

Heritage Wheats *of New England*



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Heritage Wheats of New England and NY

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*For further information on the history and biodiversity of
heritage grains, I encourage you to read my book.*

'Restoring Heritage Grains'.

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Celtic Wheat Harvest

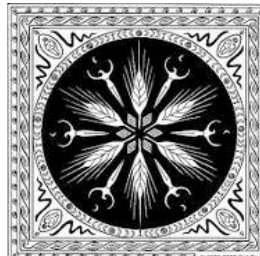


'Let the people use this day to make offerings to the Mother Goddess river of their region and to bathe themselves and their farm animals in "living wild water" - a stream or a river, a lake, a pond, or the sea¹. In every case shall offerings and prayers of thanksgiving be made.

Then shall the people make offerings to standing stones, dressing them with wreaths of new grain and flowers, placing first fruits at their feet. Let them cut a sheaf of new grain and set it afire in the ancient manner, burning off the husks with fire. Then let them grind the grain in a quern or a mill and bake a bannock from it saying:

*On the feast say of Lugh and of Danu, I cut a handful of the new grain, I purified it by fire,
And rubbed it sharply from the husk with my own hand. I ground it in a quern,
I baked it on a fan of sheepskin, I toasted it to a fire of rowan, I shared it round my people.
I went sunwise round my dwelling In the names of Lugh and Danu
Who have preserved me, Who are preserving me, and who will preserve me, In peace, in flocks
In strength of heart, in labor, in love, in wisdom and mercy, until the day of my death.'*

The beginning of the Celtic harvest was one of the four great festivals of the year. There was a ceremonial reaping of the grain by the head of the household, waving it thrice above his head, the blessings-chant said invoked protection from ills that threaten the crop. In ancient times the head of the community or the King performed the first cutting. The grain was threshed, winnowed and ground. Ritual 'bannock' griddle cakes were made from the grain of the first harvest for each member of the family, enjoyed at a festive communal feasts. Sharing protected the people against starvation in the coming year. An offering was made by bringing the first sheaves to a high place and burying it. In ancient days a bull was sacrificed. Garlands of wild flowers decorated the maiden's hair, wreaths on special places, strewn on the summit and on the great stones. A girl was seated on a chair, garlanded with flowers. Berries were picked. Great dancing festivities ensued on the high places. The young men competed in tests of strength and agility. The people assembled by lakes and riversides, immersing themselves, their horses and cows into the wild, pure, holy water.²



¹ A mikvah is the Hebrew immersion in living water before festivals and the Sabbath evening of intimacy,

² Maire McNeill, *Festival of Lughnasa*

Red Lammas



Red Lammas in Brockwell Bake field trials in England

Lammas may be the first wheat sowed in colonial New England, brought over before the American Revolution by British settlers in the 1600's. Red Lammas is an old Celtic wheat grown in Britain for millennia. Ancient Celts celebrated the midsummer wheat harvest in a festival called Lughnasad (Lugh means Sun-King) when light dwindles after summer solstice. Lammas (Middle English 'Hlammasse' or loaf-mass) refers to the Celtic wheat festival where the first sheaf of wheat was ceremonially reaped, threshed, milled and baked into a loaf. As Christianity entered, the first loaf was consecrated at a 'Loaf-Mass' thanksgiving for the harvest.

There are three Lammas landraces: Red, Yellow and White. Red Lammas is a renowned old English landrace bread wheat, described by the first modern botanist, John Ray in 1650 in his catalogue of plants.

In the *Modern Husbandman*, 1784, William Ellis wrote: '*Red Lammas is deemed the 'King of Wheats' for having deservedly the reputation of the finest, full bodied flour. It fetches the best price at market.*' Yellow Lammas was brought by the British to the South where it became known as "Red May" then migrated northwards, becoming known as "Michigan Amber". White Lammas adapted well in the Northwest and became known as 'Pacific Bluestem'. These Lammas lines were an important contribution in US wheat breeding. Lammas resembles Rouge de Bordeaux in look, flavor and baking quality, but is distinguished by a little awn-tail on the tip of the seedhead. It is better able to yield in poorer soil, but tends to lodge in richer soil fertility where Rouge de Bordeaux will stand tall giving abundant glowing seed. Lammas is a soft red winter wheat with aromatic flavor and crispiness enjoyed in pastries, scones, pastries and light artisan breads.

Rouge de Bordeaux



Nikolo Supiot, a French artisan baker, reports that Rouge de Bordeaux is beloved for its rich delicious flavor and fine baking quality.

