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Maine Grain Alliance



INTRODUCTION

VARIETIES

RESTORATION

REINTEGRATION

Heritage Grains & Beans

of the Northeast

USDA National Plant Germplasm System



Worth Saving?

Yes... but maybe not worth growing.



Eight-Row Flint Corn

- ❑ Eight rows of broad-shouldered flinty kernels.
- ❑ Unique to New England and Southeastern Canada.
- ❑ Northern varieties are smaller, mature more quickly, and generally lighter in color (pale yellow vs. golden-orange).
- ❑ Red, purple, and blue are less common and distributed more randomly.
- ❑ Pure white in Rhode Island.



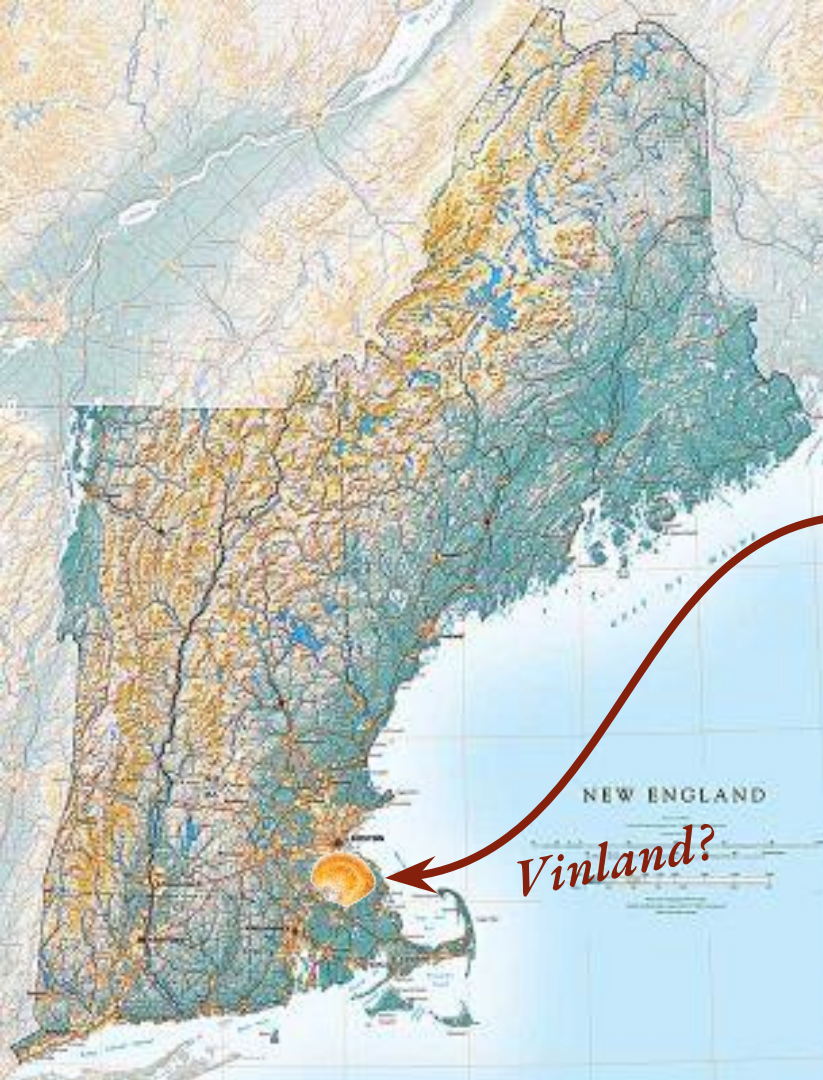
Maize Migration

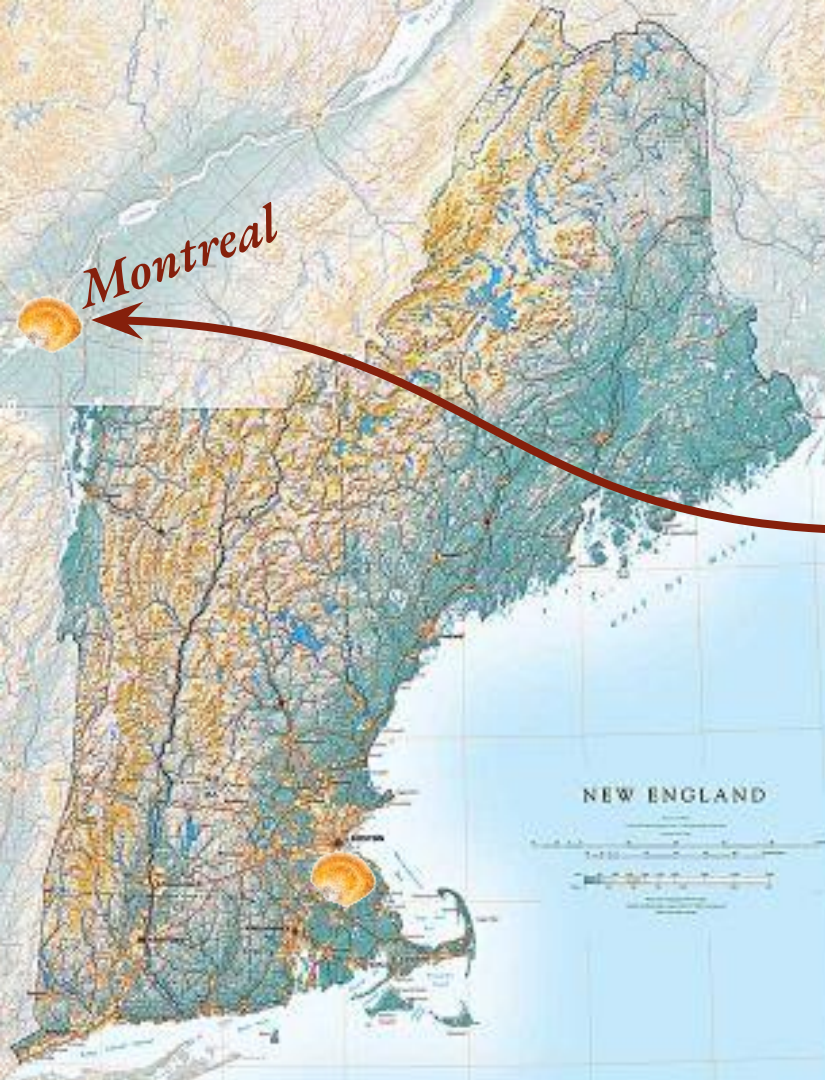
- ❑ First domesticated in Central America ~9000 years ago.
