requesting information continuously.
- We have reduced the consumption of fertilizers in crop 2014 but there is still room to improve. We see in our area of work more sensitivity and our team attended two seminars, where the control of N usage was the main point of interest. Besides the software purchased by Agraz, other softwares are entering the circuit, being one of them supported by the government.
- Better yields in the fresh tomato fields have allowed the reduction on CO<sub>2</sub> emissions in the factory per tn of fresh products processed. This confirms the efficiency of the pre evaporator and the measures taken to improve the insulation of the steam circuit.

- Biodiversity projects with SEO Birdlife and two of our main farmers are moving forward and we hope we will have good results in year 2015 after several years of hard work.

In our commitment with the sustainability we are doing an extensive trial on the fields “positive” insects, that are helping controlling some insects plagues. If we succeed this new system will help in the reduction of the usage of insecticides.

Our customers are more and more interested in the concept of sustainability applied to the tomato cultivation, in this last year we have been approached by several of them including some from the far East area.

In crop 2014 we went through the evaluation of one of our main farmers in China with positive results regarding the collected information. For crop 2015 we are planning to increase the list of farmers to be audited in China on the way to reach the target of having 100% of them sustainable as per the SAC.

The future of our business is strictly related to the development of the sustainability, we want to keep our business working and leave the next generations a better environment as well, by reaching the different reductions we are working on.

Our team is fully committed with sustainability and we encourage you to join us!

**Victor Rubio, Sustainability Manager**

# CO<sub>2</sub> EMISSIONS

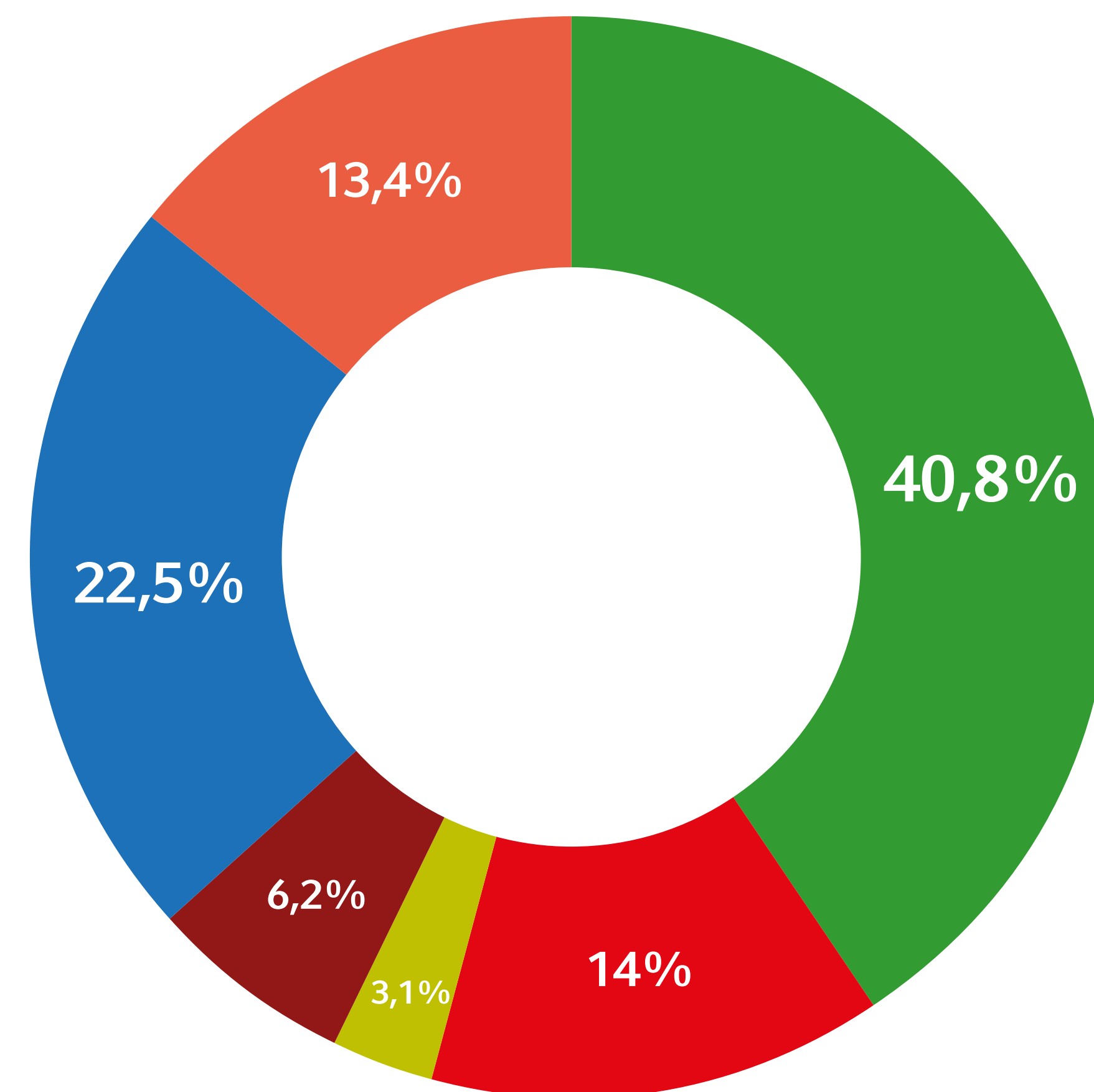
Cool Farm Tool has been modified on year 2014, the influence of the different activities have been readjusted. Usage of N has decreased compared to previous crop.