Vilmorin recounts in 1880: During the winter of 1870-1871 farmers in Seine-et-Oise and Seine-et-Marne, who had fled to Bordeaux because of the war, brought back a few bags of seed to sow on their land. Thus the 'red wheat from Bordeaux' was introduced. Since then it has spread widely with deserved acclaim. It is productive, demanding on the soil and of a medium-tall height. Bordeaux wheat does well in rich clay soil and on a limestone subsoil it is very favorable. The grain is large, full, red and heavy. It does well spring-planted, but the maturity is a little later³.

GRIN reports that Rouge De Bordeaux, released in 1884 by Vilmorin, is a selection from Noe, brought to France from Samara in southern Russia. It looks almost identical to Red Lammas, but has stronger stalks, greater resistance to lodging in richer fertility and lacks the tiny awn-tail of Lammas.

My Rouge de Bordeaux was generously gifted to me by Jean Francois Berthelot, French seed-saver extraordinaire.

³ Les Meilleurs Ble, http://museum.agropolis.fr/pages/documents/bles_vilmorin/tome1/1_table_des_matières1.htm
<http://www.ouest-france.fr/les-conferences-du-salon-du-bien-etre-et-du-bio-772175>

Maine Baltic Banner



Maine state seal with a sailor and a wheat farmer, late 1800s, unknown artist

"There was a time when wheat was a sure crop in Maine, raised without serious difficulty in quantities adequate to the wants of the people, the most common and reliable of crops. Wheat was a surer crop than Indian corn, more bushels of it were annually harvested and consumed. The only flour brought into our State was borne hither from vessels from Baltimore and Richmond, but seldom used except in small measure by families in our seaport towns for pastry. The Erie Canal had not yet opened. New York State's Genesee flour was unknown here. For wheaten bread our population relied upon the home article. Few stores were without ample bins of wheat. Our wheat was not white like the brands of St. Louis. It was sweet and nutritious but of brownish hue. Much of the bran was mingled in the flour.

The best variety of winter wheat in Maine is known as the Baltic Banner wheat. In 1844 we received a small package of this grain from the Patent Office, just imported from the Baltic. We sowed it and its proceeds, till three years afterwards, a harvest of thirty-two bushels was obtained. We distributed it in various parts of the State for cultivation. As uniformly as with us, it proved a good success.

Siberian, aka Java or China Tea, and Black Sea Caucasus winter wheats also have been grown with great success. The Baltic Banner wheat has been raised to this day. It is a splendid grain. Sowed on grounds that the frosts do not heave badly, it is found to survive the winter nearly as well as clover. But it should be sown in August that it may get firmly rooted before winter. If a field is plowed in July, fertilized, harrowed, sown and rolled in August, or seed scattered in the cornfield previous to the last hoeing, the chance is sure of an ample harvest in July following.'

Maine Agriculture Society Report of 1857

What was the origin of the Banner wheat that did so well Maine? Why would the U.S. Patent Office send wheat to Maine? With this clue, I researched the Patent Office activities of the period and discovered the following puzzle pieces. Henry L. Ellsworth wrote in his report of 1837:

'The introduction of a new variety of wheat promises the most gratifying results in securing production under the adverse effects of severe winters. A short time ago, the most eastern State of our Union was, in a measure, dependent on others for her bread-stuffs. That State is now becoming able to supply its own wants, and will soon have a surplus for exportation; and this is effected by the extensive introduction of new wheat. Among the varieties of this wheat, however, there is great room for selection; there is at least 20 percent difference, if regard is paid to the quality and quantity of the crop.'

In 1898, Mark A. Carleton was sent by the USDA on a plant collection trip to Russia. He brought back landrace durum and hard red wheat varieties, many from Crimea, to grow in the United States. Five years after the introduction of this Russian wheat, wheat production in the United States exploded from 60,000 to 20 million bushels a year. Not only did the drought tolerance of these new varieties open up the Great Plains and the Northwest for wheat growing, the durum wheat tasted better in pasta, and the hard red wheat made better bread.



M.A. Carleton in 1900

The official who sent Carleton on his 1898 collecting trip wrote, "We had forgotten how poor our bread was at the time of Carleton's trip to Russia. In truth, we were eating an almost tasteless product, ignorant of the fact that most of Europe had a better flavored bread with far higher nutritive qualities than ours." ¹

In 1894, Mark A Carleton, stated in the 'Successful Wheat Growing' *'The hardiest winter wheats originate from the Crimean regions of Karkov, Kuban and Samar. 'The very best winter wheat is Kharkov wheat - the most hardiest of all known winter wheats'.*

1. <http://www.ars.usda.gov/is/timeline/germplasm.htm>

2. ipmall.fplc.edu/hosted_resources/PatentHistory/poar1839.htm

Maine - Black Sea



'Black Sea Caucasus winter wheats have been grown with great success.'

