



Spinach Production In Europe

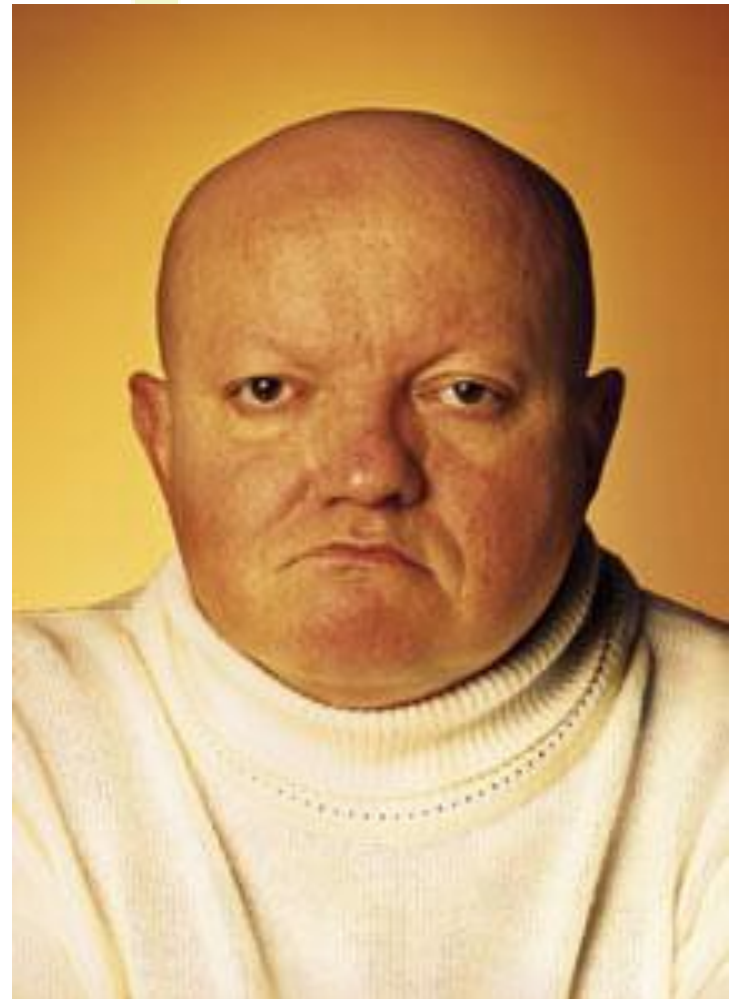
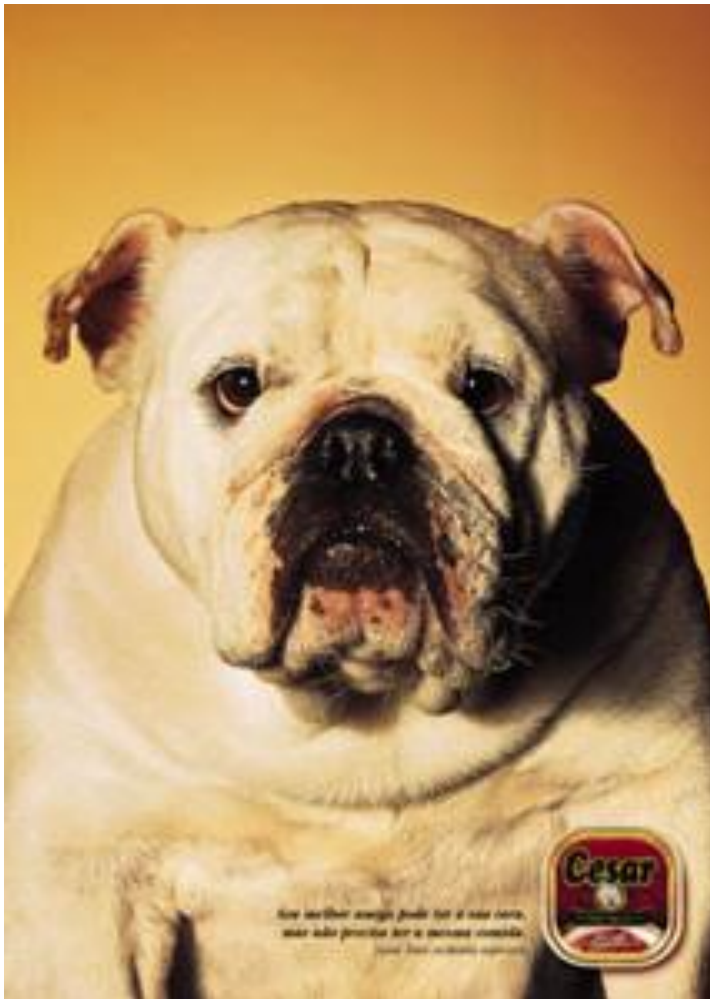
International Spinach Conference
Amsterdam, The Netherlands
October 3 – 4, 2011