- ❑ Believed to have been introduced to the Northeast around 1000 years ago.
 - ❑ Likely earlier given that the Vikings observed corn being grown in New England as early as 1002 AD.
- ❑ Eight-rowed *flour* corn migrated from the Southwest.
 - ❑ Colder Northeastern climate favored “flintier” varieties with fast maturity.
 - ❑ Abenaki Rose found in NE (possibly Iroquois).



Early Cultivation

"In 1002... Thorwald, brother of Lief, reached the wintering place in Vinland... [and found] a wooden corn shed." ~ Sturtevant (1880)



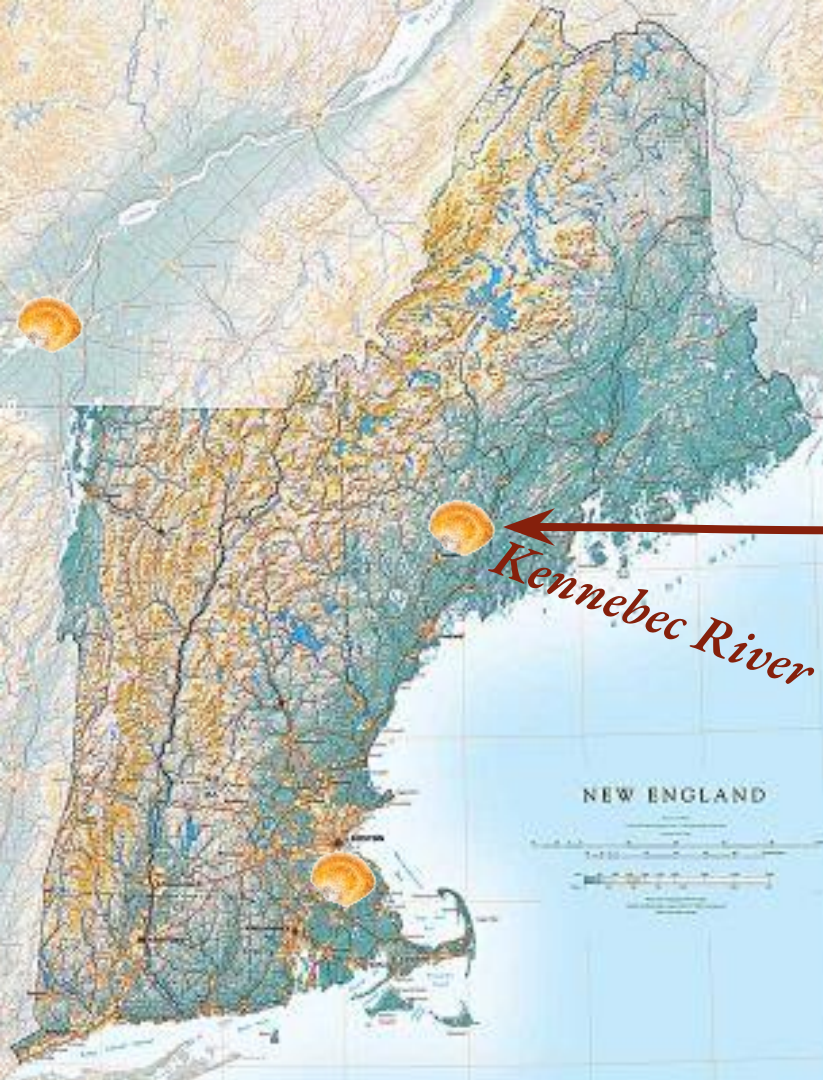


Early Cultivation

“It was fine land with large fields covered with the corn of the country, which resembles Brazil millet, and is about as large or larger than a pea.” ~ Cartier (1535)

