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# Maine Agricultural Experiment Station

BULLETIN No. 82.

APRIL, 1902.

## ORCHARD NOTES.

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This bulletin contains the results of observations made upon certain Russian and other hardy varieties of apples under investigation since 1890.

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Requests for the Bulletins should be addressed to the  
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## ORCHARD NOTES.

W. M. MUNSON.

As noted in previous reports of the Experiment Station, there have been several attempts to disseminate certain varieties of fruit which should prove hardy in some of the more trying localities, and to encourage the cultivation of fruit for home use and for market throughout the State. Although Maine is pre-eminently suited to apple growing, there is a very general neglect of this most important fruit.

In 1889 cions of the most promising varieties of apples were sent to leading orchardists in various parts of the State for the purpose of studying the adaptability of these varieties to the different conditions. The following year fifty-four Russian varieties were obtained from Professor Budd of the Iowa Agricultural College, and were sent to parties in Rangeley, Houlton, and northern Aroostook with the understanding that written reports were to be returned from time to time. With few exceptions these reports have been very meager and unsatisfactory. A personal examination of the trees has been made, however, and notes upon their condition and value made from time to time.

In 1891, and for two or three years following, a special effort was made to introduce some of the newer fruits mentioned into the northern part of Aroostook county, where, until the advent of the Oldenburg and the Wealthy, all attempts at apple culture had failed. In accordance with this plan arrangements were made with Mr. James Nutting of Perham to test such varieties as might be sent him and report upon the same each year. Until the death of Mr. Nutting, in 1894, this plan was carried out and promising results were obtained.—See Annual Report 1891, p. 97; 1892, p. 90. The writer has made several visits to the orchard and recorded the behavior of the several varieties. At the Station orchard duplicates of most of the varieties obtained



have been grown for purposes of study and for dissemination if thought desirable. The present report is based upon the observations made in the several localities.

#### HARDY APPLES IN MAINE.

As above noted, the Experiment Station has since 1890 had under observation several apples of Russian origin, and other varieties originating either in the colder parts of Maine or in the northwest. All of these varieties are hardy and most of them are productive. Very few of them, however, are worthy of general dissemination in those parts of Maine where the well known varieties of English and American origin will thrive. In the northern part of the State some of them are valuable and some are worthy of culture under any conditions. The accompanying table gives a concise description and estimate of the value of the several varieties tested, both for the northern counties and for the general apple growing sections of the State. The most promising sorts are treated more in detail.

The widely varying conditions existing in different parts of Maine render a general statement as to the value of any given variety only approximately correct. Some varieties which are considered specially valuable in Aroostook county are unknown in the southern counties; while others, which are of merit for the south, are not sufficiently hardy for the northern portion. In the accompanying list separate columns are assigned for the value of each variety in the northern and southern parts of the State. The first column marked "north" includes Aroostook, and the northern parts of Piscataquis, Somerset, Penobscot and Washington counties. The column marked "south" includes Oxford, Kennebec, Waldo and all of the southern counties. The numbers in parentheses are the importation numbers of Prof. Budd.

The value of any given variety is indicated thus: Two stars (\*\*\*) indicate a variety of special merit, one to be recommended for general culture. One star (\*) shows that the variety is worthy of cultivation, though not of superior merit. A dagger (†) indicates a variety not fully tested in the region designated. A dash (—) shows that the variety has been tried and is not considered worthy.

The abbreviations used in characterizing the several varieties are fully explained below. As an example of their interpretation



take the Alexander. As will be seen, the variety is described as a large, striped apple of roundish-conical form and moderately good quality in season during the autumn. It is of Russian origin and is worthy of general planting.

CATALOGUE OF THE HARDIEST APPLES.

*Abbreviations used.*—Size—l, large; m, medium; s, small. Form—c, conical; ob oblate; r, roundish. Color—g, green; r, red; g y, greenish-yellow; y r, yellow and red; r s, red striped; rus, russetted. Flavor—a, acid; sa, sub-acid; s, sweet. Flesh—b, breaking; d, dry; j, juicy; c, crisp; t, tough. Season—E A, early autumn; L A, late autumn; W, winter.