## ACTIVITIES RESPONSIBLE OF THE EMISSION OF CO<sub>2</sub> GENERATED TO PRODUCE 1 TN OF TOMATO PASTE 28-30:

- Emission CO<sub>2</sub> due to fertilizers production/Tn
- Fertiliser induced field emissions N<sub>2</sub>O/Tn
- Emission CO<sub>2</sub> due to Pesticides production/Tn
- Crop Residue Management/Tn
- Emission CO<sub>2</sub> per operations in the fields (Harvesting, land preparation, herbicides )/ Tn
- Total Off Farm Transport/Tn

- EMISSION CO<sub>2</sub> DUE TO FERTILIZERS PRODUCTION/TN
- FERTILISER INDUCED FIELD EMISSIONS N<sub>2</sub>O/TN
- EMISSION CO<sub>2</sub> DUE TO PESTICIDES PRODUCTION/TN
- CROP RESIDUE MANAGEMENT/TN
- EMISSION CO<sub>2</sub> PER OPERATIONS IN THE FIELDS (HARVESTING, LAND PREPARATION, HERBICIDES )/ TN
- TOTAL OFF FARM TRANSPORT/TN



# IMPROVEMENTS ON DRUMS USAGE

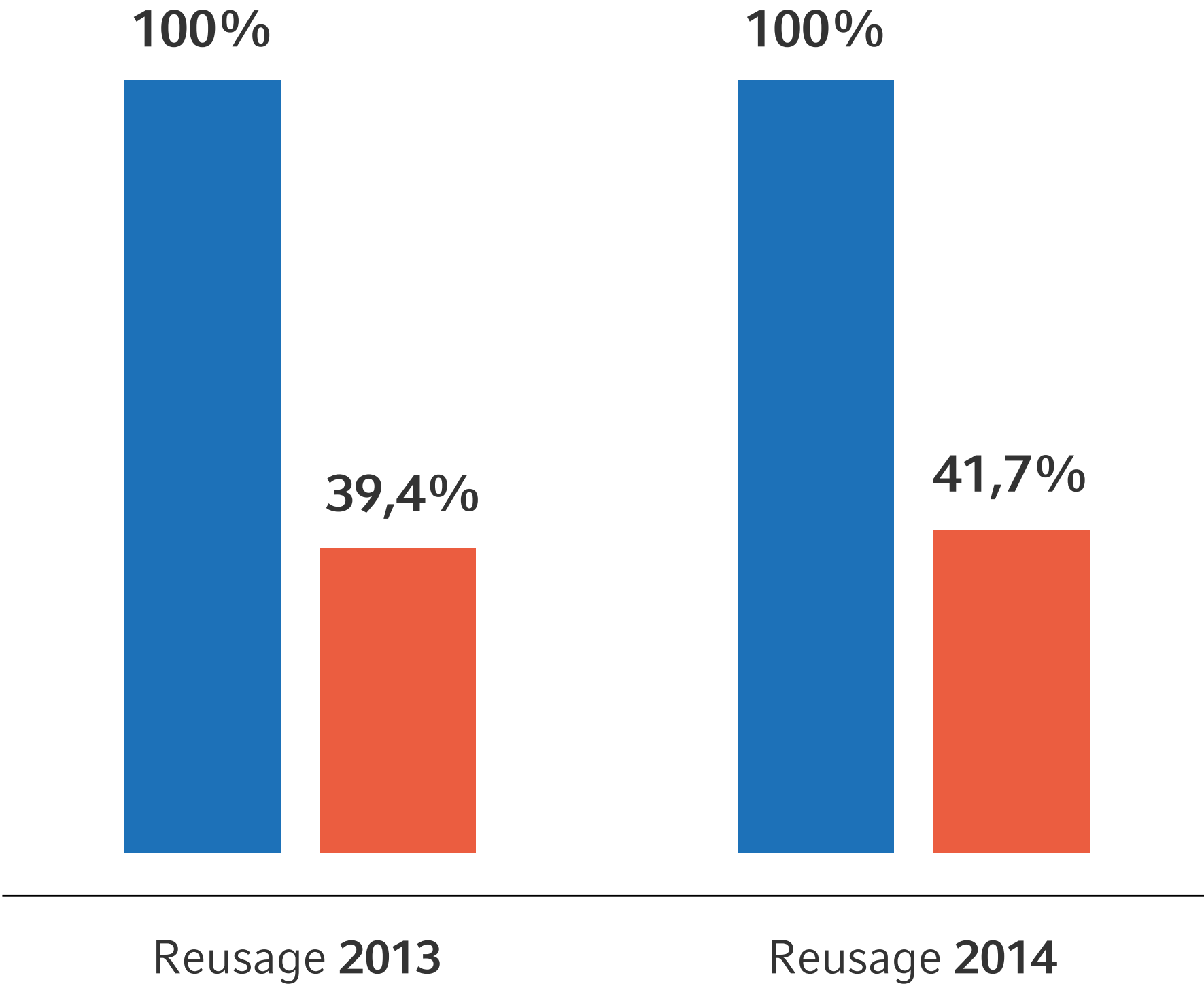
Agraz is reusing 100% of the drums, maintaining its commitment to the environment. Our policies have got sustainable reuse by costumers increasing up to more than 10% last year. We will continue working towards higher figures over the coming years.

In **Agusa**, 100% of the packaging is sent back to the tomato paste supplier.

In accordance with the costumers, **Xianfeng** and **Huzie** are reusing the drums when speaking about China sales.



■ AGRAZ  
■ COSTUMERS



# CARBON FOOTPRINT

Fighting against the climate change, is one of the first level strategic aims of The European Union. The Agraz Group commitment in the development of a lower carbon economy, is found perfectly side with their obligations to the sustainability development growth and the encouragement of an inexpensive and innovative model, which generates environmental, financial and social benefits.