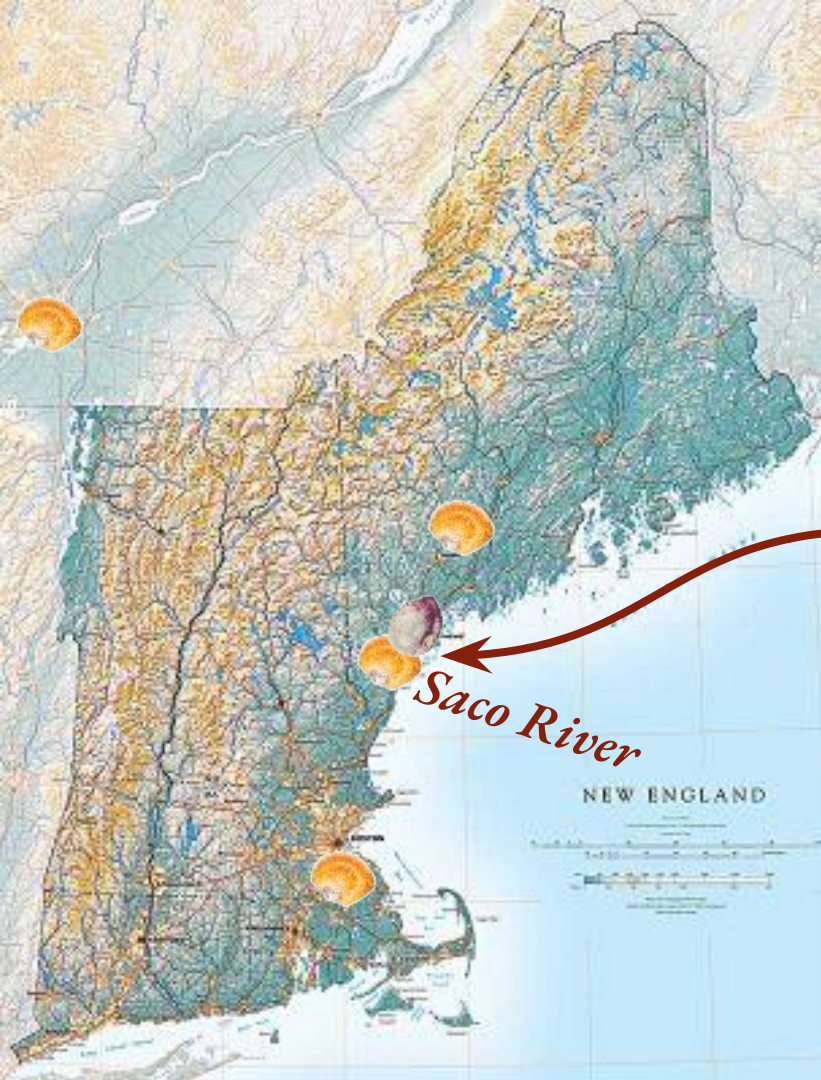
Early Cultivation

"The savages, who plant the Indian corn, dwelt very far in the interior, and that they had given up planting it on the coasts on account of the war they had with others, who came and took it away." ~ Champlain (1605)



