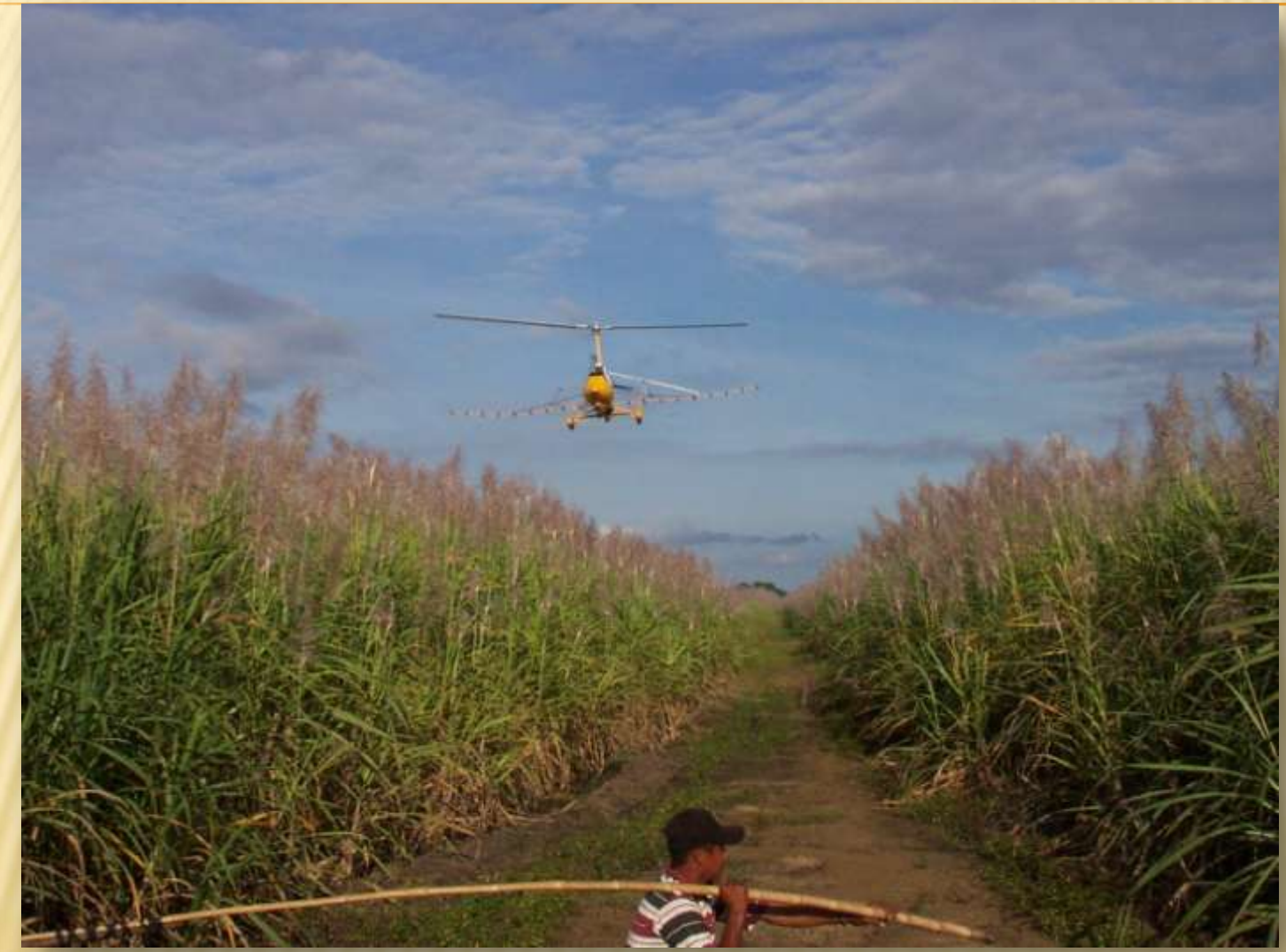
ELA AVIACIÓN, S.L.

ELA 07 Agro



¿POR QUÉ LA FUMIGACIÓN CON AUTOGIRO?

Today agriculture demands greater productivity and efficiency, cost reduction, time savings and enhanced security.

Our gyroplane ELA 07 AGRO is created to provide those values to the farmer and his company.
Aerial application in our gyros allows the required treatments in the least aggressive to the environment as it is possible greater precision in the application and thus avoiding the involvement of crops or adjacent lands.