Maine Agriculture Society Report of 1857

The Caucasus Mountains, bordering the Black Sea between Russia and Turkey, are an ancestral center of origin of bread wheat, with a high degree of tritium biodiversity due to its diverse climatic conditions and soils. The beloved Caucasus Mountain wheat 'Tsiteli doli' (*Triticum aestivum* var. *ferrugineum*) is a cherished soft winter landrace wheat. This variety is well adapted to heavy, poor soils and a harsh climate of cold winters and hot, dry summers. It is frost hardy and resistant to drought and disease. When grown in non-irrigated lands typical in peasant farmers' fields, yields are less than modern wheat, but the aromatic taste and baking quality are better than if it is grown in irrigated fields. Lodging is normally not a concern for under the rainfed conditions. Rotational cover cropping, minerals and mulching is generally sufficient. Manuring or irrigation increase lodging.

This Caucasus Mountain landrace set out early leaves before any other wheat in my trials for an excellent ground cover that suppresses weeds. It reaches a height of 4 feet or more. The seedheads can be up to a 12" long, red, with awns of rich hues ranging from honey to mahogany.

Even though Tsiteli Doli is an important wheat variety outside of Georgia, especially in France, where it is beloved as Caucasus Rouge, it is endangered in Georgia due to replacement by modern high yielding cultivars. The Georgian organic farming association, Elkana.org.ge, is restoring this ancient bread wheat on their Seed Ark farm in Akhalksike.

Red Fife - Halychanka



Known as Galician Spring or Halychanka in Europe, this delicious wheat has its homeland in Halychynka, Galicia in the Western Ukraine. In 1842 David Fife of Ontario received from a friend in Scotland a packet of wheat from a Ukrainian ship from Danzig (Gdansk). Fife planted the grains but only five plants germinated. Of those, some were eaten by the family cow before the last plants were saved by Mrs. Fife. Most of the wheats were winter lines, but the plants that headed in spring became known as 'Red Fife'. Soon this cold-hardy spring wheat spread throughout Canada. Red Fife was introduced to the US in the mid-1850s and was called in Maine 'Scotch Fife'.

Red Fife - aka - Halychanka belong to one basic landrace with winter hardiness, resistance to drought and excellent baking qualities. These are mostly winter wheats but in northwestern Ukraine (Galicia), but spring wheats such as Red Fife – Halychanka also thrive there. The Original Red Fife - Halychanka collected by the Vavilov Institute in Russia is available through the USDA genebank.

Marquis Wheat Chew Test

In 1904, Charles Saunders developed a new variety called Marquis which soon covered the vast prairies of Canada due to its fine quality. Marquis is a cross between the early ripening Indian wheat Hard Red Calcutta and Red Fife. Hard Red Calcutta was a wheat mixture of several varieties. During the winter of 1903-1904 Saunders did not have a proper laboratory, a mill for grinding wheat, or an oven for baking bread. However, he took a few grains from each stalk, chewed them and decided on their probable flour and bread quality on the basis of the dough created in his mouth. ⁴

⁴ agr.gc.ca/eng/science-and-innovation/science-publications-and-resources/resources/from-a-single-seed-tracing-the-marquis-wheat-success-story-in-canada-to-its-roots-in-the-ukraine-1of11/from-a-single-seed-tracing-the-marquis-wheat-success-story-in-canada-to-its-roots-in-the-ukraine-6of11/?id=1181307781375

Vermont's Defiance



Cyrus Pringle, 1838 - 1911

'Twenty-five or thirty caged lions roam lazily to and fro, hour after hour through the day. On every side without, sentries pace their slow beat, bearing loaded muskets. Men are ranging through the grounds or hanging in synods about the doors of buildings, without purpose. Aimless is military life, except betimes its aim is deadly. The building resounds with petty talk; jokes and laughter, swearing. Some of the caged lions read. Some sleep, and so the weary day goes by. Brattleboro, 26th, 8th month, 1863

In the early morning damp and cool we marched down off the heights of Brattleboro to take train for this place. Once in the car the, the dashing young cavalry officer, who had us in charge, gave notice he had placed men through the cars, with loaded revolvers with orders to shoot any person attempting to escape, or jump from the window, and that any one would be shot if he even put his head out of the window. 28th, 8th month, 1863

How beautiful seems the world on this glorious morning by the seaside! Eastward and toward the sun, fair green isles with outlines of pure beauty are scattered over the blue bay. Though fair be the earth, it has become tainted by him who was meant to be its crowning glory. Behind me on this island are crowded vile and wicked men, the murmur of whose ribaldry riseth like the smoke and fumes of a lower world.'

