Selling Genetically Modified Potatoes in the United States:

Lessons from the Innate® Potato

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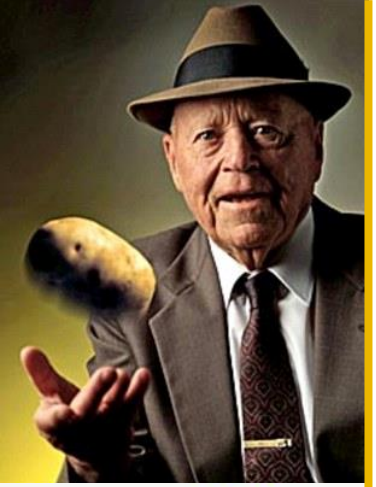
CROP Innovation and Business Conference

Simplot



A History of Innovation

J.R. Simplot pioneered a culture of innovation; noted for first frozen French Fries.

BRINGING EARTH'S RESOURCES TO LIFE

Phosphate Mining/Fertilizers

Farms, Feedlots & Ranches

Plant & Animal Sciences

Turf and feeds

Food Production

Ag Retail/Consulting

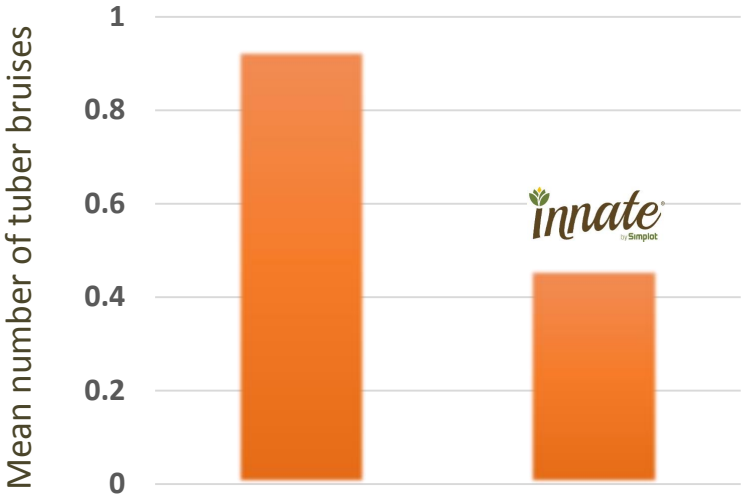
Potato Traits

SILENCED PPO (ENZYME)

- Non-browning when cut
- Reduced black spot bruise

REDUCED ASPARAGINE (AMINO ACID)

- Yields a 50-80% reduction in acrylamide when baked or fried



FOUR IMPROVED VARIETIES

- Russet Burbank
- Ranger Russet
- Atlantic
- Snowden

DEREGULATED IN US, CANADA, AUS, NZ

Potato Traits

LOW COLD SWEETENING

- Resistance to field stress
- Quality fries and crisps from cold storage

LATE BLIGHT RESISTANCE

- Robust resistance against all known strains in the USA/Canada

FOUR IMPROVED VARIETIES

- Russet Burbank
- Ranger Russet
- Atlantic
- Snowden

DEREGULATED IN US & CANADA

US Potato Facts

- Compared to row crops—few hectares grown (400,000 ha)
- Commodity volumes-low margins
- NatureMark failed publicly
- Deregulation costs about $15 mil

US Potato Industry Sectors

	Frozen	40% of volume
	Fresh	26% of volume
	Chips	15% of volume
	Dehydrated	11% of volume

