



## HEALTH, SAFETY & ENVIRONMENT REPORT 2007

**Nufarm**

### Agrogen Nufarm de Colombia S.A. Colombia

Agrogen, located near Cali, Colombia, formulates and packages agricultural products.

#### The plant

The plant is located in the Trocadero Industrial Park 14 km from Cali (Valle de Cauca) at Puerto Tejada (Cauca). It is in the heart of sugar cane country, being surrounded by some 200,000 ha of cane. The plant commenced operations at this location in 2002 and produces and packages agrochemical products, mainly herbicides, fungicides and insecticides.

Agrogen Nufarm also owns and operates distribution warehouses at the plant, in Bogota and Monteria.

#### Health and Safety Performance

This is the first year we are reporting our injury performance based on data collected during last year.

Unfortunately, our people have sustained a number of injuries in 2006. While they were generally not serious, three of the injuries resulted in lost time. They included a fracture to the hand while stacking drums, a bruised head from slipping on a wet floor and a leg contusion while changing a forklift battery. There was also a medical treatment injury (no lost time) from a slip and fall while loading a truck.

Statistically, our performance does not meet Nufarm's targets.

	LTIFR	MTIFR	SEVERITY
Agrogen	9.77	13.02	0.231
Nufarm Target Limit	3.07	6.14	0.037

*LTIFR = number of lost time injuries per million hours worked*

*MTIFR = number of lost time and medical treatment injuries per million hours worked*

*Severity = number of days lost per thousand hours worked*

Besides addressing the specific causes of the accidents, we have started a broad programme to improve our performance.

This includes:-

- Training of personnel in the plant, warehouse and laboratory in handling of chemical substances, storage and safe transport.
- Further training in first aid and fire fighting, with the local brigades.
- Training in accident prevention during work for all personnel.

#### Energy Performance

As a formulation plant, we do not consume large amounts of power.

We use small quantities of LPG for our forklifts, and electricity (65 MWhr) for our formulation and packaging operations.

#### Wastes

Our total production during 2006 was 3,300 tonnes.

Some old materials were destroyed during the year. All of our packaging waste (drums) is either recycled or re-used.

Waste Type	Weight (tonne)	Destination
Wastes and contaminated material	39.6	Incineration
Drums	26.4	Recycling
Plastic drums	30.7	Re-use



*The plant in Cali*

#### Expenditure

During the last year, we spent \$ Col 180,000,000 (\$A 101,000) on safety and environmental related works in the plant. One of the projects was the installation of a diesel back-up fire pump, another was to improve the operational effectiveness of the effluent treatment system.

Safety training was undertaken regularly, particularly including the correct use of protective equipment. Analyses of air and water discharges were made by outside consultants, in conformity to our environmental licence.

#### Water

We used 908 m<sup>3</sup> water during the year. Most of this water was required for formulation and left the site as part of the products we make. We continue to improve our use of water; we have a programme to reduce the amount of water used in drum washing.

#### Effluent Treatment

We produce very little waste water from our operations. Any that we do produce is collected, batch-treated chemically and with activated carbon, settled to remove any solids, and then passed through a biological filter. The acceptability of the analysis is confirmed before it is pumped to a central treatment plant in the Industrial Park where final clean-up occurs before discharge. The sludge from the settling process is dried and sent offsite for incineration.



*The effluent treatment plant*

## New Packaging Laws (2008)

As from 2008, a new decree will come into force (Decree 4741 of December 2005), concerning the criteria and requirements applying to the return of packaging which has previously contained agrochemicals.

Agrogen Nufarm de Colombia S.A. is affiliated with ASINFAR (National Association of the Pharmaceutical Industry - including Agroindustrial). This Association is working together with its affiliated companies in a programme of awareness and collaboration with agricultural associations, distributors, agriculturalists, applicators and users, to establish mechanisms of collection and final disposal of the used packaging.

## Formulations

We formulate some of our products, such as herbicides based on glyphosate.

The plant is based on a stainless steel reactor of 2 m<sup>3</sup> capacity, with three mixing tanks, each of 4 m<sup>3</sup> for the amination of glyphosate acid and the formulation of Agrogen 480 SL and Glifogen 648 SL.



## Laboratory

Our products are checked for quality in our laboratory, using modern analytical instrumentation.

The instrument shown in the photo is an HPLC (high pressure liquid chromatograph) that is used for complete analysis of products formulated and packaged by Agrogen Nufarm in Colombia.



## Fundautonoma Program

Fundautonoma is a non-profit foundation organised by the Independent University of the West, with a seat in the city of Cali. Agrogen - Fada (Fada is the original name of the operating plant), as part of its commitment to the neighbouring community has made an agreement with Fundautonoma regarding training of local people. During 2006, the company's contribution has enabled 167 young people to receive training in handiwork, crafts, aesthetics, beauty and cooking. It also enabled 139 people to use computers using the programmes of the foundation.

## Colombianitos

Colombianitos is a foundation for training children. During 2006, Agrogen - Fada sponsored, in conjunction with Colombianitos, provided training to 38 children in the maintenance and assembly of computers, as well as 28 children in computer programmes such as Office and Excel.

## Product packaging

The packaging line, made of stainless steel, is used to package glyphosate in pack sizes from 250 ml to 1L and 4 L.



## Social Area

This pleasant covered area is used by employees for eating - the kitchen is in the building in the background. We also use this area as a meeting location for discussions with our employees.



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