Variety.	DESCRIPTION.							VALUE.		Remarks.	
	Size.	Form.	Color.	Flavor.	Flesh.	Season.	Origin.	North.	South.		
Alexander.....	l	rc	gr	a	j	A	Rus.	**	*	A popular market sort.	
Anisim (18m) .....	s	e	r	a	j	A	Rus.	**	*	Of the Jonathan type, very productive.	
Aport (252) .....	l	e	gr	a	j	A	Rus.	**	*	Of Alexander type.	
Arabka (257).....	m	rc	gr	a	d	W	Rus.	*	—	Dry, insipid, but very handsome, resembling Blue Pearmain.	
Arctic.....	m	rc	yr	sa	cj	W	N. Y.	**	*	"A hardy Baldwin."	
Arthur .....	s	rc	gr	a	j	W	N. Y.	†	...	Very hardy, promising north.	
Bethel .....	m	r	rs	a	cj	W	Vt.	*	*	Promising for the north.	
Borsdorf (356) .....	s	rob	y	sa	c	W	Rus.	*	*	Small but hardy, productive, and keeps well.	
Cross (413).....	m	rc	rs	a	j	A	Rus.	*	—	Good for cooking.	
Daisy .....	m	rc	yr	a	cj	LA	Rus.	†	†	Handsome, promising.	
Duchess No. 8 .....	m	rc	rs	a	cj	LA	Minn.	†	†	Promising seedling of Oldenburg.	
Dudley. ....	l	rob	ry	a	bj	EW	Me.	**	*	Widely planted in northern Maine.	
Early Scarlet.....	m	rc	r	a	cj	EA	Can.	**	†	Good. Of Astrachan type.	
Early Sweet . . . .	m	e	y	j	s	EA	Rus.	†	†		
Excelsior... ..	m	ob	c	rg	a	cj	A	Minn.	†	†	Scabs badly.
Gideon.....	m	rob	yr	a	j	A	Minn.	....	—	Rots at core.	
Gideon No. 6.....	m	e	yr	a	cj	A	Minn.	†	....	A large handsome crab; seedling of Gideon.	
Golden Reinette ..	m	e	yr	a	j	A	Rus.	†	...	Promising.	
Green Crimean											
(399) Harry Kaump.....	l	c	g	a	j	A	Rus.	*	—	Good for cooking.	
s rob y a d W Eu.	s	rob	y	a	d	W	Eu.	†	†	Small, hardy, good keeper.	
Hayford Sweet....	m	e	gr	s	e	W	Me.	**	...	"The best sweet apple for the north."	
Hibernal (378).....	l	ob	c	rs	a	cj	A	Rus.	*	*	Good for cooking.