Introduction



People look like their Pets

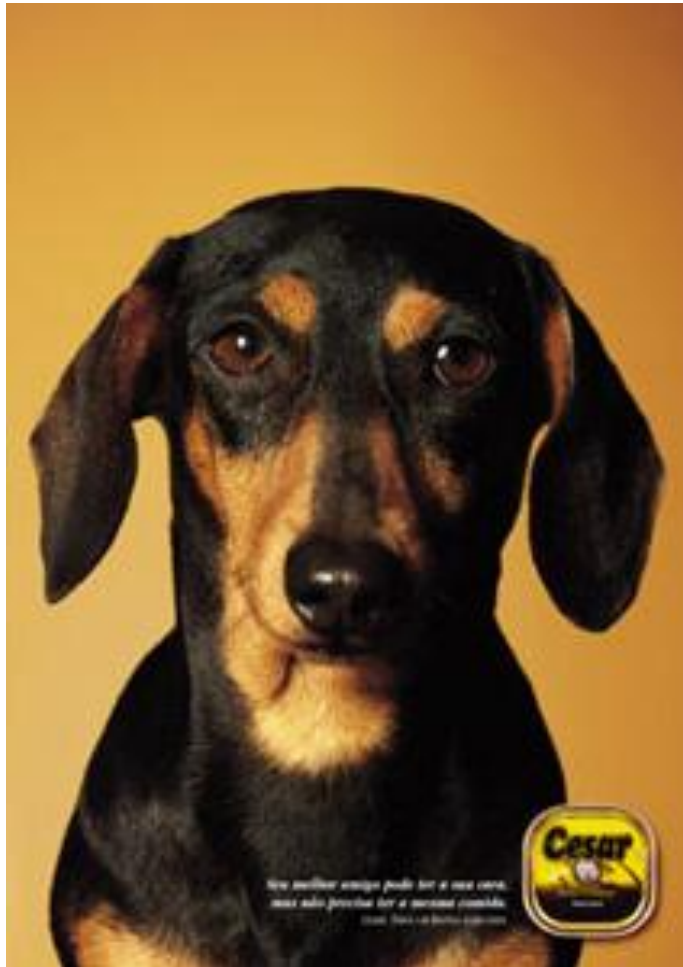


People look like their Pets





People look like their Pets



Breeders look like their crop

Typical spot



Yellow spots on top of a spinach leaf



Typical spot on top of spinach breeder

Breeders look like their crop



(Blue) mould on spinach leaf



(Grey) mould on spinach breeder



History



The cultivation of spinach

- - 2000 Persia (Iran)
- 647 China
- 1047 Spain
- 1260 Holland
- 1551 England
- 1806 U.S.A.

Spinach production worldwide

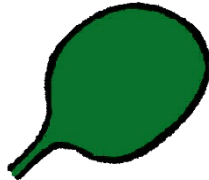





Statistics

- U.S.A. 80,000 acres / 32 000 ha
- Europe 85,000 acres / 34 000 ha
- Asia 1,888,000 acres / 764 000 ha

Definitions

- Fresh spinach 
minimally processed (field product or washed)
- Processing spinach 
washed, blanched, frozen or canned spinach

Fresh spinach field product



Fresh spinach added value



Processed spinach





Diseases

- Downy mildew (*Peronospora farinosa*)
- Leafspot diseases
 - *Cladosporium variable*
 - *Stemphylium botryosum*
 - anthracnose (*Colletotrichum dematium*)
- *Fusarium* + *Pythium* spp.
- CMV and BWYV



Diseases

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Cladosporium variable





Stemphylium botryosum





anthracnose (*Colletotrichum dematium*)





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Fusarium spp.