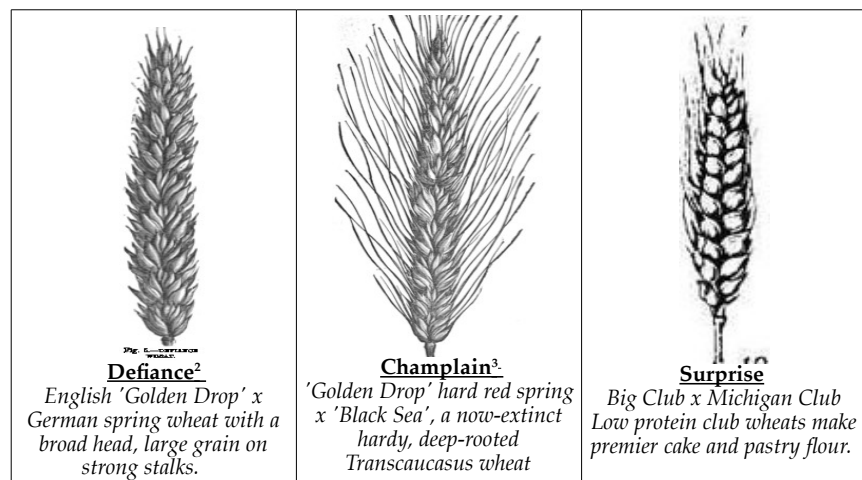
*Diary of A Quaker Conscience 6th, 9th month, 1863 Cyrus Gurnsey Pringle*⁵

Cyrus Pringle, Vermont plant explorer extraordinaire, amassed a vast collection of botanical samples found throughout the US and Mexico, exchanged seeds with scores of Europeans, with over 20,000 samples stored at Pringle Herbarium at the University of Vermont. More were

⁵ gutenberg.org/files/16088/16088-h/16088-h.htm

collected for the Smithsonian and for Asa Grey of Harvard University. I have spent sweet hours pouring over Pringle's eloquent descriptions of how to cross tiny flowers of wheat, the traits of grape plants and the habits of potatoes.

In 1863, Pringle's botanical work was interrupted by the Civil War. With an abiding belief in nonviolence, Pringle, a Quaker, was imprisoned by the US military for refusing to bear arms during the Civil War in 1863. He suffered great physical hardships as a military prisoner. President Lincoln intervened and pardoned Pringle and the three other Quakers. After recovering from his ordeal, Pringle continued to breed plants on his Charlotte, Vermont farm. From 1864 to 1880, he bred wheat, oats, grapes and potatoes. Pringle wheats:



I painstakingly searched through the USDA genebank in 2004, and was delighted to find Pringle's wheats and oats awaiting to be rediscovered! I excitedly mailed them to Heather Darby and Jack Lazor, as a gift for their good work to revitalize Vermont grains.

Pringle's Progress Oat



**Bred in 1884 by Cyrus G. Pringle of Champlain, Vermont
by crossing Excelsior and Chinese Hulless oats.**

"This new and distinct variety of oats was made by Cyrus Pringle by crossing the Excelsior with the Chinese Hulless. In it we have a combination of good qualities which cannot fail to please - a short stiff straw and a long full head, averaging as large as the largest of the taller varieties, well-filled, and being much shorter, it does not lodge. In our trial plot of about 20 varieties of oats, Pringle's Progress matured next to the Early Lackawanna oat. In the spring of 1886, from one and 3/4 bushels drilled in on a rather poor soil, 162 bushels, threshers measure, were harvested. Progress oat will suit every time. Horses seem to like these oats much better than most sorts, probably because of the thin and tender shuck." 1889 Protein content 19.9% Height 38"



Vermont's Hungarian Wheat

Hello Eli,

I went carefully through my great-grandfather's diaries and here is what I've found. I thought the dates might be important, the weather in the 1880's somewhat colder than today's, although I'm sure that varied from year to year. One entry, June 1, 1886, mentions "planted the sweet corn again" Was there a late frost or an invasion by crows?