The Agraz Group, already has at their disposal, a quality certificate and a environmental management system, in which you can findthe objectives of the energy consumption and natural resources reduction. In accordance to these commitments, the Agraz Group has internally developed procedures that allows them to know their coal footprints and monitor the CO<sub>2</sub> emissions as well.



The carbon footprint, is the measure of a particular organisation or person to the effects of the climate change. It refers to the amount of Greenhouse Gasses (GG) released by our daily activity, principally stemming from the use of fossil fuels in the

generation of electricity, heat and transport. Therefore the coal footprint is the measure of all GG we produce and it is calculate it in tons (or kilograms) equivalent to the CO<sub>2</sub> emissions.

The Greenhouse Gasses (GG) emissions report, wants to make public our carbon footprint. The Agraz Group expects to continue digging deeply in the incorporation of the commitments related to the reduction of emissions and the energy efficiency improvement.

| EMISSION SOURCES         |  | 2014               |
|--------------------------|--|--------------------|
| <b>Electric energy</b>   |  | <b>17.239.083</b>  |
| Agroex                   |  | 1.905.110          |
| Agraz                    |  | 10.753.327         |
| Agusa                    |  | 4.580.646          |
| <b>Natural gas</b>       |  | <b>110.273.555</b> |
| Agroex                   |  | 17.170.860         |
| Agraz                    |  | 92.012.862         |
| Agusa                    |  | 1.089.833          |
| <b>Diesel oil (ltr.)</b> |  | <b>45.013</b>      |
| Agroex                   |  | 4.658              |
| Agraz                    |  | 40.355             |
| <b>Propane (ltr.)</b>    |  | <b>14.612</b>      |
| Agraz                    |  | 9.493              |
| Agusa                    |  | 5.119              |