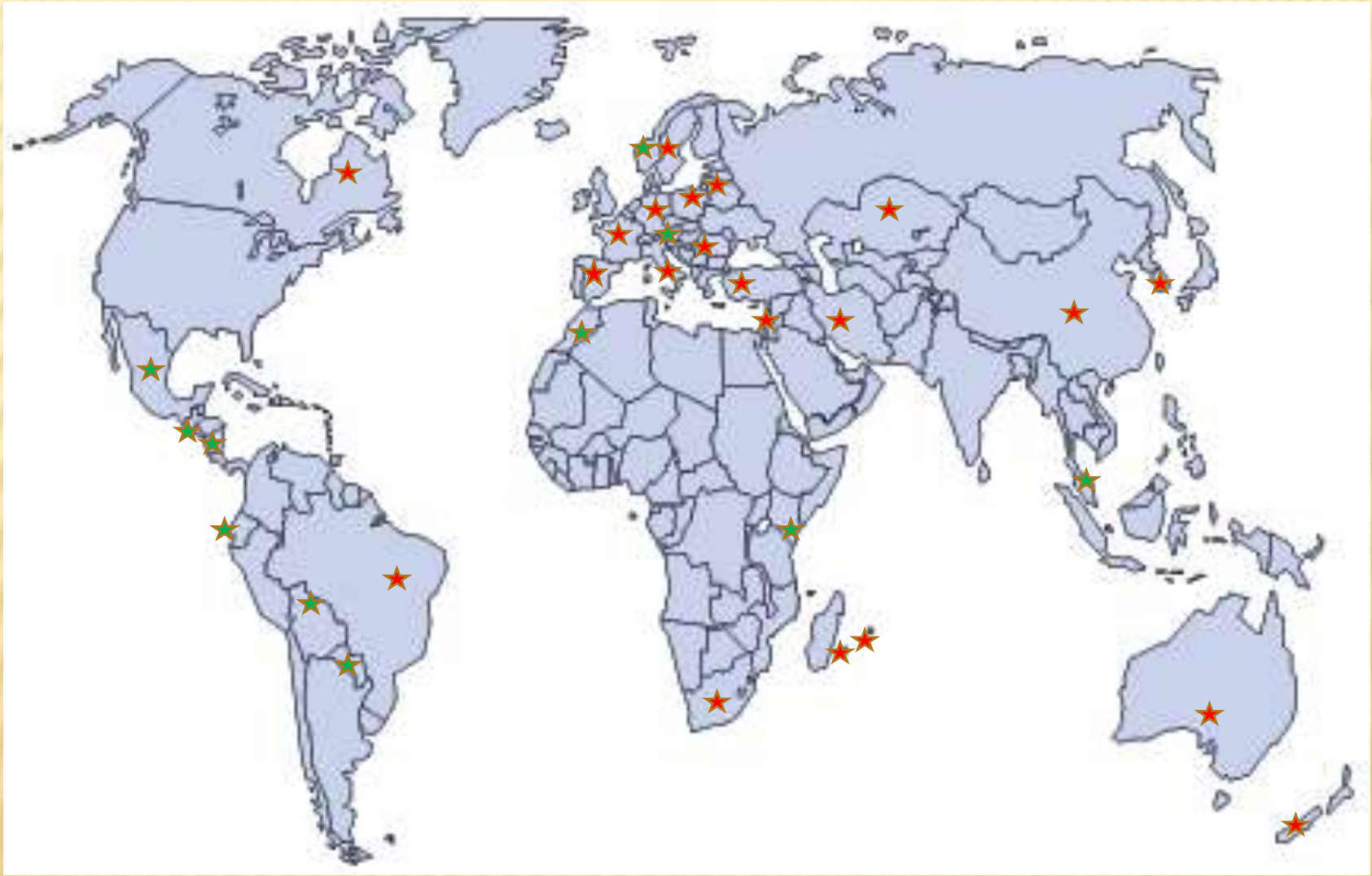
When a pest or disease threatens the crop, the trip time is critical.
The job with the gyroplane can be done in an hour, more than what you can do in one day a ground equipment. In addition to the gyro, it will act to reduce fuel costs, maintenance and pollution.

Our gyros are equipped with satellite antenna art that record digitally all jobs.
Positioning technologies, wireless communications and information planning facilitate farmers can organize strategies to improve field operations, enabling them to safely and responsibly with regard to environmental concerns.

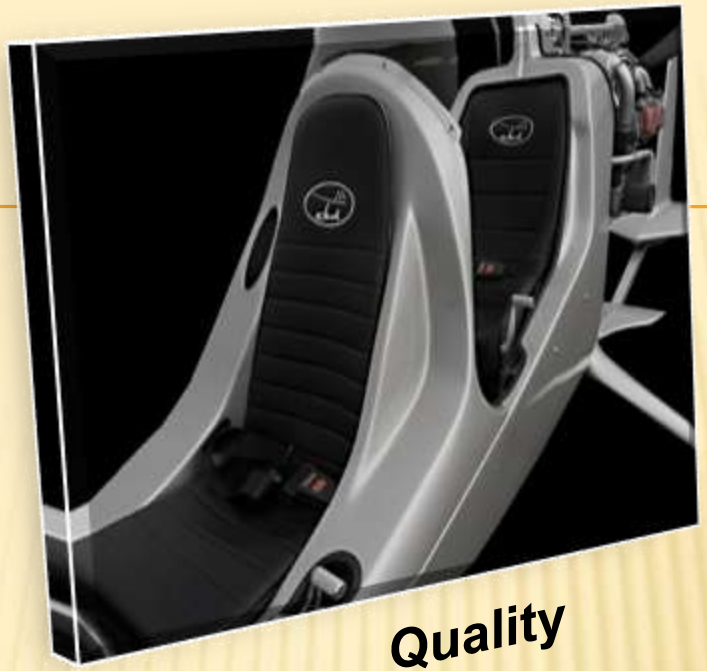
ELA Aviación, S.L. is a gyroplanes manufacturer company. In our 17 years of experience in the industry, we have become the biggest Spanish company in the manufacture of ultra-light aircraft, concretely in two-seater gyroplanes. We have our own design and our factory and gyroplanes are certified by Spain's Civil Aviation Authorities.

A huge economic and intellectual effort has gone into developing this machine. We spent more than six years of research and experimenting on the mechanical and aerodynamic solutions required by the project. Unfortunately, after the death of its inventor (Juan de la Cierva, a Spaniard), the autogyro was put aside and gave way to the helicopter, despite the success it was having worldwide. The development imposed by its inventor ceased

We realized the gyroplane's extraordinary flight performance from the start, and decided to study it with the light of the new materials and lighter and powerful engines since De la Cierva's day.
Currently, our new factory has 2,500 sqm, with 14,000 sqm land more for expansion in the future. Our team comprises professionals who manufacture all the gyroplane's parts. The ELA Company now occupies a privileged place in the aeronautic industry. We have continued to grow and we intend to add new projects, studies and research.