## CATALOGUE OF THE HARDIEST APPLES—CONTINUED.

Variety.	DESCRIPTION.						VALUE.		Remarks.				
	Size.	Form.	Color.	Flavor.	Flesh.	Season.	Origin.	North.		South.			
Iowa Blush.....	m	e	y	r	a	e	W	Ia.	†	....			
Koursk Anis .. . . .	.....	.....	.....	.....	.....	.....	.....	.....	†	....			
Koursk Reinette (20M)	l	ob	e	g	a	e	LA	Rus.	†	†	Good for cooking.		
Lead (3M) .....	l	ob	e	g	r	a	c	j	A	Rus.	†	†	Good for cooking.
Longfield (161) ...	m	e	y	r	a	e	j	LA	Rus.	*	*	A profuse annual bearer of good quality.	
Losouka (4Orel) ..	m	e	r	s	a	j	A	Rus.	†	—	Drops badly.		
Malinda .....	m	e	g	r	a	j	W	Minn.	†	....			
Malett .....	m	ob	e	g	r	a	j	A	Rus.	†	†		
McMahon .....	l	ob	e	y	r	a	c	j	A	Wis.	†	....	Large, handsome, promising north.
N. W. Greening ...	l	e	g	a	t	j	W	... ..	*	*	Handsome, prolific; a late keeper.		
North Star .....	m	e	y	r	a	e	LA	Ia. (?)	†	....			
October .. . . . .	m	ob	y	r	a	j	EA	Minn.	†	†	One of Gideon's crab seedlings.		
Okobena. ....	m	ob	e	r	s	a	b	j	LA	.....	†	....	Promising north.
Oldenburg .... .	l	ob	r	s	a	b	j	EA	Ger.	**	*	The standard autumn variety, north.	
Ostrakoff (4M) ....	m	ob	r	s	a	j	W	Rus.	†	....	Promising north.		
Patten's (Greening	m	e	g	a	c	j	EW	Ia.	†	....	Seedling of Oldenburg.		
Peter.....	m	e	g	r	a	j	A	Minn.	....	†	Very productive; shows crab parentage.		
Pink Anis .....	s	e	y	r	s	a	j	A	Rus.	*	*	Very prolific.	
Prolific Sweeting.	m	e	y	s	d	A	Rus.	**	*	The best sweet Russian.			
Repka Aport (261).	l	r	e	g	r	a	j	A	Rus.	**	*	Similar to Alexander.	
Royal Table (5M).	m	e	y	r	a	b	j	LA	Rus.	*	....	Promising for Aroostook.	
Russian Gravenstein (135M) .....	m	e	r	s	s	a	b	j	EA	Rus.	*	*	Promising, but drops rather badly.
Sandy Glass (24M)	l	e	g	a	j	A	Rus.	†	....	Drops badly.			
Saunkernaty .....	s	e	g	a	j	W	Rus.	....	—	Small, drops badly, poor quality.			
Severs .....	m	e	y	r	a	b	j	EA	... ..	†	†	Of the Astrachan type.	
Shiawassee.....	m	ob	i	s	a	j	EW	Mich.	**	**	Should be more widely planted both north and south.		
Silken Leaf (75M).	m	e	g	r	a	j	EW	Rus.	...	—	Good for cooking.		
Sklanka.....	m	e	g	y	a	j	A	Rus.	....	—	Drops badly; of poor quality.		
Skruschapfel (42 Vor.) .....	s	e	g	r	a	e	△	Rus.	....	—	Small, poor; drops badly.		



CATALOGUE OF THE HARDIEST APPLES—CONCLUDED.

Variety.	DESCRIPTION.							VALUE.		Remarks.
	Size.	Form.	Color.	Flavor.	Flesh.	Season.	Origin.	North.	South.	
Striped Winter....	l	c r s	a j	A	Rus.	....	....			Coarse, poor in quality; drops badly.
Switzer .....	m	c r s	a j	A	Rus.	†	...			Poor quality.
Table Apple.....	s	r ob g	a t	A	Rus.	†	†			
Tetofsky.....	s	c r s	a j	EA	Rus.	*	....			Too soft and poor in quality.
Thompson 26.....	m	c g y	a c	W	Minn.	†	†			} Hardy seedlings from Jewell Nursery Co., Lake City, Minn.
Thompson 29 .....					Minn.	†	†			
Thompson 43.....					Minn.	†	†			
Thompson 24.....	l	c r s	a j	A	Minn.	†	†			
Tiesenhausen . . .					Rus.	....	—			Small, worthless.
Titovka.. .. .	l	ob c y r	a b r	A	Rus.	†	—			Showy but coarse.
Titus.....	l	ob c r s	a c j	A	Rus.	†	—			Showy but coarse; drops badly.
Vargulek (12M) ...	m	c r s	a j	A	Rus.	†	—			Drops badly.
38 Voronesch.....	m	ob c r s	sa b j	EA	Rus.	†	—			Similar to Duchess. A little earlier.
Wealthy .....	m	ob c g r	sa j	EW	Minn.	**	**			A good general purpose sort.
Wolf River .....	l	c r s	a j	LA	Minn.	†	†			Coarse, showy.

Attention is again called to the fact that the varieties here named do not constitute a complete list of the hardy apples of Maine but, as stated, only the newer and a few of the well known ironclad sorts are considered. Of the list, those of greatest value are described below.

MOST VALUABLE RUSSIANS.

Of the fifty or more varieties of Russian apples which have been planted in the Station orchard, very few are worthy of general recommendation for planting in Maine. Most of them, as grown in this section of the State,\* are autumn varieties which, though exceedingly productive and perfectly hardy, are of inferior quality, keep poorly and drop badly before maturity. Of the list but three—Alexander, Longfield and Yellow Transparent—can be recommended for general culture in competition with apples of American and West European origin, and the number to be advised for the colder sections of the State is not



large. The most promising, in addition to the varieties already named, are Anisim, Arabka, Borsdorf, Cross, Green Crimean, Hibernial, Kursk Reinette, Pink Anis, Prolific Sweeting, Repka Aport, Russian Gravenstein. Many others thrive but, as noted, are inferior. Below is given a condensed description of the varieties named:

*Alexander.* Fruit large, roundish-conical, greenish-yellow, washed and splashed with crimson; calyx large, open, set in a deep often russeted basin, stem short, stout, inserted in a deep cavity. Flesh yellowish, rather coarse grained, juicy, sub-acid. Good. Season, October and November. Tree hardy, vigorous, spreading, productive.

The good form, large size and bright color of this fruit attract attention in any market and it is one of the best of the autumn varieties for the kitchen. The chief objections to it are its short season and the fact that it decays very quickly if even slightly injured. The Alexander is one of a race or family of Russian apples (the *Aport* family) which is represented in the Station orchard by two other varieties—Repka Aport and No. 252.

*Anisim.* Fruit small to medium, roundish-conical, greenish-yellow almost completely overlaid with rich dark crimson; calyx small, in a medium basin; stem slender, in a rather deep cavity. Flesh white, crisp, juicy, sub-acid. Good. Season October to February.

This variety, which has been called the "Jonathan of the North" is very hardy, productive and prolific. Unless the fruit is thinned it is likely to be small.

*Arabka.* Fruit large, oblate-conical, greenish, washed with purple and covered with a dense bloom; calyx large in a moderately deep, slightly corrugated basin; stem medium inserted in a deep cavity. Flesh greenish white, juicy but rather tough, sharp acid and lacking in richness. Season, January to April.

This is a very handsome apple, somewhat resembling Blue Pearmain. It is very hardy, productive, and an excellent keeper for the northern sections, but its quality is inferior.

*Borsdorf.* Fruit small, oblate, yellow, sometimes with blush cheek in the sun; calyx large, open, in broad shallow basin; stem slender, in a medium cavity. Flesh yellowish, firm, juicy, sub-acid. Good. Season, January to April.



But for its rather small size, this variety would be specially good for the colder sections of the State. It is of the Rhode Island Greening type, is of good quality, and an excellent keeper.

*Cross.* Fruit medium, oblate-conical, greenish-yellow washed and splashed with crimson. Flesh white, crisp, juicy, brisk acid. Good for cooking. Season, September to November.

The tree is hardy, vigorous and productive. The fruit, which resembles Haas, is inclined to drop badly, however, and it is not recommended for any except the most trying sections of the State. There is some doubt as to the identity of this variety as growing in the Station orchard.

*Green Crimean.* Fruit large, conical, yellowish-green changing to yellow at maturity; stem medium, cavity deep; calyx open; basin shallow, corrugated. Flesh greenish-white, tender, juicy, acid. Good. Season, October to December.

The tree is vigorous, spreading, hardy, productive. A good autumn variety for cooking.

*Hibernal.* Fruit medium to large, oblate-conical, greenish-yellow washed and splashed with bright red; stem short, stout, inserted in a deep, rather broad, russetted cavity; basin medium, slightly corrugated; calyx open. Flesh yellowish, crisp, tender, juicy, acid; core, small. Good. Season, October to December.

Tree very hardy, of strong, low, spreading habit; vigorous; productive. Although not a dessert apple this variety is valuable for cooking, and on account of its hardiness and productiveness is one of the best of the newer Russian sorts.

*Longfield.* Introduced from Russia in 1870. Fruit medium, roundish-conical, pale yellow with light red cheek; stem slender, inserted in a deep, very narrow, slightly russetted cavity; basin medium, wrinkled; calyx partly open. Flesh white, crisp, very juicy, tender, brisk sub-acid. Good for cooking and dessert. Season, September to January.

The tree is very hardy and productive, and unless the fruit is thinned it is liable to be undersized. In common with most Russian sorts it drops badly, but on account of its good quality, its hardiness and productiveness it is one of the best of its class.

*Pink Anis.* Fruit small to medium, conical, golden washed and splashed with carmine. Flesh yellowish, crisp, very juicy, mildly acid. Good. Season, September to December.

The tree is vigorous, upright, spreading, productive. The fruit drops rather badly, but otherwise it is a good autumn variety. It was received under the name of Golden Reinette and was described under that name in a former report.

*Prolific Sweeting.* Fruit medium, conical, somewhat irregular, pale yellow, usually russeted in the rather deep cavity. Flesh white, crisp, rather dry, sweet. Good. Season, September and October.

This variety, imported in 1870, is the most valuable fall sweet apple for the northern part of the State. It is planted largely in northern Vermont and was regarded very highly by Dr. Hoskins. In size and color it resembles Yellow Transparent.

*Russian Gravenstein.* Fruit medium to large, conical, somewhat angular; greenish-yellow washed, striped and splashed with crimson; stem set in a deep cavity; calyx open, in a broad rather shallow basin. Flesh yellowish, tender, breaking, juicy, subacid. Good for cooking or dessert. Season, September.

The tree is hardy, vigorous, spreading, and productive. It does well in northern Aroostook, but will not supersede the Oldenburg, which it somewhat resembles.

*Yellow Transparent.* Fruit medium, roundish-oblate, slightly conical; clear pale yellow; stalk medium, slender, in a rather large greenish cavity; calyx closed, in a medium, slightly corrugated basin. Flesh white, crisp, tender, juicy, sprightly subacid. Good. Season, August.

This variety is now well known and recognized as a valuable early summer apple suitable for any locality. The principal objection to it is its very delicate color. The slightest bruise is evident.

The reason for discarding most of the Russian apples tested may be summed up in a very few words, *Viz. :Poor quality, early season, habit of dropping before maturity.*

#### SOME OTHER GOOD VARIETIES.

Besides the Russian apples, there are many of the older varieties of American origin which are perfectly hardy over a large portion of the State. Some of these are the standard market varieties of central and southern Maine; others, like those men-



tioned below, are valuable but not generally known. The varieties here named are all growing in the Station orchard and are commended only after careful personal observation.

*Arctic.* This variety was fully described in a former report.\* It is attracting considerable attention in the State and is worthy of trial where Baldwin will not succeed. It has been characterized as a "hardy Baldwin," though averaging larger than the older variety and being of a milder flavor.

*Boiken.* Fruit large, oblate, rich greenish-yellow overlaid with carmine, sprinkled with numerous white dots. Stem set in deep slightly russeted cavity; calyx large, open, set in a broad, rather deep slightly corrugated basin. Flesh white, crisp, juicy, slightly acid. Good. Season late winter.

The tree is very vigorous, spreading and productive. A promising variety of the Rhode Island Greening type.

*Doctor.* Fruit large, roundish oblate, yellow washed and splashed with red, with numerous grayish dots. Stalk medium, deeply set; calyx large open, set in a wide, slightly corrugated basin. Flesh yellowish, tender, juicy, breaking, aromatic, sub-acid. Good to very good. November to April.

This variety was sent to the Station by the U. S. Dept. of Agriculture under the name of "Newby," but has since been identified as above. It is a Pennsylvania apple; said to be a rather indifferent grower, but, as top-worked on Alexander, has given excellent results in the Station orchard. The variety is promising for New England.

*Hurlbut.* Though an old variety, this apple is not as well known as its merits deserve. It is hardy, productive, of excellent quality and keeps until late in the spring. March 1 not one of the specimens placed in the cellar had begun to decay.

*Milding.* The Milding\* well deserves its reputation as a valuable early winter variety. It is of good size, hardy, productive and is highly prized for family use, and for market where known. The trees are among the best in the Station orchard.

*Munson Sweet.* This old Massachusetts variety is justly popular wherever known, but is not so widely planted as it should be. The tree is vigorous, spreading, and an annual and abundant bearer. Fruit medium oblate, pale yellow, often with

\* Rep. Maine Exp. Sta. 1896, 70.

a bluish. Stem short, inserted in a rather large cavity; calyx closed, basin small. Flesh yellowish, tender, juicy, sweet. Good to very good. September to February.

Of 100 average specimens placed in the cellar October 15, but two showed signs of decay on January 22, and the flavor and texture were still normal. The tree is vigorous, productive and hardy as far north as Perham.

*Northwestern Greening.* Tree vigorous, spreading, hardy. Fruit large, conical, clear yellowish-green sprinkled with lighter dots. Stalk medium, cavity rather deep, russetted; calyx partly open, basin slightly corrugated. Core very large. Flesh greenish-white, coarse grained, juicy but tough, mildly acid. Good. Season, late winter.

*Rolfe.* This variety, which was commended in the previous report,\* still thrives and bears well in protected localities in northern Aroostook. It is a valuable sort for family use wherever grown.

*Shiawassee.* Fruit medium, oblate, greenish-white overlaid with crimson, with stripes and splashes of a deeper shade. Flesh firm, white, tender, juicy, brisk sub-acid. Very good. Season October to February.

This seedling of Fameuse, originating in Shiawassee county, Michigan, is larger and altogether finer than its parent. It possesses more character and keeps longer than Fameuse. The tree is vigorous, productive and perfectly hardy as far north as Perham.

*Wealthy.* This variety, which originated with Peter M. Gideon of Excelsior, Minn., from seed said to have been taken from Maine, is too well known to need description; though its full value is not appreciated. It is hardy in northern Aroostook, is of good color, excellent habit and is very productive. It is an autumn variety in southern Maine, but with improved shipping facilities, it may readily be put upon the markets of London and Liverpool where it is always in good demand. Growers too often make the mistake of allowing this variety to overbear and thus produce undersized fruit.

*Westfield.* The old "Seek-no-further," long popular in New York and Michigan, is being more widely planted and better

\* Rep. Maine Agr'l Exp. Sta. 1896, 71.



known as a valuable hardy winter apple. It is yielding well in the Station orchard and is hardy in Perham. Its color is not equal to Baldwin, but for family use it is excellent and when known will find a ready market.

*York Imperial.* Many inquiries have been received concerning the York Imperial. As top-worked upon a Russian variety in the Station orchard the tree is hardy, upright, of very vigorous habit, but has only just begun to bear. The few specimens produced the past season have kept well and are of good quality, but the high color for which Maine growers usually look is wanting.

#### SOME MAINE SEEDLINGS.

The most valuable fruits for any difficult climate are usually those of local origin or those from regions having similar climatic conditions. While the Russian varieties have wrought a revolution in the possibilities of fruit production in the northwest, we have already seen that comparatively few of them are of special value in Maine. There are, however, many seedlings of local reputation which are worthy the attention of our fruit growers—particularly those who are located in the rich agricultural section of northern Maine. A few of the most important of these are mentioned below and a complete list of Maine seedlings is at present being worked up.

*Aroostook.* "A sweet golden russet of medium size which keeps without any trouble until July 1."

The tree originated about thirty years ago on the farm of Silas S. Stiles, Mapleton, Aroostook county. It has a good local reputation and is worthy of wider dissemination. Its parent was "some kind of a Greening raised in Cumberland county."

*Dudley.* (Dudley's Winter, North Star). A seedling of Oldenburg, grown by J. W. Dudley, Castle Hill, Aroostook county.

Tree very vigorous, spreading, hardy and productive, with large, roundish-oblong, greenish-yellow fruit, washed and splashed with crimson. Stem medium, inserted in a deep cavity; calyx partly open, basin large. Flesh yellowish, crisp, breaking, rather coarse, brisk sub-acid. Good. September to January—later in Aroostook county.

This variety is, perhaps, more widely grown than any other of the newer sorts originating in New England. It is being dis-

seminated by a New York nursery firm under the name "North Star"—an unfortunate circumstance as there is another very different variety bearing that name by right of priority. It is a valuable acquisition as a winter fruit for the northern parts of the State, but as grown at Orono it is decidedly a fall variety.

*Rolfe.* Originated in the town of Guilford about 1820.

Fruit medium to large, oblate, often angular, yellowish, shaded and striped with red. Stalk short, inserted in a large cavity; calyx large, closed, in a rather large, regular basin. Flesh white, fine-grained, tender, juicy, sub-acid; core small. Good to very good. November to January.

Though comparatively an old variety, the Rolfe is not as widely known as it should be. The variety originated on high land in the town of Guilford, about a mile from the Piscataquis river. The seed from which it sprang was brought from Western Maine to that place by a Mr. Rolfe. About 1820 the original tree, together with several other young seedlings was given to Elder Macomber—hence the name *Macomber* applied to this variety by Downing. A sprout from the original tree is still standing on the Macomber farm and produces annual crops of fruit. H. L. Leland of East Sangerville, has more than a hundred trees of this variety in his orchard and says: "The Rolfe in our local markets, sells better and at bigger prices than any other variety that we grow. It sells well as a shipping apple, though not much known." As already noted, the variety is hardy in sheltered locations as far north as Presque Isle, and it is regarded highly wherever known.

