

WP. 8

B.S.C.E. 16
MOSCOW
Aug. 1982

TREATMENT OF LAWNS ON
THE PARIS AIRPORT

S.T.N.A./2.N. (FRANCE)

(M. BRIOT)

SUMMARY : At spring, a spreading of three chemical products (two selective weeders and one growth stoping product) on lawns at Paris airports (Orly and Charles de Gaulle) led to obtain a ground cover inattractive to birds :

- destruction of leguminous plants (clover) fed by pigeons
- keeping grass tall (15-20 cm) without cuttings.

TREATMENT OF LAWNS ON THE PARIS AIRPORTS

J.L. BRIOT - STNA/2.N.
FRANCE

Presence of several hundred of wood-pigeons on sides of the Paris Orly-runways was a permanent hazard to aircraft during spring and summer. Pigeons coming from the Paris city eat several species of clover abundant in these lawns. Treatments with selective herbicides (2, 4 DP ; 2, 4 MCPA, and MECOPROP) were made, in 1976 and 1977, to destroy these clovers (réf. 1).

Results were hopeful but showed some drawbacks :

- efficiency of products limited in time, particularly in rainy periods, prescribing several treatments,
- problem of graminacee mowing not resolved, involving 5 to 6 cuttings an year.

To solve these difficulties, new chemical products have been tested during 1980 -81 and largely used in 1982 on the Orly and Charles de Gaulle platforms in order to obtain greens without clover, and growing no more than 20 cm an year. This article deals with technics used and gives results observed.

1 - PRODUCTS USED

They include two separate selective weed-killers :

- a) the TORDON 22 K containing 240 g/l of acid amino 4 trichloro 3, 5, 6 picolinic (Piclorane) acting through

leaf and root absorption in the same time ; efficient for dicotyledones only.

- b) the WEEDAR containing 410 g/l acid 2,4 dichlorophenoxyacetic ; selective weed-killer phytohormone-absorbed by leaves and stalks. (Used in agriculture to clean cereals).

Both herbicides are associated to a growth inhibiting substance named EMBARK or MEFLUIDIDE (formula : $C_{11}H_{13}F_3N_2O_3S$).

Absorbed by graminaceae leaves, this product slows down their development and maturation to seed, allowing a reduction up to 4 to 5 cuttings an year.

2 - PERIOD, PROPORTIONS AND SPREADING TECHNIC

The 3 associated products are used after the last spring frosts, when grass reaches 5 to 10 cm.

In parisian region proportions used are ; 3 liters of TORDON 22 K + 5 liters of WEEDAR + 8 liters of EMBARK for 800 liters of water an hectare.

That "mixture" is applied by regular sprayings through a low pressure pipe equiped with flat nozzles in order to avoid a "foggy ejection". With a 18 meter spraying pipe, 3 hectares can be treated in one hour.

Ground marks have to be made to avoid overlappings or gaps.

PAR.
ORL

PARI
CHAE
DE
GAU

3 - RESULTS

One week after treatment, several species of dicotyle plants (clovers as an example) turn yellow and die. After one month the height difference between treated and not treated surfaces is 50 cm. In summer time, treated surfaces look like a very herbaceous carpet only made up of grass at a length of 10 to 20 cm. In winter the carpet have the tendency to bend particularly when snow covers it. One equalizing cutting may be done in autumn but was not necessary in Orly. As shown on the Table below, birds visiting these lawns are not numerous.

| | | Nb of birds * | | Season | |
|-------------------------|--------------------------------------|---|-----------------|---------|----------|
| | | Before treatment | After treatment | | |
| PARIS-ORLY | Bird species | | | | |
| | | Wood-pigeon (<i>columba palumbus</i>) | 300 to 950 | 0 to 8 | May-June |
| | | Starling (<i>sturnus vulgaris</i>) | 0 to 130 | 0 to 25 | Summer |
| | Kestrel (<i>falco tinunculus</i>) | 2 to 4 | 1 to 2 | | |
| PARIS CHARLES DE GAULLE | Rook (<i>corvus frugilegus</i>) | 0 to 180 | 0 to 12 | Summer | |
| | Starling (<i>sturnus vulgaris</i>) | 0 to 220 | 0 to 30 | | |
| | Kestrel (<i>falco tinunculus</i>) | 1 to 14 | 0 to 2 | | |
| | Lapwing (<i>vanellus vanellus</i>) | 85 to 640 | 0 to 45 | Winter | |

It should be noted that the population of pigeons eating in the Orly lawns was greatly reduced after treating and that hazardous concentrations of rooks, starlings and small raptors observed just after traditional cuttings are not any more considered because this technics avoid cuttings.

* minimum and maximum population on a surface of 40 ha at Orly, 20 ha at Roissy, noted during 6 visits.

Lapwings observed in Roissy after treatments were located in an ill-drained drift way.

4 - COST

In spite of the high cost of products used, this technics is not more costly on high traffic airports where night cuttings (more costly) are compulsory. The Table below shows costs by hectare for the year 1982 of two lawn maintenance methods :

| Nature of works | Making | Material | Products | | | Total in Fr/ha |
|--|-------------------------|----------|----------|--------|--------|----------------|
| | | | Embark | Tordon | Weeder | |
| Tradional cutting (5 annual cuttings) | <u>Day</u> : 425 F | 1450 F | 0 | 0 | 0 | 1875 F |
| | <u>Night</u> : 850 F | 1450 F | 0 | 0 | 0 | 2300 F |
| Treatment with selective weed-killer and growing limiter | 245 F | 170 F | 1200 F. | 450 F | 65 F | 2130 F |

5 - CONCLUSIONS

Advantages shown by this method :

- very easy to use with sophisticated equipment wearing little,
- cost comparable with the traditional cutting,
- no problem of cut grass flying over runways or taxiways and ingested in aircraft engines,
- suppression of mowing machines 5 times a year in the vicinity of runways,
- reduction of the technics complexity for long grass prescribing fertilizers, repeated mowings, as well as grass gathering equipment (ref. 3 and 5),
- suppression of large concentrations of wood pigeons, starlings and rooks, thanks to keeping of graminacee carpet, without repeated cuttings, to a height of 15 to 20 cm.

It seems well adapted to airports of wet temperate regions having large grass surfaces attractive to birds .

BIBLIOGRAPHY

- (1) - J. L. BRIOT (1976) : The attempt to get rid of the wood-pigeons (columba palumbus) from Orly Airport - BSCE 11 (WP 22).
- (2) - H. BLOKPOEL : Birds hazards to aircraft .
- (3) - LS BUURMA and J. HEIJINK (1978) : Practical and Economical aspects of grassland management at some dutch airbases - BSCE 13 (WP 33).

| |
|------|
| al |
| /ha |
| 75 F |
| 00 F |
| 30 F |

- (4) - BSCE (August 1979) some measures used in different countries
for reduction of bird strike risks around the airport -
Aerodrome W. G.
- (5) - C.A.A. (1976) : Bird control on aerodromes - CAP 384
- (6) - HILD (1980) : Action sur le milieu - DP 6 - OACI DAKAR