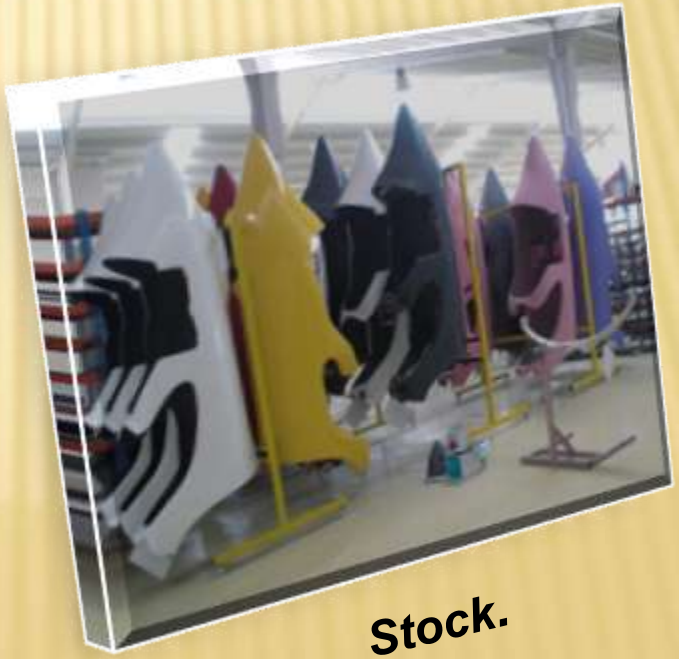


ELA arround the world. Distribution points



Quality