US Potato Industry Sectors

Frozen — Four russeted varieties own market

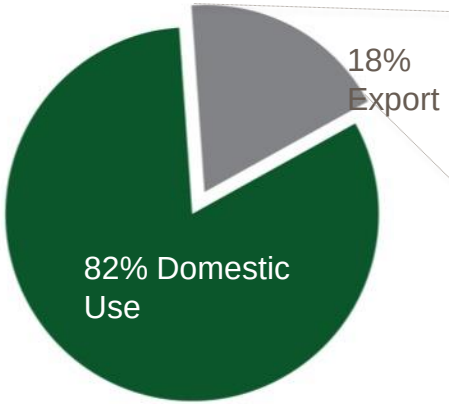
Fresh — Reds, whites, yellows & russets

Chips — Two varieties own 40% of market

Dehydrated — Outlet for Frozen & Fresh off-grade

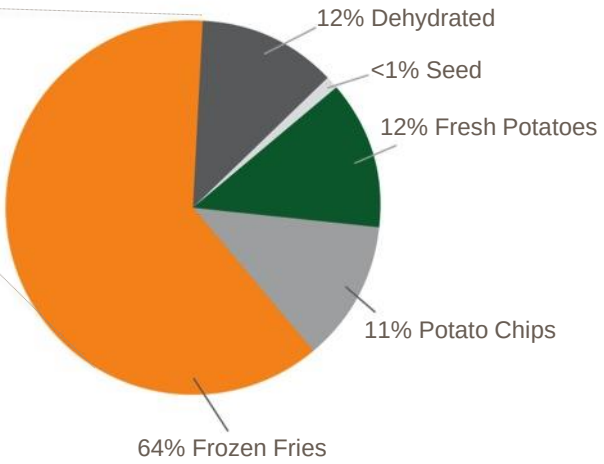
U.S. Market Assessment

U.S. Consumption is 82% of U.S. Production



Export is ~18% of U.S. Production

Market Share of Exported U.S. Potatoes



Source: National Potato Council, 2015

Top 10 Export Markets

1	Japan	$348 million
2	Canada	$333 million
3	Mexico	$217 million
4	China	$113 million
5	South Korea	$97 million
6	Phillippines	$68 million
7	Taiwan	$60 million
8	Malaysia	$56 million
9	Saudi Arabia	$41 million
10	Hong Kong	$39 million

Source: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics

Sectors of success

Frozen 40% of volume

Fresh

- Only branded biotech produce item in US groceries
- Selling in groceries across US for 2 years without hysteria
- Seeking growers and retailers in Canada

Chips

- Regional chippers (not PepsiCo/Frito Lay) seeing big returns
- Number of acres and number of growers increases annually
- Seeking growers and retailers in Canada

Dehydrated 11% of volume

Why we aren't in the Frozen sector

- Once bitten, twice shy
- Public relations threat to big name brands
  - e. g. McDonalds
- Threat to international trade
- All French fry plants at capacity

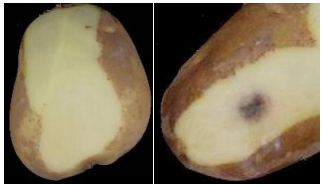
Fresh Potato Sector--USA

Top grade fresh potato channels

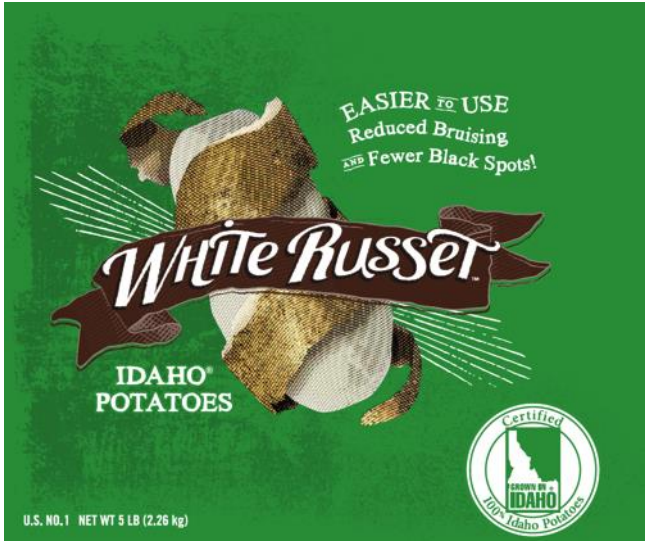
Food Service (Sysco)

Retailers (Walmart, Safeway, Kroger, etc)

- Retailers are expected to pay more for better quality and fewer rejections due to bruise. Consumer price may stay the same.
- Food Service companies are expected to pay for quality and “stay white” convenience, especially late storage season.



Fresh Potato Sector—White Russet™



Fresh Potato Sector--USA

Low grade fresh channels

- ✓ Salad
- ~~Dehydrated flake and granules~~
- ~~Animal foods~~
- ✓ ‘Fresh cut’ (refrigerated fresh)

Fresh Cut

Natural browning time course

No Additives, No Preservatives
Just potatoes

FRESH CUT POTATOES
QUALITY · CONVENIENCE

Chips Sector-USA

Private Breeding

+ Custom Selection

+ Proprietary Seed

Continuous Advantaged Pipeline

New Variety Every 2-3 Years

Public Breeding

+ Public Selection

+ Public Seed

Seeking genetics advantage

Embracing Innate® Potatoes

THANK YOU

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