My great-grandfather bred horses and did the usual 19th century diversified farming with sheep, hens, pigs, etc. The only things other than wheat he mentioned by variety were apples and potatoes. We know there was a huge amount of trading between farmers and stores and my grandfather did hauling. Most Vermont farmers did outside work, hauling, carpentry, blacksmithing, etc, in order to get cash. He mentions oats, hay, grass seed, clover, corn and beans, so when he mentions 'threshing', it is anyone's guess what they were threshing. Both my grandfather and grandmother made diary entries. Here is what I've copied from the diaries: June 11, 1885 -Clinton finished plowing the India wheat ground and harrowed it. June 12, 1885- I sowed the India wheat in forenoon. July 1, 1885 - Buell [local store owner] brought up the Hungarian Wheat. July 4, 1885 - Finished the piece of Hungarian.

August 3, 1885- Commenced to cut wheat today. August 8, 1885- Finished binding the wheat and cutting the stubble. Got in the stubble. September 19, 1885- Father and Clinton thrashed 3 load of India wheat. September 21, 1885- Clinton and I threshed 4 loads and got in 5 of India wheat. September 22, 1885 - Finished threshing the wheat. June 7, 1886 - Father plowed the India wheat piece. June 8, 1886 - I harrowed the India wheat ground and got it fixed so that the horse could be turned out.

September 2, 1886 - Threshers came about 2. December 16, 1886 I bought 4 1/2 bu. of India wheat of S.F.F. & Co. [S.F. Frary & Co. general store in the village] December 22 [Jenny's entry] Arthur got some India wheat of S.F.F. & Co. Bought 100 pounds meal and bran for Joe and bought 50 bu. India wheat of John Barrett(another local store) and paid him \$2 toward it.

[1886 is the last year Arthur mentions planting India wheat, but there were other references to it which I have included - to add to the confusion. I'd love to be able to spend the next three years doing nothing but solving the mysteries in the diaries.] 1887

January 5, 1887 I paid J.L. Barrett 8.33 for India wheat . January 8, 1887 Father paid J.L. Barrett 8.33 for India wheat. Got two bags of it. January 18, 1887 Arthur drew three loads of India wheat. January 19, 1887 Father got 600 lbs. of India wheat.

February 8, 1887 I bought a barrel of flour @ 6.00 charged. .their own wheat] April 11, 1887 Arthur ordered up two barrels of flour & Osmand [local miller] brought them up. \$6.00 [Their own wheat?] The diaries for 1888, 89, and 90 are missing. 1891 May 1, 1891 I sowed an acre of wheat and about 2 acres of timothy. (This is a month earlier than his entries for sowing India wheat.) August 29, 1891 I cut a little buckwheat. After that some wheat. September 1, 1891 We cut the rest of the first piece of buckwheat. Got in 7 loads of grain.

September 3, 1891 We finished cutting wheat and got it in. October 2, 1891 Bert and I helped Prescott till 4 and then came home and threshed 50 bu. of buckwheat. I let Charles Brown the job to do our threshing \$6.00 [wheat] October 5, 1891 We got in straw. [wheat?] October 6, 1891 Prescott helped us an hour to get in straw. The diary for 1892 ends in August and the next diary we have is 1900, kept by Jenny and revolves around her homemaking duties mainly. By that time, Arthur's father, with whom they were living and who owned the farm had died, Arthur and Jenny moved to a smaller place, they had 5 children and had lost 2, Arthur seemed to have started the change to dairying. He became a successful and prosperous farmer who retired from farming to a house in the village as he and Jenny became older, and there is no more mention of raising wheat in any of the several pages of farm records we have with the diaries.

Arthur farmed in Strafford Vermont, Orange Country, which is in the middle of Eastern Vermont, 20 miles from the Connecticut River Valley, in the Piedmont region. I don't know the actual soil and any specific weather conditions that would be unique to that area. It is higher in elevation than the Connecticut River Valley area. He mentions ordering a side hill plow.

Roberta Parker



Hungarian Wheat



Dr Geza Kovacs, director of the Hungarian cereal gene bank, explained to me that the two most beloved heritage wheats of 1800s Hungary, that were imported internationally were Banatka and Bankuti. The renowned Hungarian landrace from Banat by the Tzisavi River, by the Carpathian Mountains, has exceptional winter-hardiness, resistance to drought conditions and outstanding bread baking quality. Banatka's height towers over weeds, standing tall with strikingly attractive awned majesty.