Diseases

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CMV and BWYV





Pests

- **Bean seed fly** (*Delia platura*)
- **Larvae of the beet fly** (*Pegomyia betae*)
- **Caterpillars** (*Autographa gamma*, *Manestra brassicae*)



Pests

Caterpillars



Larvae of the beet fly





Highlighted countries

- United Kingdom (UK)
- The Netherlands (NL)
- Spain and Portugal (S and P)
- France (F), Belgium (B) and Germany (G)
- Italy (I)
- Switzerland (Sw)
- Turkey (T)

Europe



UK

NL

G

B

F

SW

P

S

I

T

Image NASA

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Pointer 50°19'37.78" N 19°54'04.44" E

Streaming ||||| 100%

Eye alt 4093.90 km



The United Kingdom

- Capital London
- Latitude 51 degrees 30 mins N
- Approx Calgary, Canada
- Longitude 0 degrees 7.6 mins W
- Area 94,241 sq ml / 24,4 million ha
- Approx The area of Oregon
- Population 60,200,000



United Kingdom





U.K. spinach production

- Total production 5,000 acres / 2 025 ha
- Baby leaf and Teen
- Bunching
- Oriental
- Conventional 80%
- Organic 20% (increasing)
- June - October production*

*primary season



Marketing

- Market 80% fresh product
- 80% sold by major multiples
- Most of remainder via food service industry
- Processing negligible

Waitrose.com

Sainsbury's
making life taste better



TESCO
Every little helps



MARKS &
SPENCER



An A.Y.R. market

- 12 month demand
- Serviced by productions from Spain, France, Italy, Holland and U.S.A.
- Most U.K. growers/packers have Southern European subsidiaries and/or partners to ensure continuity
- Southern European procurement typically 125 – 150% of U.K. demand



The growers

Vitacress



VITACRESS

VITACRESS

VITACRESS

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G's



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The Langmead Group

- Langmead Farms (U.K. production)
- Langmead Espana (Spanish production)

The Langmead Group



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The product



ORGANIC BABY
LEAF SPINACH



BABY LEAF
SPINACH





Product forms

- Prepared
(chlorinated, ozone, CitroX, spring water washed)
- Unwashed
- Supermarket branded
- 'Own' brand
- Mixed packs
- Solo packs

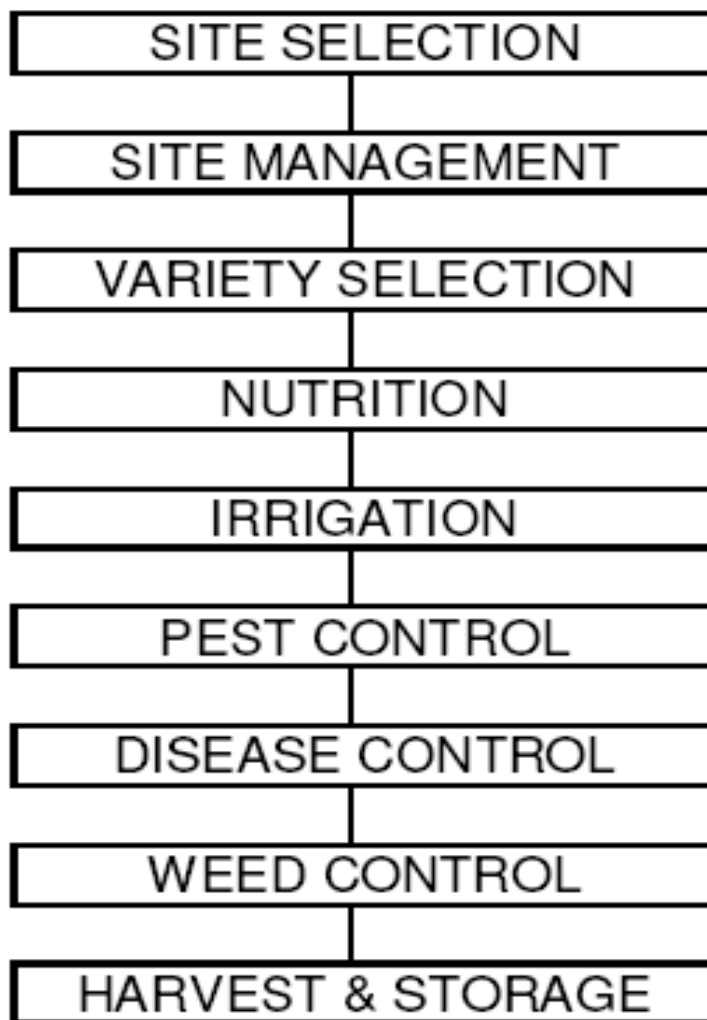
Production

(courtesy of Langmead Farms)