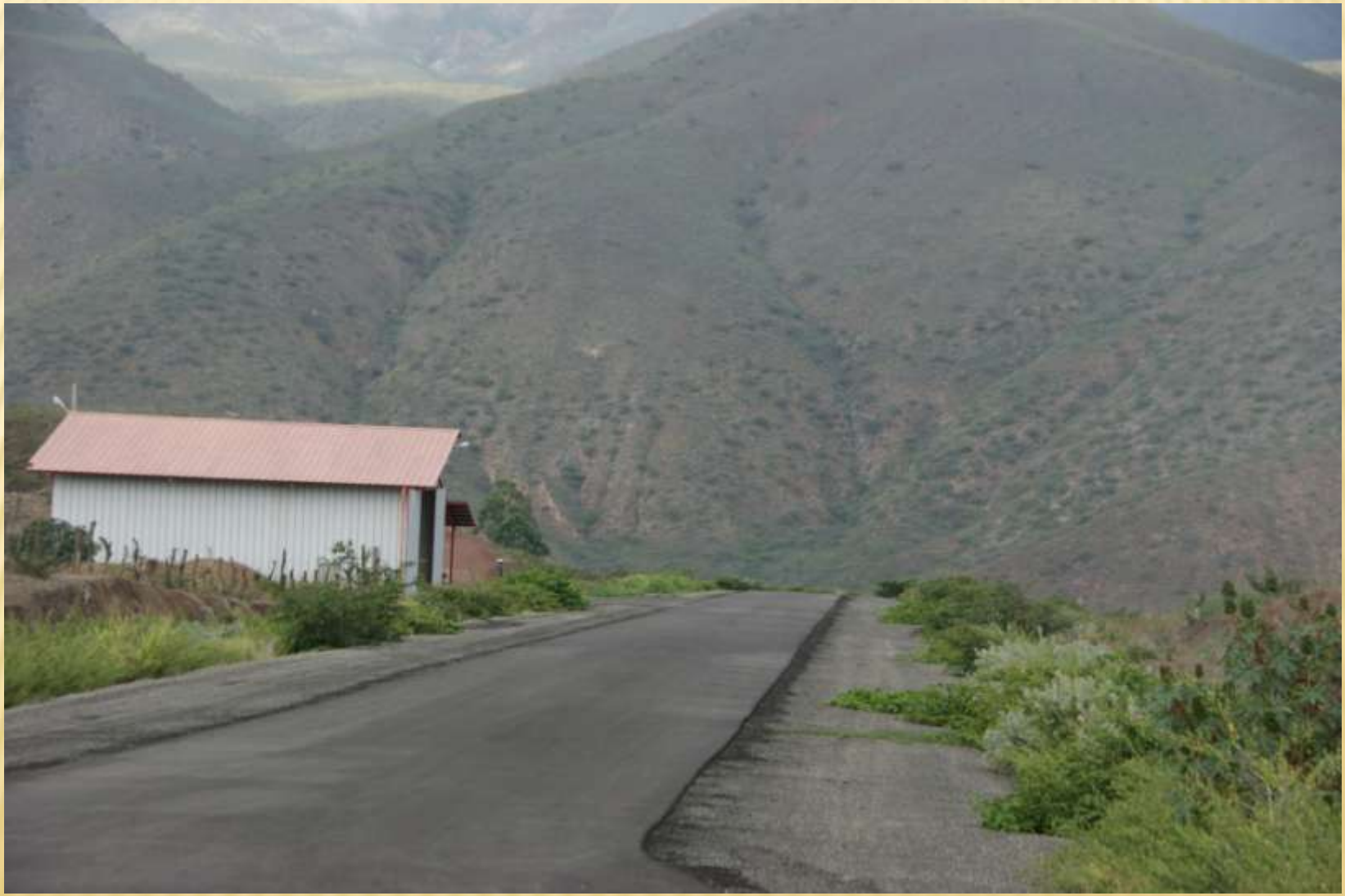
Hight technology



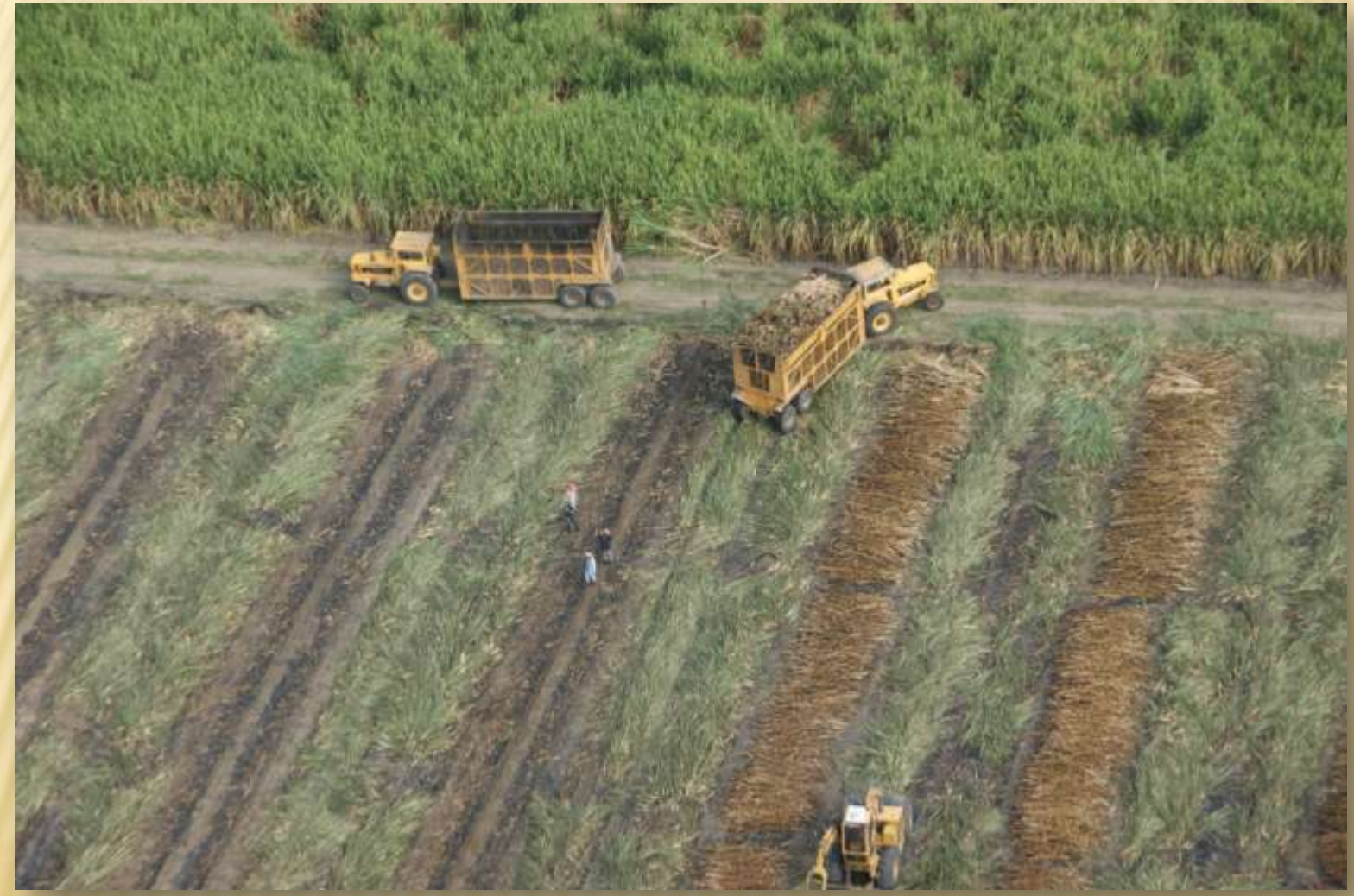
Stock.