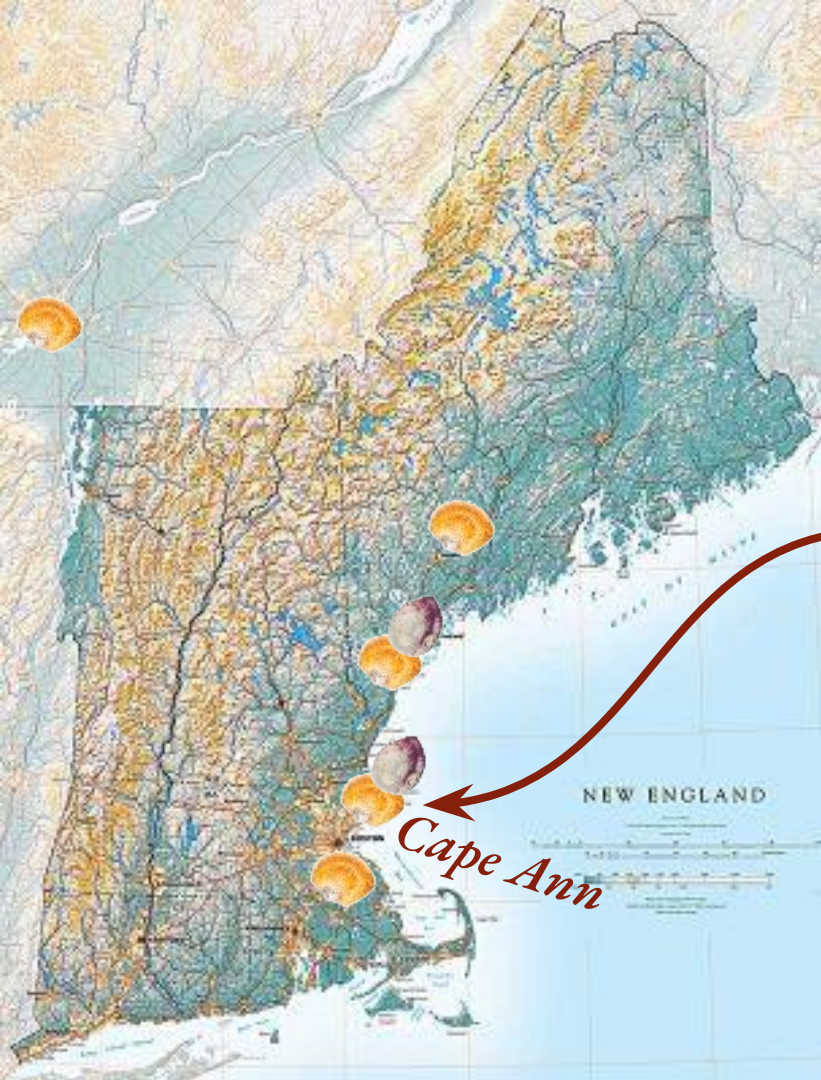
Early Cultivation

"We saw their Indian corn, which they raise in gardens. Planting three or four kernels in one place, they then heap up a quantity of earth and shells... Then three feet distant they plant as much more... With this corn they put in each hill three or four beans, which are of different colors." ~ Champlain (1605)



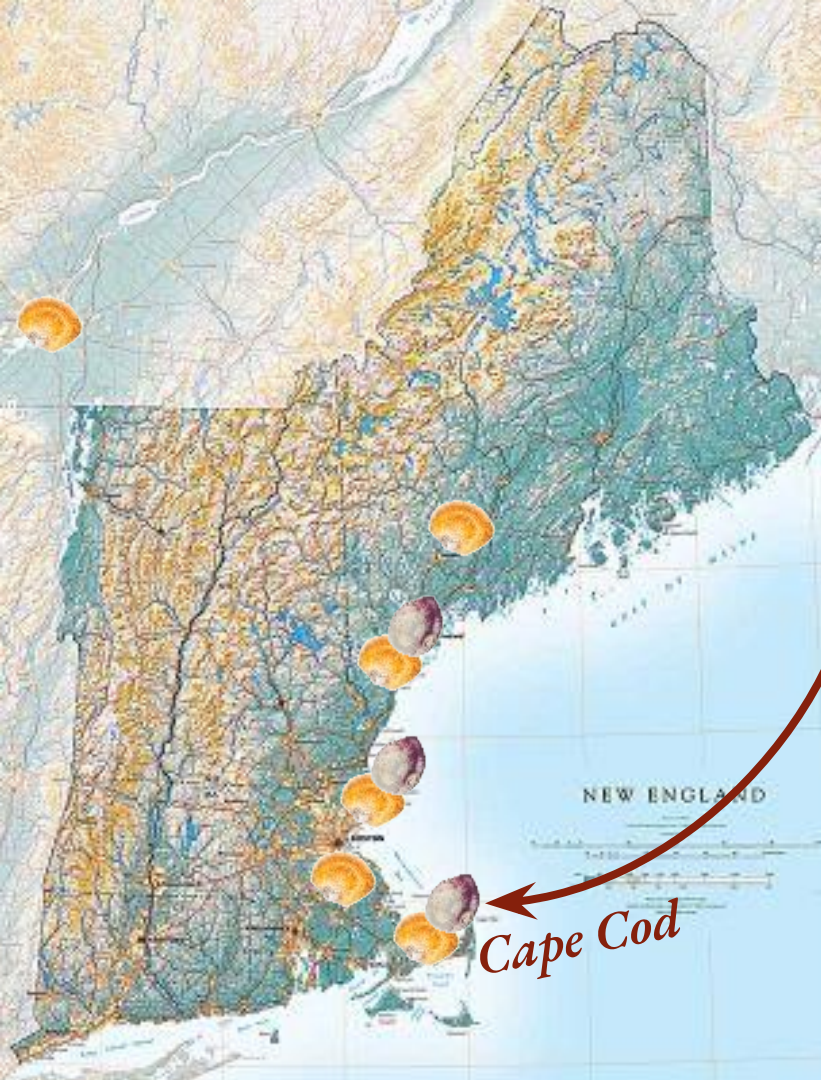
Early Cultivation

"All along the shore there is a great deal of land cleared up and planted with Indian corn... They brought also some purslane, which grows in large quantities among the Indian corn, and of which they make no more account than of weeds." ~ Champlain (1605)



Early Cultivation

"There was also a heap of sand... which we dugged up, and in it we found a little old basket full of fair Indian corn, and digged further and found a fine great new basket full of very fair corn of this year... some yellow, some red, and others mixed with blue, which was a very goodly sight." ~ Standish (1620)



Gaspé

- ❑ First grown by the Mi'kmaq on Quebec's Gaspé peninsula.
- ❑ Earliest maturing flint corn in the world.
 - ❑ Ready to harvest in 60 days.
- ❑ Grows to 2 ½ feet in height. Ears are 2-4 inches long.
- ❑ Yields 3-6 ears per stalk.