The carbon footprint estimation, is based on the GG emissions' calculation through an application of some Emission Factors, which shows the amount of emissions that the different sources generate:

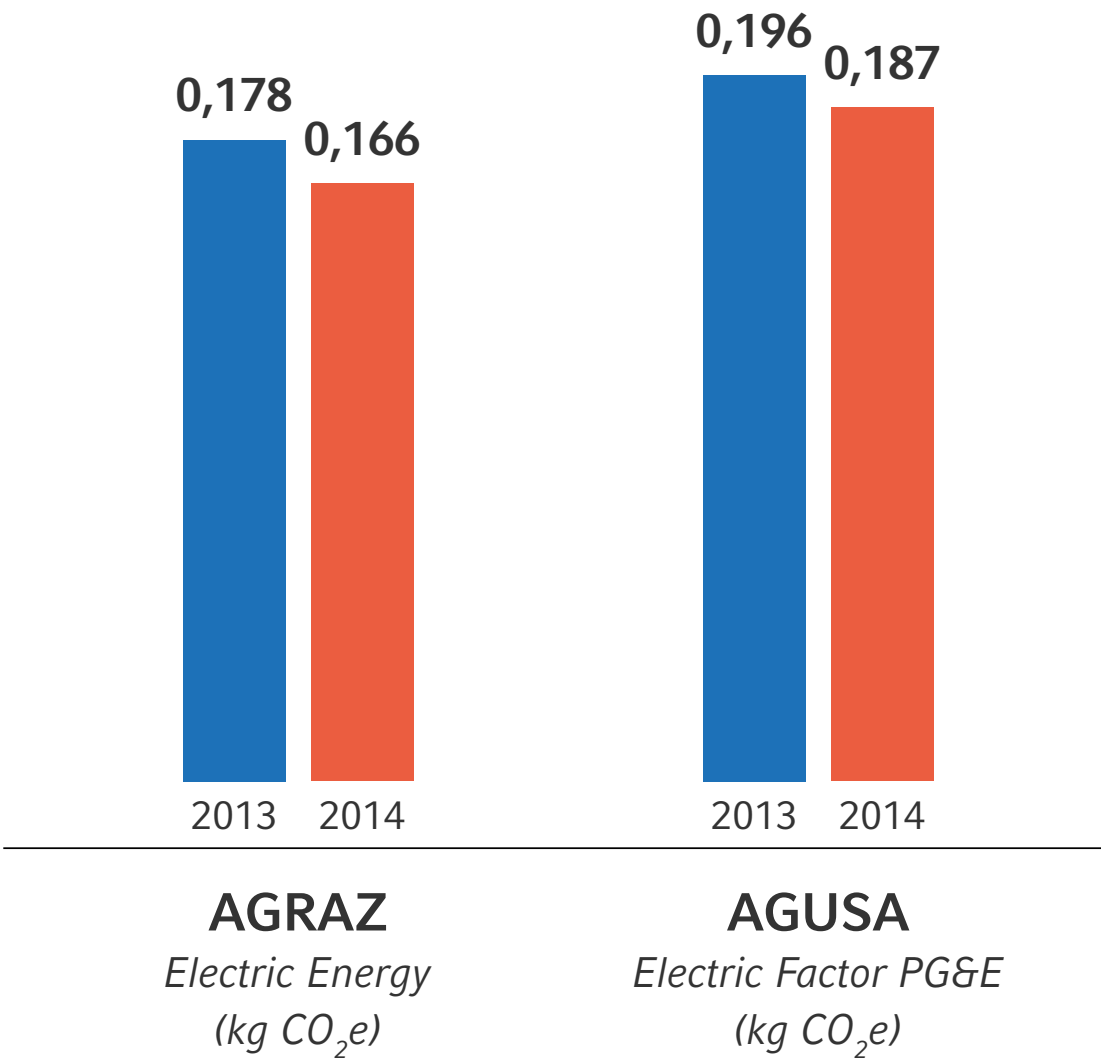
$$E = UC \times FE$$

- E:** CO2 emissions in CO<sub>2</sub>e kg (kg CO<sub>2</sub>e).
- UC:** Consumpiton Units (weight, volume, energy... units).
- FE:** Emissison Factors expressed in kg CO<sub>2</sub>e/unit.