I crossed Banatka plants with largest heads and the most tillers with Bankuti, renowned for rich flavor. The original Banatka, famed for its excellent baking quality, winter hardiness and broad adaptability, was brought to Russia in the late 1900s, renamed Ukrainka and soon covered vast hectares of the Ukraine. Nikolai Vavilov, the acclaimed Russian plant explorer, characterized Ukrainka as 'distinguished by high productivity, excellent baking quality and broad adaptability'.

Today my Banatka cross is the highest yielding wheat in our trials, and is being grown with good success throughout New England.

New Hampshire Heritage Wheats



According to the 1857 New Hampshire Agricultural Society Yearbook, p. 84, the wheats that received a prize for best quality and yield were:

1. Irish winter wheat - Our friends at the Irish Crofter Seed-Savers affirm that the common 1800s Irish winter wheats was a **Lammas** population popular throughout Ireland and England.

2. Egyptian wheat - According to the renowned book on the 'Classification of American Wheats' 1922 USDA Agriculture Bulletin No. 1074, another name for the Crimean wheats brought to the US from

Russia in the 1800s was 'Egyptian Wheat'. p144-5*

The Crimean wheat is a Ukrainian landrace hard winter wheat brought to Kansas by Mennonites escaping military conscription. Samuel Zook Bishop of the River Brethren Church reported in 1889,

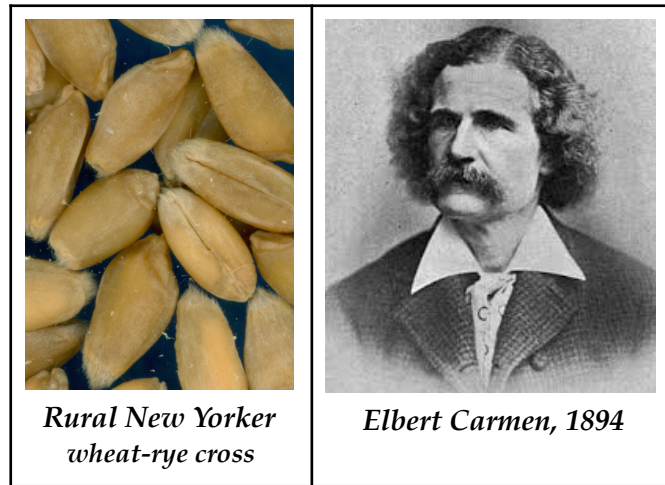
'I sowed eighty acres of wheat introduced by Mennonites from Russia. We have been interviewing that field very closely all winter and have come to the conclusion that it is by far the hardiest wheat we have seen in Kansas. Our advice is to sow a larger breadth of this hardy variety next fall. If millers insist upon having the finer tender varieties let them rise up and out of their easy chairs, take to a farm and grow the tender varieties themselves.'

The ancestral home the Turkey Red Crimean group of hard winter wheats is in the area of Russia, just north-east of the Black Sea and the Caucasus Mountains in the Crimean regions encompassing the Krymka and Kharkiv areas. With this information, I searched out Crimean landrace wheats collected by Nikolai Vavilov in the 1930s. I was able to secure a modest packet of 100 authentic grains of Crimean wheat entered in 1890 USDA genebank. Let us restore this renowned line from its homeland parent population in Crimea!

The Classification of American Wheats' documents that New Hampshire was a center of cultivation for **Marquis and Red Fife**, p 213*

* <http://growseed.org/1923%20WHEAT%20HISTORY.pdf>

Elbert Carmen and the Rural New Yorker



'His earliest experiments with wheat involved testing all known varieties of England, France, Russia, and the United States to ascertain which were the hardiest and most productive. Then followed exhaustive tests as to best depth, quantity of seed, mode of sowing and best fertilizers, such as salt, ashes, plaster and lime. Potash, phosphoric acid and nitrogen, singly and in various combinations were thoroughly tested. The work of crossing varieties of wheat was begun and has continued down to date, with results valuable to science and to agriculture.

In 1881 Carman succeeded in crossing rye with wheat, the first and only successful attempt on record so far as we know. This crossing was followed up for years with the progeny. Most of the hybrids resembled the wheat parent, rather than the rye. Last year a large proportion of the plants and heads came true, and it is believed that a tolerable stability has been reached. The stems are twice as thick as those of wheat, and leaves broader, the color brighter, the tendency to tiller stronger, and the plants seem not subject to winter-killing. Several of the wheat and rye-wheats are now offered by seedsmen.' Rural New Yorker seeds are available through GRIN, entered in 1901.

