# Sustainable Agricultural Aviation Certification (CAS)

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# Evolution of the agricultural aviation in Brazil

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Sources: Agronautas and SINDAG

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- Agricultural aviation accounts for 25% of the total area of crops on which pesticides are applied;
- More than 70 million hectares are treated per year by aircrafts.

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- There are conflicts between the agricultural aviation sector and environmental groups;
- Those groups seek to impose restrictions to the market for aerial application in Brazil.

# The certification program

### **Aerial application certification:**

• In response to the environmental groups that seek to impose restrictions to the aerial application in Brazil, the agricultural aviation has now a certification program;

• The CAS (Sustainable Agricultural Aviation Certification),

was created to make sure the operators act in accordance with strict criteria in relation to sustainability and environmental responsibility.





## **How it works**



### CAS is a voluntary certification system

- Managed by FEPAF: a nonprofit organization;
- The Universities bear responsibility for operations: UNESP, UFLA e UFU;
- ANDEF (Brazilian Crop Protection Association) and SINDAG (Aerial Operators Union) give institutional support;

The CAS Program counts on a 100% private financing:

- Certification fees;
- Budget from ANDEF.



### The primary focuses:

- Deepening the concept of responsibility and sustainability for crop protection applications by air;
- To improve spraying quality and reducing the risks of environmental impact from these activities.



# **Certification Steps**



The CAS program is divided into steps (levels to be achieved). The levels of certification are:

### **CAS Level I: Operation Legal Certification:**

- At this step, all documentation and legal operation aspects will be evaluated;
- It is a process for the issuance of a "Legal Compliance Certification";
- The objective is to certify the operator complies with existing laws and regulations.



# CAS Level II: Company Technology Qualification Certification:

- This certification step is achieved when the participants have fulfilled a training course;
- The certification will be granted to participants who obtain satisfactory performance in the course:
   "Technical quality and Environmental
   Responsibility in the aerial application"
   (Good Practices for aerial application).



# CAS Level III: Compliance Certification for Equipment, Facilities and Procedures:

- The operator will be certified according to spray equipment, facilities and procedures (Compliance to Good Practices for aerial application);
- These items shall be inspected during technical visits to companies;
- There are minimum requirements related to:
  - Equipment
  - Spraying methods;
  - Management of the operations.



# **RESULTS (April, 2016)**





### Empresas Certificadas Nível I: 39



Alagoas

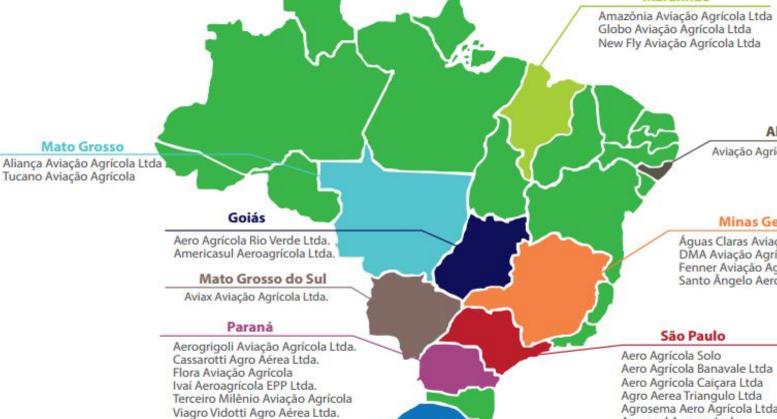
Aviação Agrícola Alagoana

Minas Gerais

Águas Claras Aviação Agrícola

Santo Angelo Aeroagrícola LTDA

DMA Aviação Agrícola Ltda Fenner Aviação Agrícola Ltda



Rio Grande do Sul

Mirim Aviação Agrícola Ltda

DPA Aviação Agrícola

Banalves Aviação Agricola Ltda.

Destaque Aviação Agrícola Ltda.

SAPA Serviços Aereos de Proteção Agrícola Ltda.