Emission factors

These are the sources of emission factors that the Agraz group has used for the coal footprint estimation:

- For the combustibles in the Agraz Group Spain, the sources used, have been the same as the ones the Ministry of Environment are using for the execution of the Greenhouse Gasses National Inventory.
- Emissions derivated from the consumption of electrical energy. The emission factors used in Spain, correspond to the Spanish Observatory of Electricity, WWF
- For the California facility, values from the U.S. Energy Department, Energy Information Administration for electricity and gas were used, until 2012. For the 2013-2014 electric consumption, datum obtained from PG&E was used.



GRUPO AGRAZ Emissions (t CO<sub>2</sub>):

| EMISSION SOURCES |  | 2014     |
|------------------|--|----------|
| Electric energy  |  | 2.957,9  |
| Agroex           |  | 316,2    |
| Agraz            |  | 1.785,0  |
| Agusa            |  | 856,6    |
| Natural Gas      |  | 27.794,1 |
| Agroex           |  | 3.461,6  |
| Agraz            |  | 18.549,8 |
| Agusa            |  | 5.782,7  |
| Diesel oil       |  | 125,4    |
| Agroex           |  | 13,0     |
| Agraz            |  | 112,4    |
| Propane          |  | 22,3     |
| Agraz            |  | 14,5     |
| Agusa            |  | 7,8      |
| TOTAL EMISSIONS  |  | 30.900   |

The main CO<sub>2</sub> emission from the Agraz Group is the combustion of Natural gas.



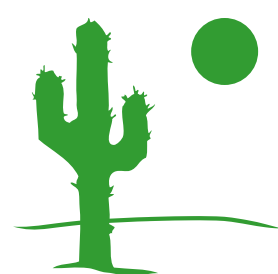
# 11 FOCUS POINTS



## SOIL AND HEALTH FERTILITY

Soil rotation is basic to maintain **healthy soil and the fertility** of it without using extra amounts of fertilizers and pesticides.

In crop 2014 we have **increased by 18%** the farmers who are minimum rotating every two years. Agraz will go on informing the farmers of the benefits of the crop rotation.



## SOIL LOSS

Soil erosion caused by wind, water and humans is the focus of this matter. Agraz is asking the farmers **to take special care during the tiling and harvesting process**.

Agraz is repeating its association with some farmers in 2015 to cultivate tomato.

Unfortunately the weather conditions (rains in September - October ) did not allowed us to make the cover crop trial last year. After crop 2015 we will do this trial, checking the fields prior the seeding and after it.



## NUTRIENTS

Analysis of soils prior to crop 2015 have already been done after taking the representative samples.

Agraz has renewed the license of a program which helps giving a **fertilization advise** linked to the results of the analysis. Agraz is also insisting the farmers to pay special attention

on the right time of fertilisation. We will keep on doing **analysis in a group of farmers on N and K** at the level of the plant to evaluate the efficiency of fertilization in those 2 important compounds.

In 2015, Agraz has attended two technical conferences in which the main subject was the control of N and the usage of the right amount of this compound. A Spanish company is developing a Software which will take into consideration the soil analysis result to provide a fertilization advise. We will compare the results of both softwares. The movements showed that the interest in this matter is increasing.



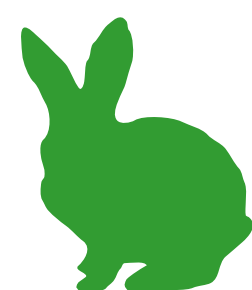
## PEST MANAGEMENT

**Pheromones traps** are being installed to help farmers in the integration of pest control.

In crop 2015 with the support of the Knorr Fund partnership, a group of farmers will do a large trial of usage of "*positive insects*" to control some of the tomato plagues.

In crop 2015 the cooperation with Dupont will be followed. Emails will be sent to inform the farmers of the tendencies which can be obtained from the inspection of the pheromone traps.

**DUPONT is going to install a new pheromone trap model that would be read automatically.**



## BIODIVERSITY

Agraz insists and reminds the farmers the importance of this matter and at the same time gives them some advises on the easy ways to

increase the biodiversity in their controlled area.

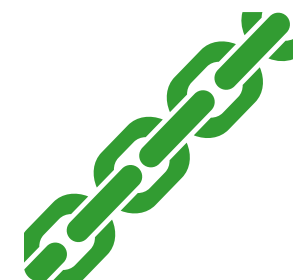
The **SeoBird Life's** project is moving forward, new refuges for insects have been created and some of the nest boxes have been moved to other places to avoid problems like the ones faced last year with the heavy winds. Inventory has been done showing a good occupation in the nest boxes for the insectivorous species.