THE ELA 07 AGRO HAS SEVERAL SPECIAL FEATURES

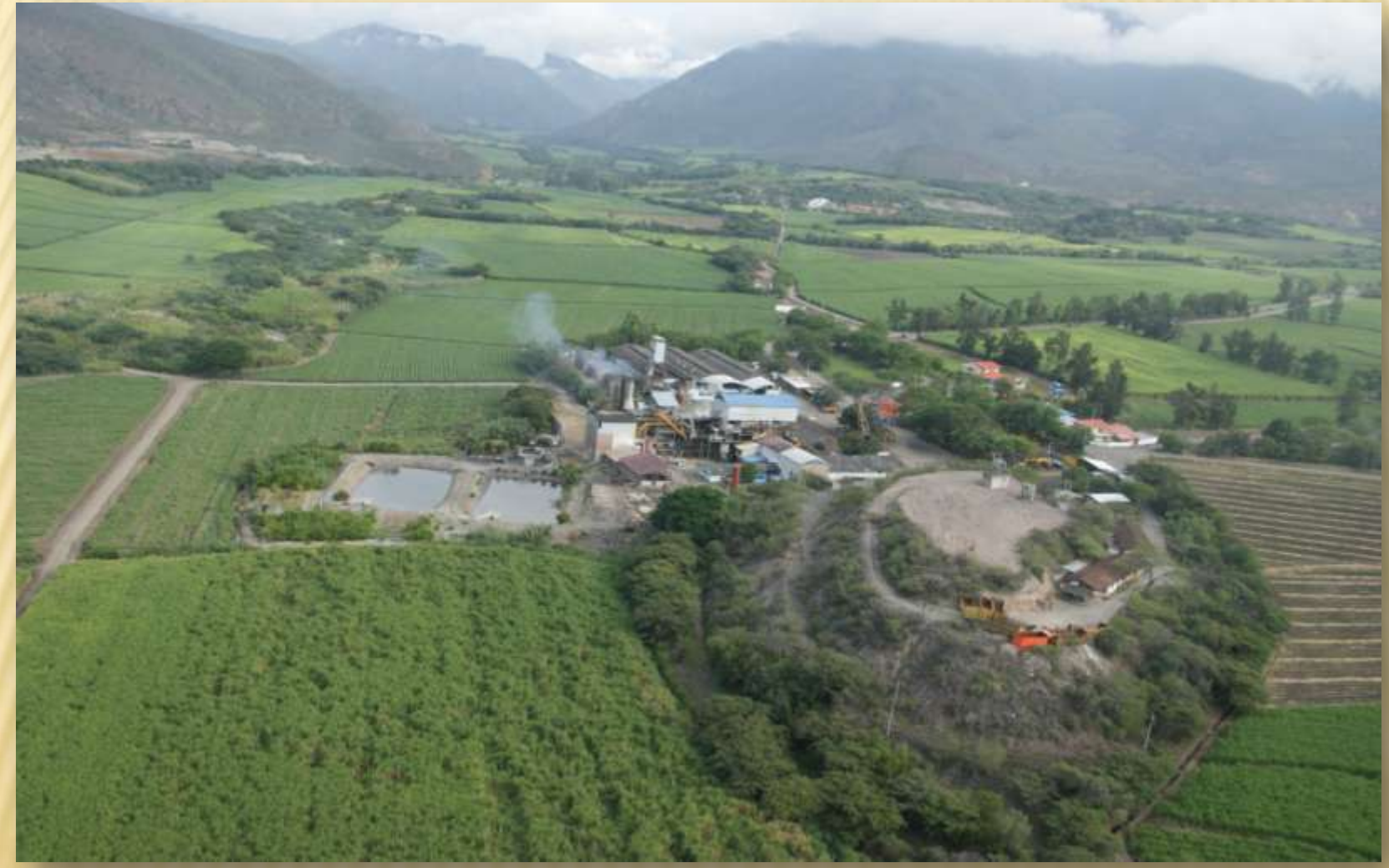
USE SHORT RUNWAYS



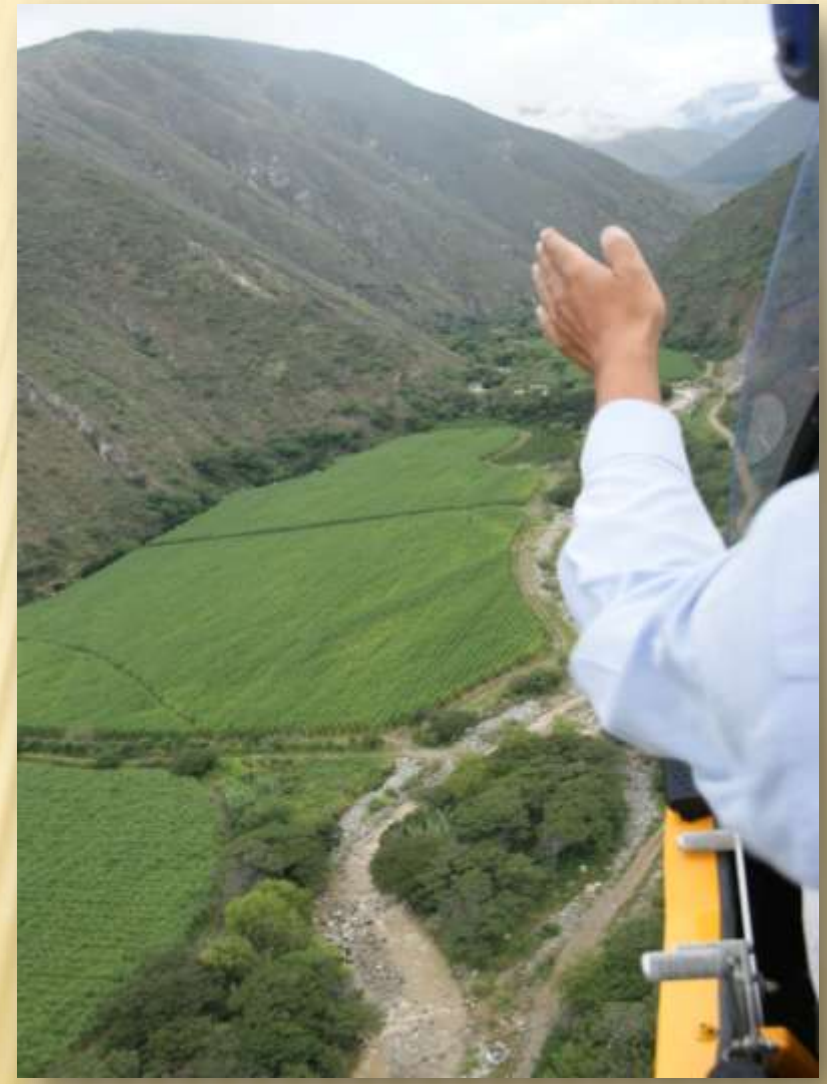
SURVEILLANCE AND CONTROL OF PRODUCTION COLLECTION



FARM GENERAL CONTROL



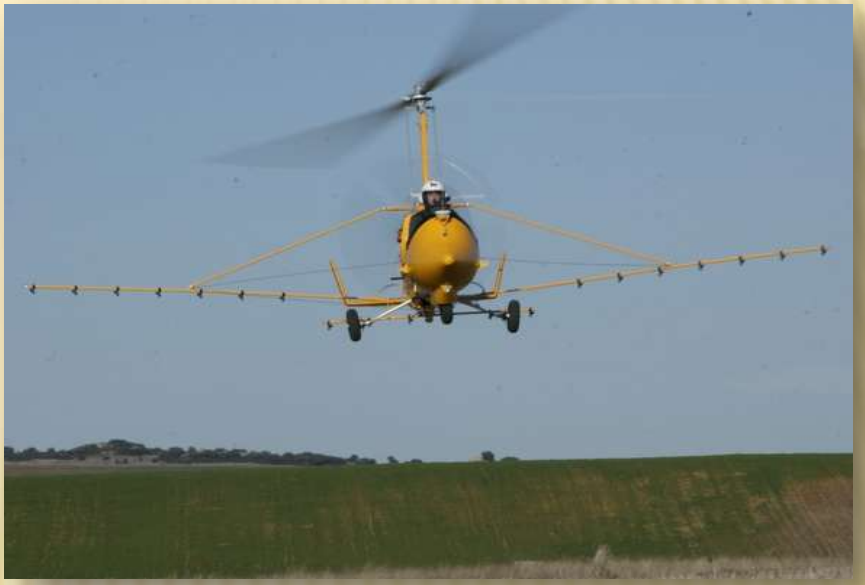
OPERATION IN OTHER AREAS NOT ACCESSIBLE FOR AIRCRAFT



The ELA 07 AGRO is a professional gyroplane designed specifically for the fumigation of agricultural crops. It can apply liquids at low and ultra low volumes and can also be used as a tandem autogyro with dual controls. The fumigation boom has 8.25 meters wingspan, resulting in a swath width of 10 meters plus overlap. The boom can be easily and rapidly folded, allowing for the gyroplane to fit into minimal hangar space. It can also be flown for ferrying with the boom in its folded position, greatly reducing drag. The gyroplane is fitted with a GPS to fly fumigation-specific tracks and has a 120 litre-capacity tank for fumigation product.