Aero Agrícola Caiçara Ltda Agro Aerea Triangulo Ltda Agrosema Aero Agrícola Ltda Agrossol Aeroagrícola Aplimax Aeroagrícola Ltda - ME Direta Aviação Agrícola Echeverria Aeroagrícola Ltda Pardal Aviação Agricol Ltda Razuk Aeroagricola Sadag Serviço Aéreo de Defesa Ltda

São Paulo

Maranhão

TOM Aviação Agrícola Vale do Paranapanema Aviação Agrícola Ltda - EP Villela Agro Aérea Ltda



### Empresas Certificadas Nível II: 40

Roraima
Norteagro Norte Aeroagrícola

# 1

#### **Mato Grosso**

Agroer Aviação Agrícola Ltda Ferax Aviação Agrícola Ltda Garra Aviação Agrícola JM Aviação Agrícola Solag Sol e Lua Aviação Agrícola Ltda

#### Goiás

Aerocéu Aviação Agrícola Centroar Agro Aéreo Ltda. Combate Aviação Agrícola Ltda-ME Mineiros Aviação Agrícola Ltda. Precisão Aeroagrícola Ltda EPP Resgate Aviação Agrícola Ltda. Ságuia Aviação Agrícola Ltda.

#### Mato Grosso do Sul

Aero Agrícola Vargas LtdaEPP Agricenter Aviação Agrícola Ltda. Serrana Aviação Agrícola Ltda. Uniagro Aviação Agrícola Ltda.

#### Paraná

CEAL Aviação Agrícola Ltda

#### Rio Grande do Sul

Aero Agrícola Rosariense Aero Agrícola Santa Terezinha Aero Agrícola Santos Dumont Ltda Arenhart Aviação Agrícola Ltda KL Aviação Agrícola Ltda-EPP Taim Aéro Agrícola Ltda

#### **Tocantins**

Foliar Aviação Agrícola

#### Minas Gerais

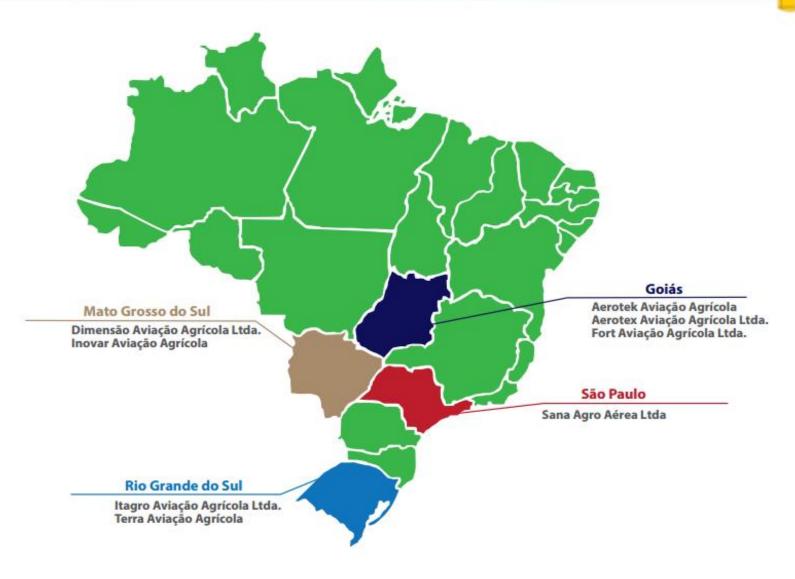
Aviação Agrícola Antônio e Carmélia Stal-Serviço de Tratamento Aéreo a Lavouras

#### São Paulo

Aero Agrícola Chapadão Ltda.
Aeronorpa- Aero Agrícola Norte Paraná Ltda
Aeromaj Aviação Agrícola Ltda-EPP
Aplitec Aero Agrícola Ltda
Citrosuco S/A Agroindústria (operador privado)
Garcia Aviação Agrícola
IMAGEM Aviação Agrícola Ltda
Pachu Aviação Agrícola
Produtiva Aero Agrícola
Rancharia Aviação Agrícola Ltda
SAM Sociedade Aero Agrícola Mogiana Ltda
Ultraer Aeroagrícola Ltda-EPP
VCM Aviação Agrícola Ltda



## **Empresas Certificadas Nível III: 8**



- Brazil: The CAS achieved 38% market share in 2 years (87 out 232 operators);
- The support from the sugar cane mills is very important;
- There is a higher market share on sugar cane areas:

SP (75%)

GO (60%).

State	Operators
SP	26
GO	12
RS	12
MS	8
MT	7
PR	7
MG	6
MA	3
AL	1
RR	1
ТО	1



### Aerial application certification:

- This is an important reply to society;
- In the context of the good agricultural practices, the CAS is an important step towards agriculture sustainability;

The CAS is a voluntary certification system and a private

initiative;

website: www.cas-online.org.br



## Thank you!

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