**TO WATCH DE FUL CLIP, PLEASE VISIT:**

<https://youtu.be/lBdoliwNDqA>

Two **cernicalo primilla** (*Falco naumanni*) were liberated in one of the areas of the project last July (La Piñuela). In one of the recent visits to the fields we have seen one Cernicalo Primilla in the area but we need to confirm if it is one of the previously mentioned which has come back after migration.



### VALUE CHAIN

In spite of the rains in September and October, **2014 crop yield, has been very good.** This represents good news for the farmers and industries that are processing this fresh tomato. Agraz will continue the communication with the farmers on sustainability matters updating them with the newest available information. The **new PAC** is starting in 2015. 50% of the value of the base payment will be linked to the activities that will benefit the environment and help minimising the weather changes as well. This is going to be a good support for the development of the sustainability program. Also our farmers will be better prepared to face this challenge.



### ENERGY

We have received information about the usage of **solar panels** that provide energy to the pumps used for the irrigation. No trials will be finally done in this year but we will maintain this target for 2016.



### WATER

**Water consumption by our farmers in average has gone down in crop 2014,** we will keep on working in this direction providing information to the farmers from our soil moisture probes and tensiometers.

Measurements of water footprint have been made in several ways. In the farms we found that the blue water footprint is in average **47.84**



### SOCIAL AND HUMAN CAPITAL

Without Farmers our business will not be possible. Farmer who have been working with us in the last crops are very well prepared to adapt their businesses to the new PAC.

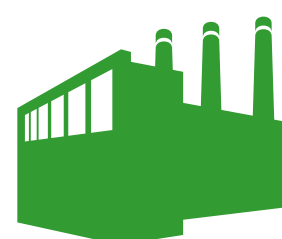


### LOCAL ECONOMY

Crop 2014 has been good for most of the farmers.

Tomato hasn't shown ups nor downs in its price and this makes easier the possibility of developing a long term relationship with the industry helping both partners as well as the final user of our product.

**For 2015 the surface will be again important far away from the low levels of crop 2013.**



### INSIDE FACTORIES

Agraz has prepared a production plan for 2015 with production lines working individually to **optimize the productivity avoiding changes in quality.**

We continue training the people of the factories to increase their concern about waste, water and energy consumption.