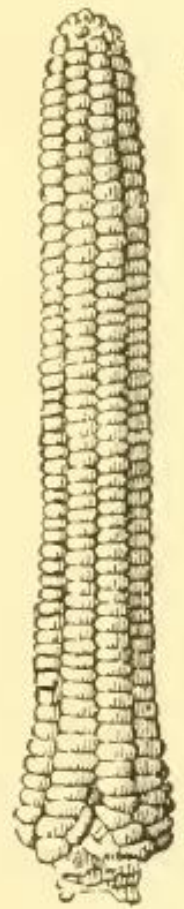
King Philip

- ❑ Copper-red kernels.
 - ❑ Some strains include yellow ears.
- ❑ Named after Wampanoag chief Metacom, known to early settlers as King Philip.
- ❑ 1000 acres were seized by the Puritans in King Philip's War (1675).
- ❑ Improved strain developed in 1817.
- ❑ Moderate yield (50-60 bu/acre).



yellow dent, especially for
tude of the corn belt
succeed.

Flint varieties.—C



¼ size

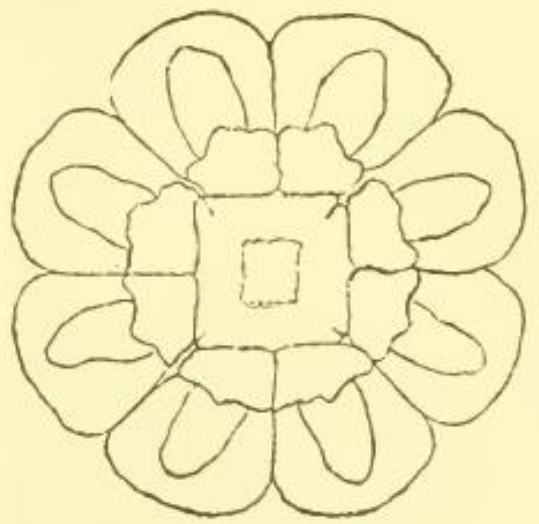


FIG. 8.—CANADA.

orange color. Plant
Matures early.

Canada Twelve-Row



Narragansett White

- ❑ Also known as “Rhode Island White Cap” or “Johnny Cake Corn”
- ❑ Ranges in color from pure white to light amber.
- ❑ Among the highest yielding flint varieties.
 - ❑ 65-70 bu/acre.
- ❑ Grows 6-8 feet tall.
- ❑ Keeps well despite high fat and protein content.



Byron

- ❑ Discovered by Will Bonsall.
- ❑ Very low-yielding compared to other flint varieties.
 - ❑ 5-10 bu/acre.
- ❑ High carotenoid content.
 - ❑ Color, flavor, and nutrition.





Planting in Clusters

- ❑ Reduces early-season bird damage.
- ❑ Increases yield.
 - ❑ More plants/acre.
 - ❑ Improved pollination.
- ❑ Lodging support.
- ❑ Preserves population diversity.

Otto File

- ❑ Descendant of *New England Eight-Rowed Flint Corn*.
- ❑ Exported to Italy in the 19th century.
 - ❑ Renamed *Otto File* (“Eight Row”)
- ❑ Became standard variety for polenta due to its flavor and flinty texture.
- ❑ High levels of carotenoids, providing golden-orange color and rich flavor.





Genetic Bottleneck

- ❑ 2-5% of seedlings are albino.
 - ❑ Surfacing recessive trait with 100% fatality rate.
 - ❑ Indicator of genetic bottleneck.
- ❑ No red ears (unlike its predecessor).



The Loss of Red Flint

- ❑ Blue has always been a rarity but red was once a more common color.
- ❑ Unmarketable due to its association with the “devilish Indian”.
- ❑ Red flint corn has higher concentrations of maysin – a natural insecticide.
- ❑ Could have greater pest resistance than yellow varieties.

Common Bean

- ❑ Cultivation of beans in New England dates back to ____.
- ❑ Earliest varieties were pole beans grown on the stalks of flint corn and sunflowers.
 - ❑ True Red Cranberry.
- ❑ Many bush beans were introduced in the ____.
 - ❑ Classic “bean-hole” varieties included Jacob’s Cattle, Yellow Eye, Soldier, and Marfax.



True Red Cranberry

- ❑ Among New England's oldest beans.
- ❑ Large, plump seeds.
- ❑ Excellent baking variety.
- ❑ Rediscovered in Steep Falls, ME by bean collector John Withee.
- ❑ Slow maturity.
 - ❑ 100 days in good conditions, longer when wet.



Norridgewock

- ❑ Similar size and shape to True Red Cranberry.
- ❑ Grown by Abenaki tribe in Norridgewock, ME.
- ❑ Can be eaten fresh as a snap bean but typically dried down for baking.



Skunk

- ❑ Pole bean grown by Iroquois and Abenaki.
 - ❑ Prolific climber with long vines.
- ❑ Also known as Chester or Flagg.
- ❑ Easy to thresh.
- ❑ Fast maturity (90 days).



Marfax & Yellow Eye

- ❑ Classic Maine bean-hole varieties.
- ❑ Dense, creamy texture and rich flavor.
- ❑ Bush beans (more practical for some growers).
- ❑ Still very popular among consumers.



Jacob's Cattle

- ❑ Also known as Trout or Appaloosa.
- ❑ Kidney-type. Bush habit.
- ❑ Originated on Prince Edward Island.
- ❑ Best for soups and stews.



Carver Bean?

- ❑ Unidentified pole bean variety.
 - ❑ Tentatively named for its last known grower – Jack Carver (Epping, NH).
- ❑ Similar appearance to True Red Cranberry.
 - ❑ Close relationship confirmed through DNA test last year.
- ❑ Where did it come from? How long has it been here? What was its name?



Sunflowers

- ❑ Cultivation first recorded by Samuel de Champlain in 1615 on the coast of Lake Huron.
- ❑ Grown by Native Americans for seed oil (used as food and paint).
- ❑ Member of the Abenaki “Seven Sisters”.
- ❑ Used to trellis pole beans like flint corn and sunchokes.



Morrisville

- ❑ Believed to be the variety referenced by Samuel de Champlain.
 - ❑ Also found in CT River Valley.
- ❑ White seeds with **thin hull**.
 - ❑ Advantageous for roasting (can be eaten whole) or dehulling for oil.
- ❑ Critically endangered.