1. STANDARD EQUIPMENT

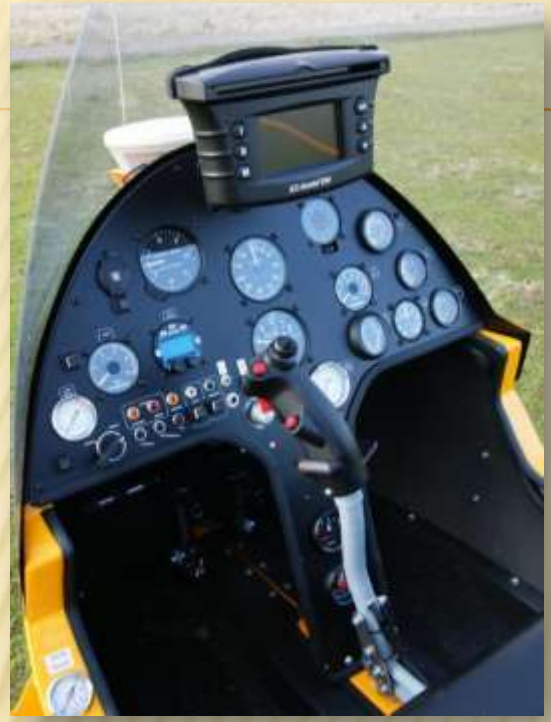
- Stainless steel frame
- Body and tail made in carbon fibre.
- Wheel pants
- Powerful pneumatic pre-rotator
- Carbon fibre engine propeller
- High energy ELA rotor
- 75 liters fuel tank with measuring tool
- High quality seat covers.
- Front seat with pocket
- 120 liters product tank
- Pressure regulator valve on cockpit



MEDIDAS Y PESOS

- Rotor diameter---------- 8,50mt.
- Long ---------- 5,10mt.
- Height ---------- 2,8mt.
- Landing gear width---------- 1,75mt.
- Width boom ---------- 8,25mt.
- Max take off weight---------- *500Kg.
- Empty weight (standar equipment) 305Kg.
- Usefull load ---------- 195Kg.

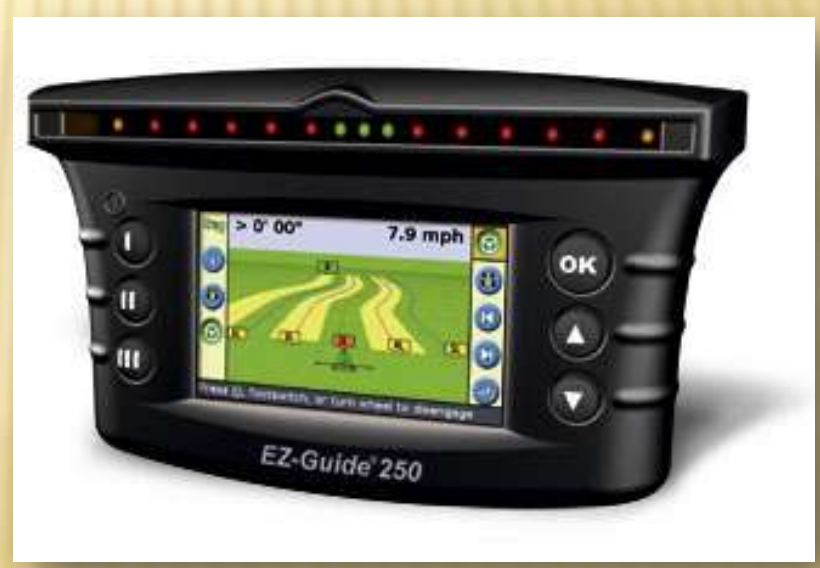
* Load up to 500kg, review the operating rules in your country



INSTRUMENTATION

- Airspeed Indicator
- Vertical Speed indicator
- Altimeter
- Vertical card Compass
- Rotor trim/Brake pressure
- Rotor Tachometer
- Engine tachometer
- Cylinder head temperature
- Oil temperature
- Oil pressure
- Fuel pressure
- Fuel level indicator
- Hour meter
- Spraying system pressure gauge
- Lightbar guidance system. GPS EZ Guide 250

The team EZ-GUIDE 250, has a 11 cm color display, LED guide to keep you on track, USB connection to transfer and print coverage maps of the day working on the computer of land, etc.



Performances

Never exceed speed (VNE)	100 mph
Application speed (IAS)	70 mph
Cruising speed (Boom folded)	80 mph
Min. speed (at max power)	25 mph
Rate of climb (Vy @ 60mph)	700 ft/min
Rate of descent @ 60 mph	1100 ft/min
Take-off distance	180 metres
Landing roll	0 - 30 metres
Fuel	Gasoline
Fuel capacity	75 Litres
Fuel consumption	15 – 20 Litres/hour

* Parameters determined by a series of flights by a pilot with average piloting skills and an aircraft in good condition. The parameters are refereed to ISA conditions (Standard atmospheric pressure and 15ºC temperature).