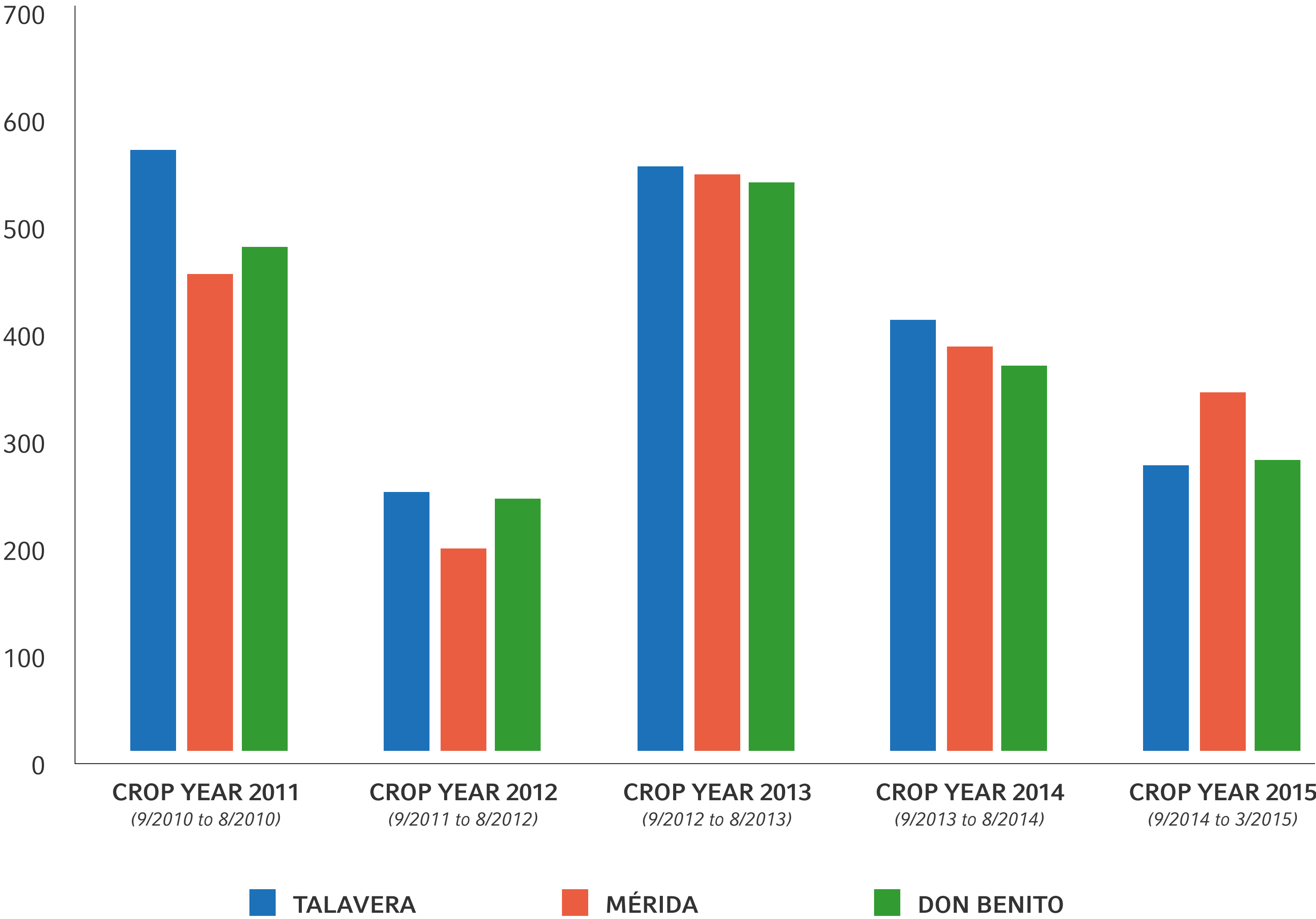


# RAINFALL

For the crop year 2015 rain started in September affecting the results of crop 2014 and almost **77%** of the rain has happened in this period.

March has been a dry month, April is being a stormy-rainy month and these weather conditions are affecting the **transplanting operation** in some areas.

We have been able to **reduce water usage by 4,76%** compared to last year.



# NESIDIOCORIS

## Trial of Usage of Nesidiocoris tenuis to control insects in a tomato field during Crop 2014.

The trial was done by one of our main and most committed farmer in the sustainability program. Plant was grown in Almeria to ensure a good Development of *Nesidiocoris tenuis* for the transplanting time.

The liberation of the *Nesidiocoris* was done in a nursery on April 14<sup>th</sup> and transplanting on April 21<sup>st</sup>. Almeria has higher temperatures than Badajoz. In crop 2015 the liberation will be done in nurseries in Badajoz area to have a more accurate cost.

- Surface planted was **6 has with 33.000 plants / ha.**
- Variety used: **Heinz 1015.**
- Only one treatment of **Clorantraniliprol** was applied against 5 treatments of different insecticides in other fields of the same grower.
- Visiting the fields, **we were able to detect more insects than in other fields treated in a normal way** this might help protect the tomato and the pollination too.



Presence of Nesidiocoris in the cultivation



With the Support of **Knorr Fund Partnership** the plan is as follow:

- Has 145
- Growers: A            75 Has  
                                 B            42 has  
                                 Others 28 Has
- Liberation of *Nesidiocoris* in nurseries from week 12 to week 14.
- Transplanting from week 15 to 17.
- Special follow up of the fields to detect the presence of *Nesidiocoris*.
- Sampling of fresh tomatoes to confirm residue 0 in insecticides.

Presence of complementary insects



Presence of Spider in the tomato cultivation



# SUSTAINABILITY DEVELOPMENT IN CHINA

From 2014 **Xiangfeng** (FUKANG XIANGFENG TOMATO PRODUCT CO., LTD 阜康祥丰番茄制品有限责任公司 Industrial Park Tudunzi Farm, 831500 Fukang City, Xinjiang, China 阜康市土墩子农场工业园区, 邮编: 831502) and **Huize** Factory (XINJIANG HUIZE FOODSTUFF CO., LTD 新疆惠泽食品有限公司 Headquarter of No. 105 Regiment, 831308 Hutubi County, Xinjiang, China 新疆呼图壁105团, 邮编: 831308) in China have installed 3 lines to recycle the pipes used for the drip irrigation system:



Pipes are collected from the fields after the season:



Old pipes are grinded and blended with new material to build the new pipes:

