

Potato Europe

John Forsythe

4 September 2025



Our global presence
94 employees total



1,4GROUP Canada (1)
Manitoba, Canada



1,4GROUP Corporate Office (28)
Meridian, Idaho, U.S.



1,4GROUP Mexico (2)
Guadalajara, Mexico

Dataplex (40)
El Salvador

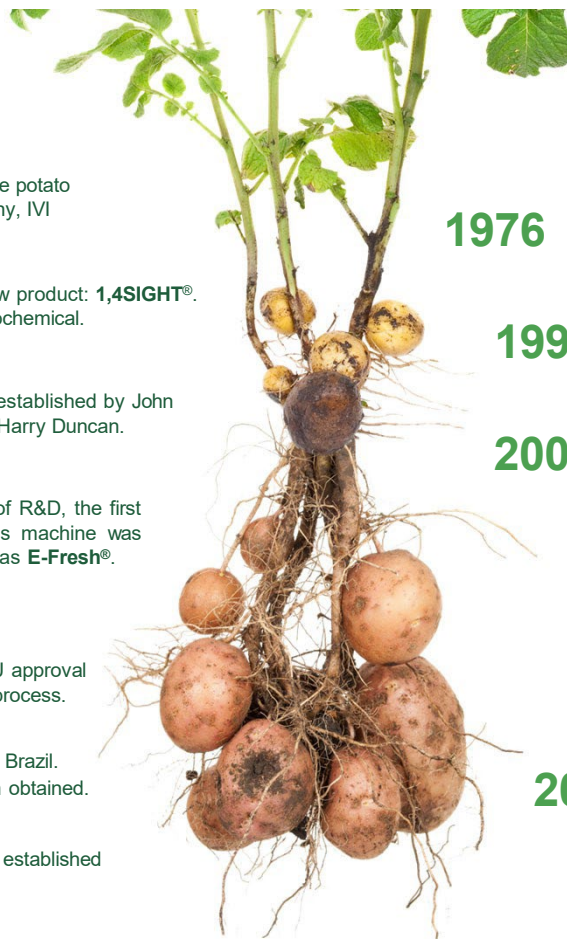


DormFresh Ltd (12)
Perth, Scotland



Skyfall Biologicals (11)
Geismar, Louisiana, U.S.





1965 Darol Forsythe founded the potato storage ventilation company, IVI

1976 Darol was granted a distributorship for **Sprout Nip** (CIPC or chlorpropham) and began selling and applying it. CIPC inhibits potatoes from sprouting in storage.

1995 The search for alternate chemicals leads to a new product: **1,4SIGHT®**. It received the first U.S. EPA registration as a biochemical.

1996 Our first packaging facility, **Dataplex**, is established in El Salvador.

2000 **DormFresh** was established by John Forsythe and Dr. Harry Duncan.

2005 The company name **PIN/NIP** was changed to **1,4GROUP**.

2008 After many years of R&D, the first electric applications machine was sold commercially as **E-Fresh®**.

2011 **1,4SIGHT®** is registered in Canada and Mexico.

2015 **1,4SIGHT®** received EU approval after a 17-year review process.

2018 **1,4SIGHT®** is registered in Kenya.

2022 **1,4SIGHT®** is registered in Brazil. DormFresh UK registration obtained.

2023 **Skyfall Biologicals**, a subsidiary of 1,4GROUP, began building a production facility in Geismar, Louisiana, U.S.

2024 **1,4SIGHT®** receives established CODEX value.



Forsythe (R) and son (L) John with first applicator model



Darol with new Dataplex team in El Salvador



New offices and production facility in Geismar, LA



Global Storage Solutions

In Field Use

- Maleic Hydrazide (usage increased dramatically after the ban of CIPC in Europe)
- Renewed interest globally

Current Storage Treatments

- 1,4SIGHT®/DORMIR®
- BIOX M - mint oil
- Argos - orange oil
- Restrain - ethylene
- Talent - caraway oil
- Low temperature storage (refrigeration)
- CIPC
- 1,4Zap® (1-octanol)
- Clove Oil
- SmartBlock – 3-decan-2-one

Treatments Not in Practice

- Irradiation
- Hydrogen peroxide
- Ozone

Treatments Being Researched

- Gene editing
- Genetic Modification
- Essential oils
- Gibberellic acid
- UV/LED/Diffused light
- Methyl Jasmonate
- Chlorine dioxide
- Higher alcohols
- Aloe vera gel
- Imazethapyr
- Mustard seed extract
- Tree bark extracts
- Ozone