ADVANTAGES ELA-07 AGRO

Electrical fumigation system, allowing calibration without engine power
“Chirurgical” cut at the end of a run (there is no wake).
The autogyro does not produce vortices nor distortions
Electric driven diaphragm pumps with a nominal pressure of 60 psi (4 bar)
Pressure regulator valve within the cabin compartment
Swath width of 10 meters plus overlap

TABLE FUMIGATION NOZZLES

NOZZLE XR 8001

Work pressure (BAR)	L/min (each nozzle)	L/min (total system)	Discharge per hectare. (liters) a 70 mph	Hectare treated with 120 L at 70 mph
1	0,23	4,6	2,8	43,6
1,5	0,28	5,6	3,4	35,8
2	0,32	6,4	3,8	31,3
2,5	0,36	7,2	4,3	27,8
3	0,39	7,8	4,7	25,6
4	0,45	9	5,4	22,3

NOZZLE XR 80015

Work pressure (BAR)	L/min (each nozzle)	L/min (total system)	Discharge per hectare. (liters) a 70 mph	Hectare treated with 120 L at 70 mph
1	0,34	6,8	4,1	29,5
1,5	0,42	8,4	5	23,9
2	0,48	9,6	5,7	20,9
2,5	0,54	10,8	6,5	18,6
3	0,59	11,8	7,1	17
4	0,68	13,6	8,2	14,7

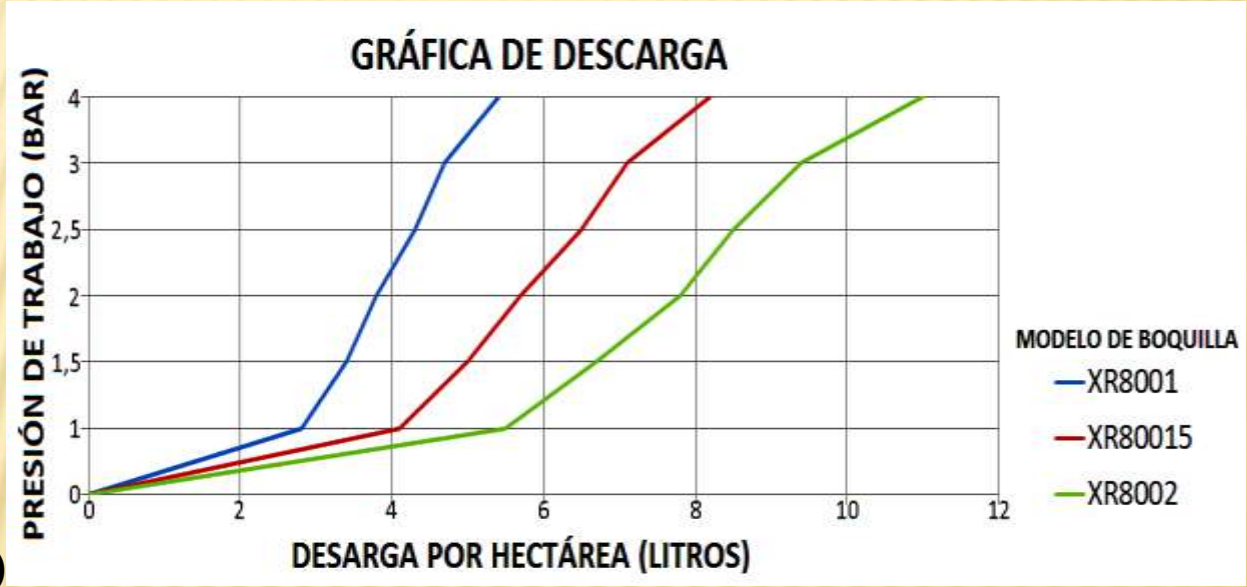
NOZZLE XR 8002

Work pressure (BAR)	L/min (each nozzle)	L/min (total system)	Discharge per hectare. (liters) a 70 mph	Hectare treated with 120 L at 70 mph
1	0,46	9,2	5,5	21,8
1,5	0,56	11,2	6,7	18
2	0,65	13	7,8	15,4
2,5	0,72	14,4	8,5	14
3	0,79	15,8	9,4	12,7
4	0,91	18,2	11	11

COMPARISON OF MODEL NOZZLE.

Application speed 70 mph

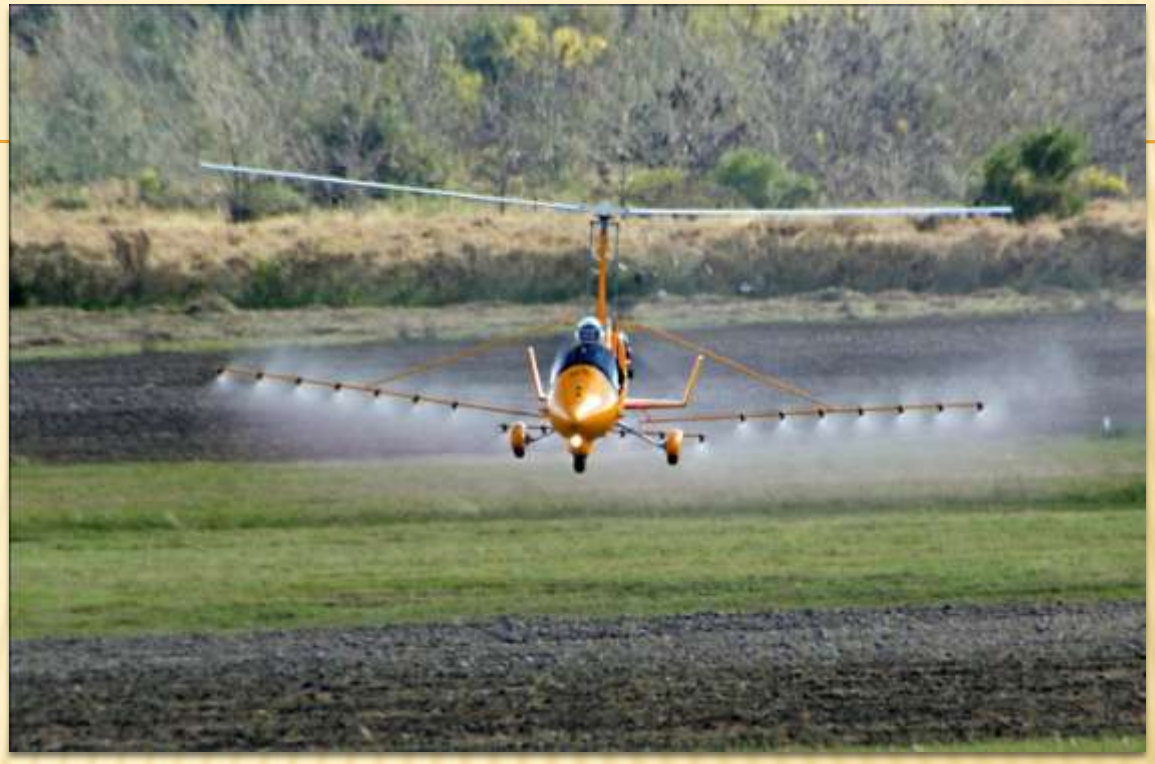
Download GRAPHICS



Work Pressure (bar)