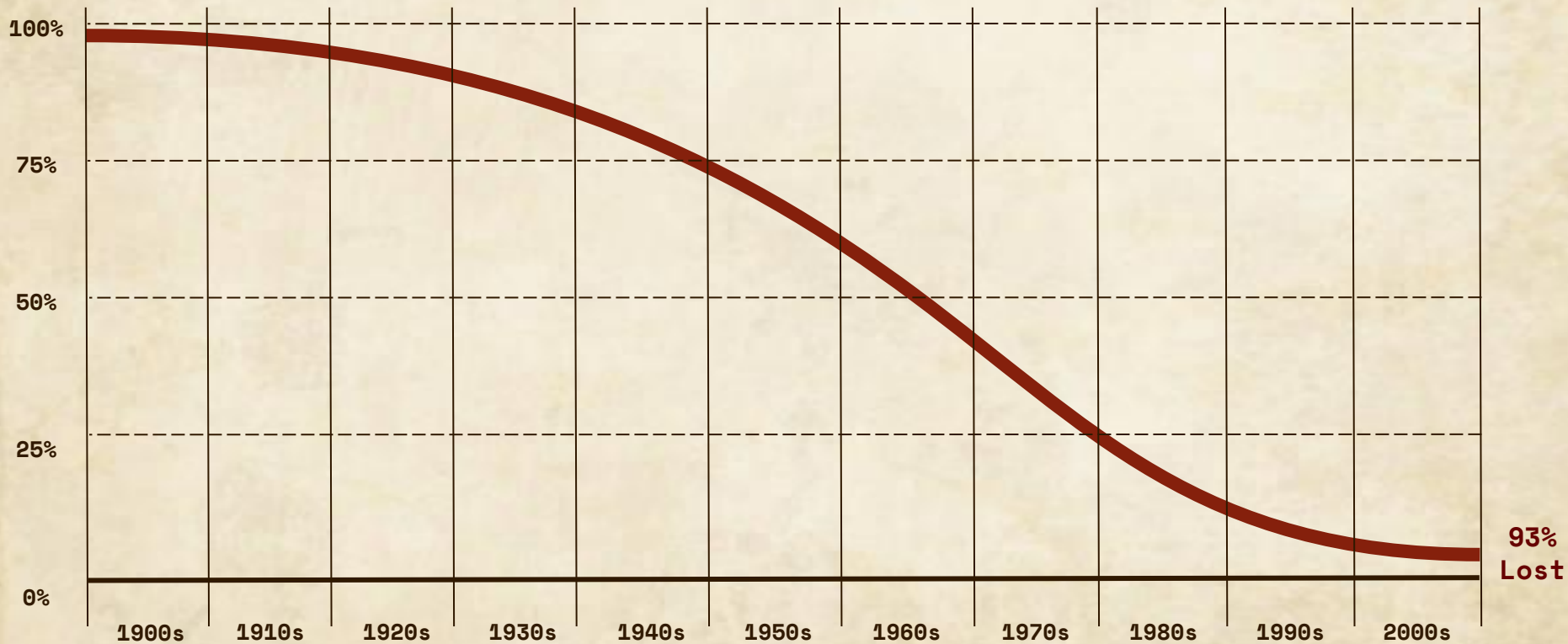


On Extinction



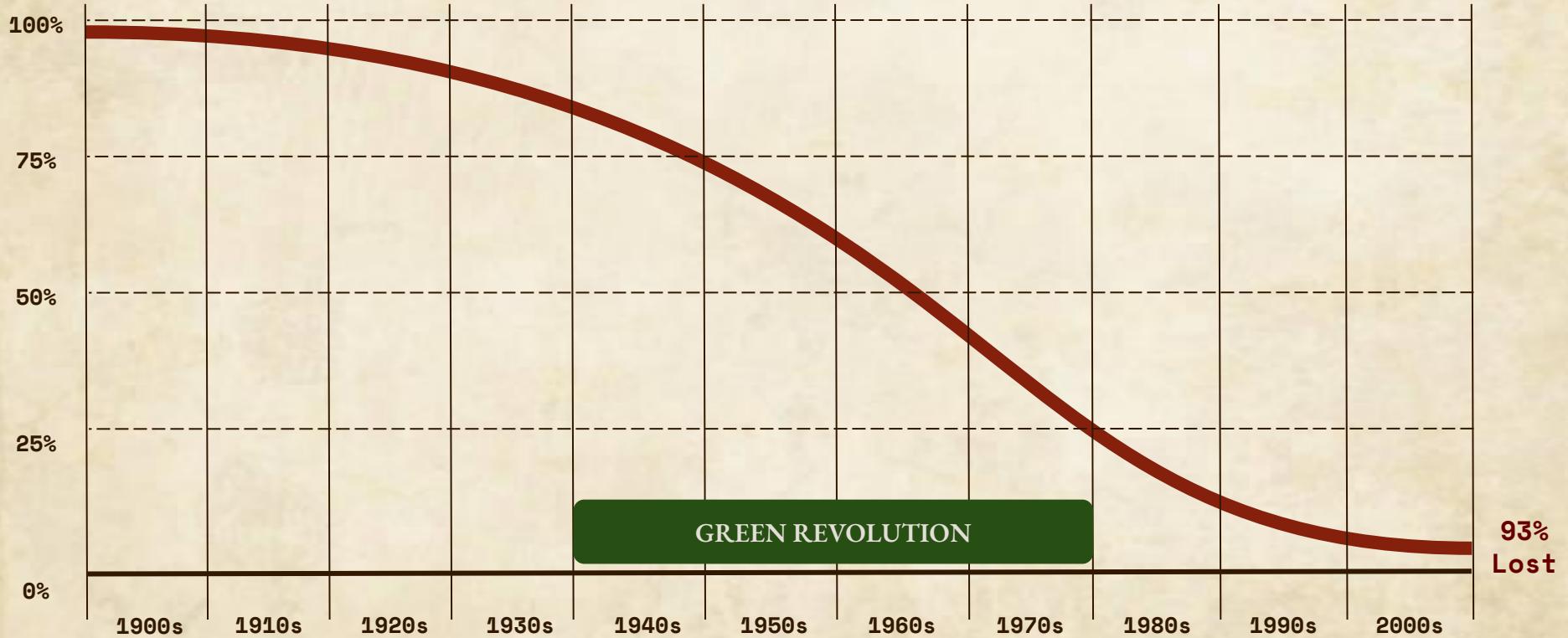
Estimated Variety Diversity Loss (1900-2010)