Global Developments & Trends

Alternatives to CIPC

- Researched for decades
- Renewed focus since EU ban

Regulatory Hurdles

- Constantly changing requirements
- Stricter safety & residue data is needed by regulatory authorities
- These requirements apply to both new and existing active substances
- Natural ≠ automatically mean a product will be approved

Research Gaps

- Academic trials often are not representative of commercial needs
- Many studies are too abbreviated for use in registration
- Often, they can misrepresent the effectiveness of active substances



Global Developments & Trends

Life After CIPC

- Last used in Europe in 2020
- 5 storage seasons have been managed with alternatives
- Better storage & crop management
- Millions of tonnes stored >6-8 months

GMO

- Tried since the 1990's
- Not commercially viable

Gene Editing

- 15+ years of research, still in development
- Key questions:
 - Impact on seed dormancy?
 - Effect on sugar metabolism?
 - Next generation of plants?
 - Long-term human safety?
- Caution: changing nature has risks

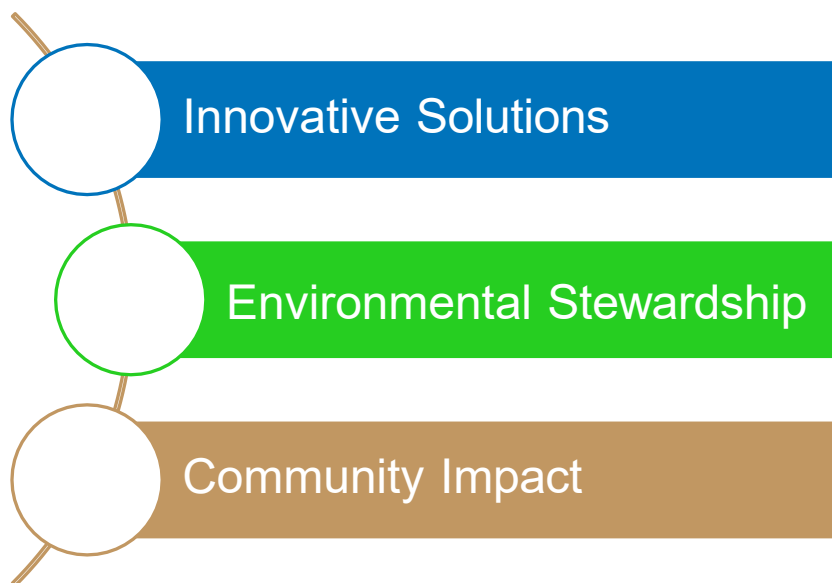


Path of Success for 1,4SIGHT®

- High quality product
 - Works with nature
 - Works consistently
 - Works on all types of potatoes
 - Excellent results in storage
- Support focused on needs of storage industry
- Value for the grower
- Storage managers now pay more attention to their crops in storage
- Minimum application rates for 1,4SIGHT® were quickly discovered



Skyfall Biologicals



Specialty Chemical Manufacturer
Geismar, Louisiana, USA



Skyfall Biological Products

Current

Hydrogenated Catmint Oil (HCO)



Planned

1,4SIGHT® (1,4-DMN)



EU Registration Update

- The status of re-registration is the active substance approval has been extended to the end of November 2027
- PHI reduction from 30 days to 3 days is now in place in France, Germany, Austria and just last week in the Netherlands.
- 1,4SIGHT® for use on seed potatoes is now approved in one Member State and we are anticipating more approvals soon



Key Message for Potato Industry



Value added to potatoes

Less shrink coming out of storage
than any other product



Quality of stored potatoes

Firm coming out of storage
Sprout free is possible
Better than CIPC treatments



Conclusions

- 1,4SIGHT® resulted in the most effective **sprout control**
- **Shelf-Life** with 1,4SIGHT® was the best of the EU registered products tested
- **Weight loss** was significantly reduced when 1,4SIGHT® is used
- Best results if used within the first month of storage
- **Tubers firmer** after 1,4SIGHT® use
- Significant **energy savings** can be achieved using 1,4SIGHT® in EU





CONTACT

If further information is required to resolve any uncertainties, please contact us directly.

John Forsythe | President
jforsythe@14group.com | OFFICE: +1 208 887 9766
www.dormfresh.co.uk