Discharge per hectare

Nozzle model



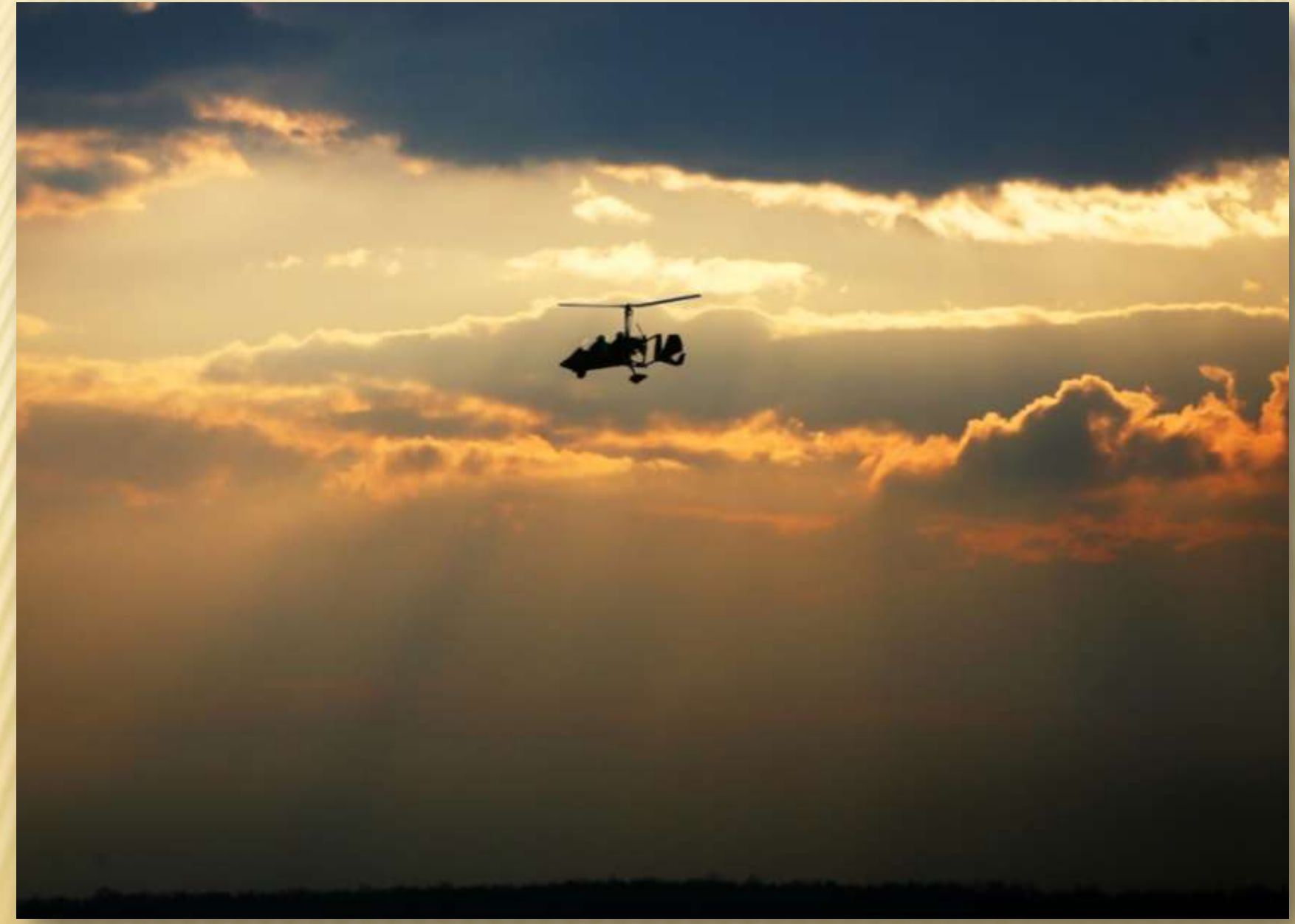
TYPICAL APPLICATION EXAMPLE

Nozzle XR 80015
Working pressure ---------- 1,5 Bar
Discharge nozzle ---------- ---------- 0.42 liters / min.
Discharge system ---------- 8.4-liter / min.
Download per hectare to 70 mph ---------- 5 Liters.
Surface treated with 120 liters to 70 mph ---------- 24 Hect.
Application Time (120 liters) at 70 mph ---------- 14 min.
Capacity application----------1.7 Hect /Min.

Approximate working capacity, depending on the dimensions of the crop and the refueling point distance:
50-60 Hect. / Hour

APPROX.OPERATING COST
Amortization of gyroplane to 2000hr ---------- 30 Euros / hr.
Engine Maintenance ---------- 6 Euros / hr.
Gyroplane maintenance ---------- 3 Euros / hr.
Fuel (to 1.40 Euros / liter) ---------- 28 Euros / hr.
Engine and gyroplane Overhaul (1200 hr.) ---------- 12 Euros / hr.

Total cost per flight hour ---------- 79 Euros.
Total cost approx.per hectare applied --- ------- 1.40 Euros.



ELA AVIACION, S.L.
Pol Ind El Blanquillo
14290 Fuente Obejuna
Córdoba. España.
www.elaaviacion.com
ela@elaaviacion.com
Telf: -34 957585175