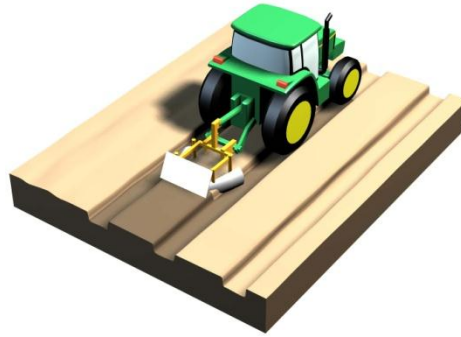
Production factors



Subsoil



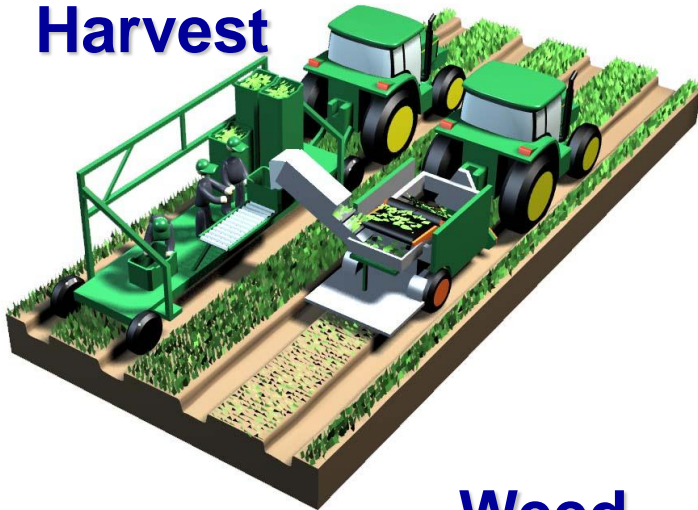
Bedform



Drill



Harvest

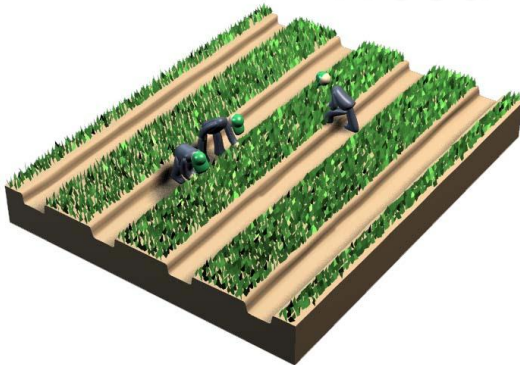


**Fertiliser /
Cover**

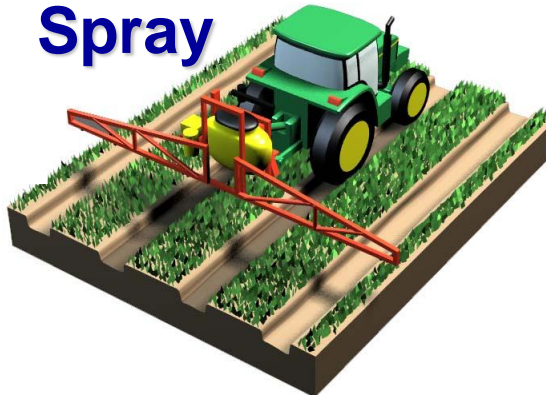


**How is a
crop grown?**