Source: Food & Agriculture Organization



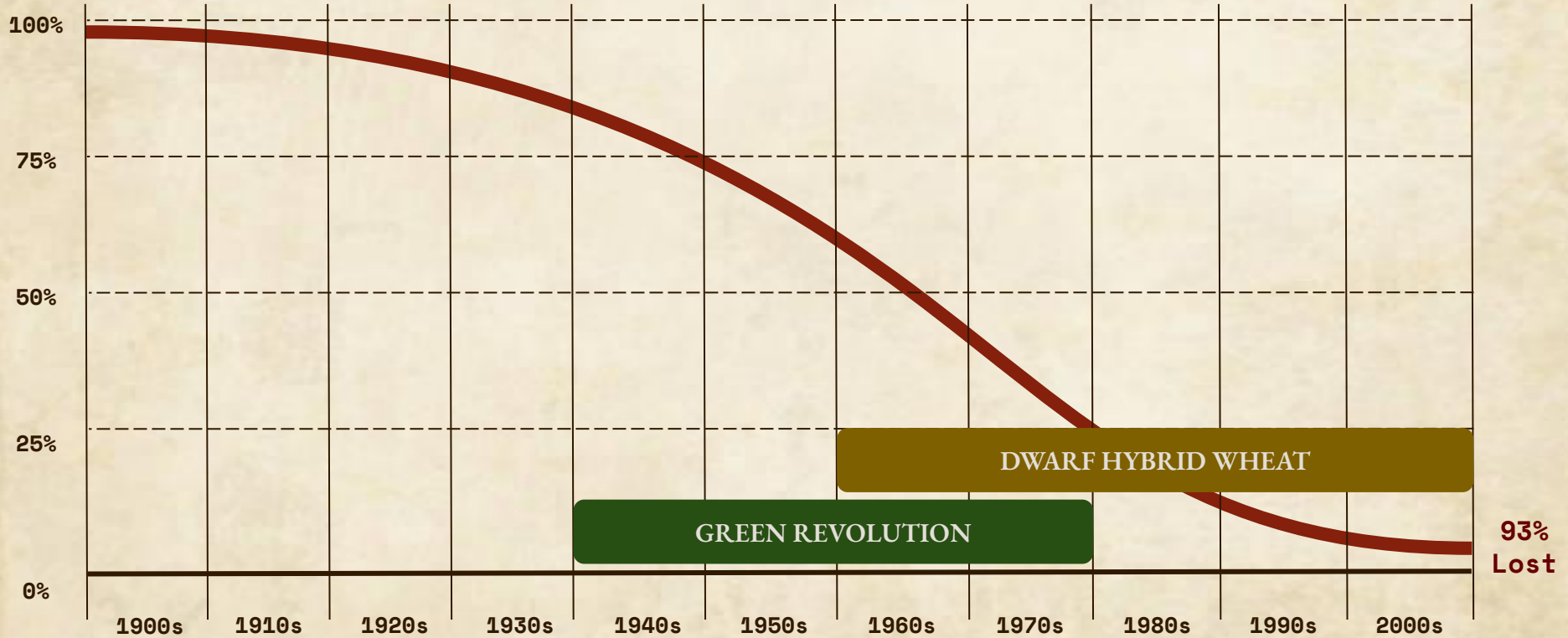
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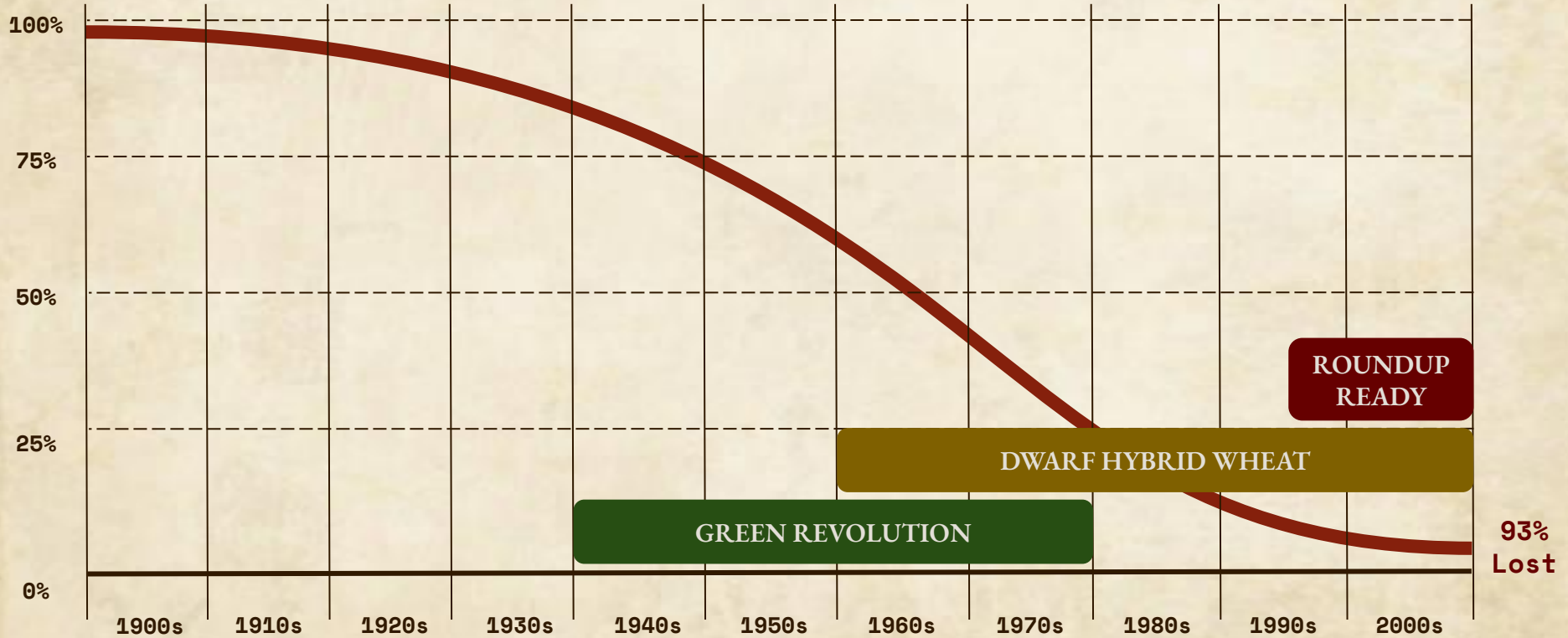
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Finders Keepers

"I have been told by my father and grandfather that our ancestor... got this corn from the natives... when we got here prior to 1654... I am generation 13 and we have kept this corn clear and have never lost the seed.

In fact the tribes have come to us to get there corn back. I have developed a good business with cornmeal products that we grind here at the farm and control the planting, harvesting, grinding, and distribution and am fiercely protective of my seed. I sell only ground products and not whole seed ever.

This seed, as you know, is an open-pollinated and unpatented strain of corn... A single ear gets away and I lose my advantage and have competitors. I will allow you see this corn and photograph but not a single kernel will ever leave this farm for any purpose period.

All this said, I look forward to showing you what I have."



Questions?