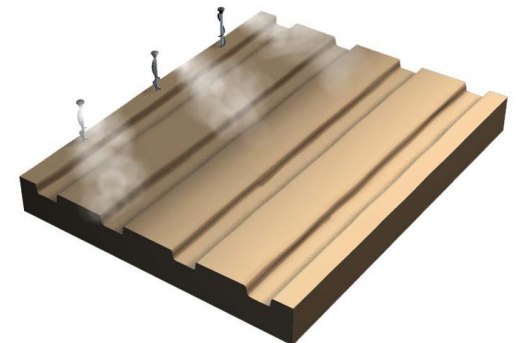
Weed



Spray



Irrigate



Bed forming



Drilling

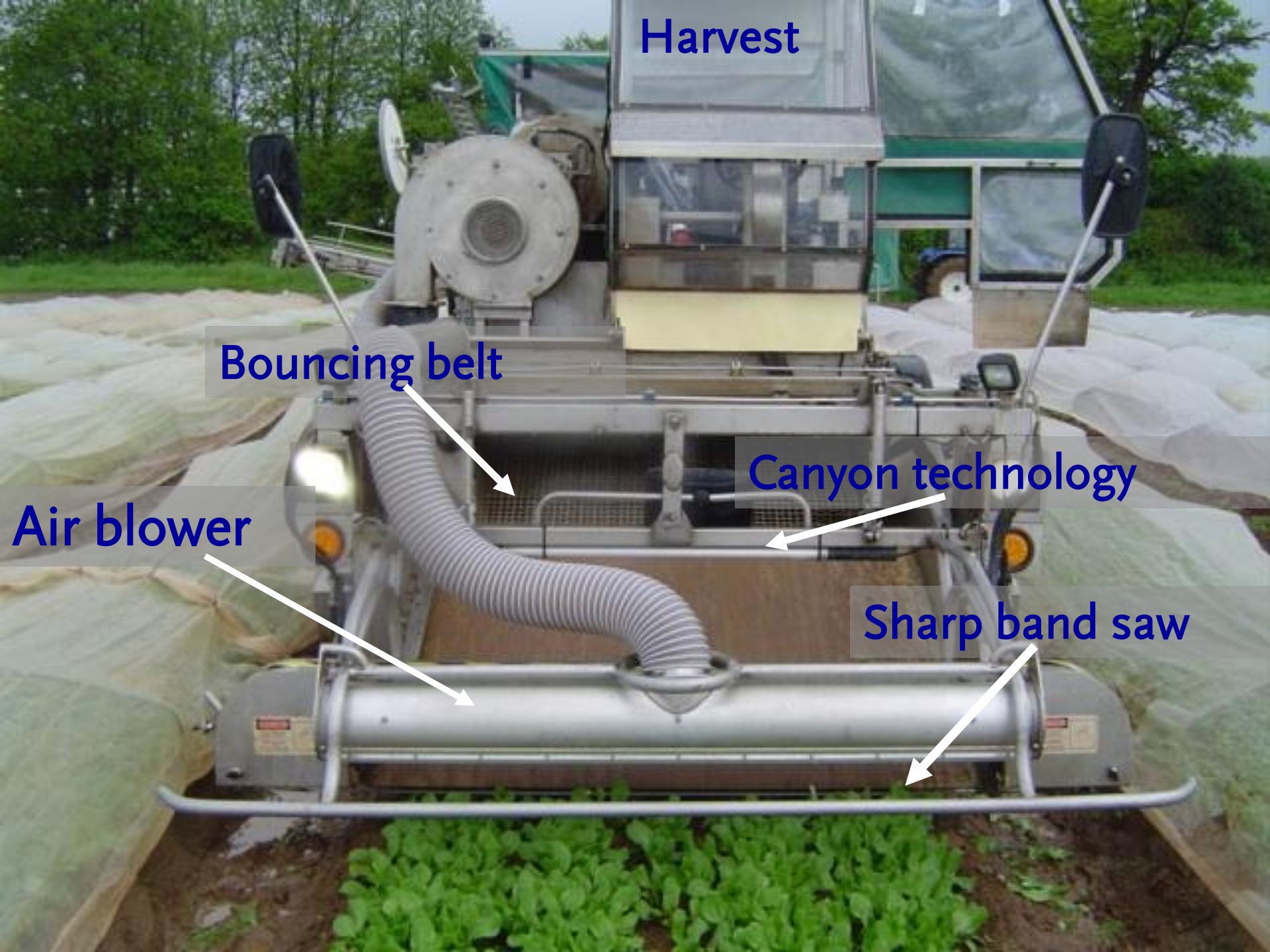


Mesh



Harvest





Harvest

Bouncing belt

Canyon technology

Air blower

Sharp band saw

Canyon technology



Packing



Washing



Drying



Packing



Packing



To 'market'