*Stowe.* Originated in Perham, Aroostook county, about 1875. Tree vigorous, spreading, very hardy, an annual bearer.

Fruit medium to large, roundish conical, greenish-yellow with blush cheek, and with many small whitish dots. Stem, short slender, inserted in a medium cavity. Flesh yellowish, tender, juicy, sub-acid. Core small. Good. February to May, in Aroostook.

This variety has never attracted the attention of nurserymen, but has had a good local reputation for several years. It is well worthy of general dissemination as a valuable "ironclad" variety. Its history, as given in the report of the Maine Pomological Society for 1895, is essentially as follows: Seed was brought to Perham from Massachusetts by Francis Stowe about 1862, and



the variety in question was one of the resulting seedlings. The tree was isolated in 1875 and has been known locally for several years as Stowe's Winter. Mr. Rufus F. Stowe, son of the originator, writes that "it will keep longer than anything except Ben Davis and is nearly equal to that."

Other hardy local seedlings which are being more or less extensively planted in northern Maine are Hayford Sweet,—regarded as the best winter sweet—Monroe Sweet, and McIntire Sweet. Hayford Sweet is much hardier than Talman and takes the place of that variety as a late keeping sweet apple.

#### A SUGGESTION.

The foregoing notes represent pretty nearly the present status of the hardy apples which have been tried in Maine. The multiplicity of varieties may, however, be confusing to some who purpose growing fruit for market. To such the oft repeated advice, "for market plant few varieties," is most strongly urged. Over a large portion of Maine any of the more prominent commercial varieties will thrive, but in those sections where the standard of hardiness is marked by Oldenburg and Wealthy it is well to make a virtue of necessity and for commercial purposes plant only those sorts which have a recognized commercial value or those which are of such conspicuous merit that a market is assured. The varieties named are hardy, productive, attractive and have an established reputation in Boston and in English markets, a fact which assures ready sale for all choice fruit. English buyers are at the present time urging the more extensive planting of Wealthy in southern Maine to supply the demand for fall fruit in London and Liverpool, and will welcome the hundreds of barrels that every year waste for want of local buyers in the northern portion of the State. Really choice Oldenburgs frequently net three dollars (sometimes more) per barrel in Boston, yet every year hundreds of barrels of this fruit lie on the ground and decay. Alexander, also, is always in demand at good prices. The need of fruit growers in northern Maine is not so much new hardy varieties which will compare with Baldwin, Greening and Northern Spy as it is a better appreciation of the merits of the varieties already known to thrive, a better acquaint-

ance with markets and market demands, and more care in cultivating and managing the orchards.

For home use a wider range of varieties is desirable and a selection from the list above mentioned may be made to suit personal preferences. In no case, however, is it wise to plant too freely of untried sorts. Varieties of known value and hardiness may be planted as stocks on which the newer kinds may be top-worked at will.

#### THE KEEPING QUALITY OF CERTAIN APPLES.

For the purpose of comparing the keeping qualities of certain varieties of apples growing in the Station orchard, several specimens of each were placed in a cool cellar and were examined from time to time through the winter. A few of the varieties—*viz*: Longfield, Munson Sweet, Sandy Glass, Koursk Reinette, Green Crimean, and Haas were harvested about two weeks before removal to the cellar, and were kept in the potting shed at the greenhouse. The remainder were placed in the cellar after two days. Some of the varieties—notably Golden Russet, Talman and Winesap—were harvested a little too early for the best results and shrivelled badly early in the season.

The following table shows in detail the condition of the several varieties at various times during the winter. A record was kept of the number of specimens of each variety which was worthless at each examination and the number only slightly decayed or "specked." In the table, however, all affected specimens are referred to as decayed.

The fruit was placed in the cellar October 9. Critical examination of all specimens was made as indicated in the table.



Variety.	Whole number specimens.	NUMBER DECAYED.					Remarks.
		November 19.	December 18.	January 22.	March 1.	March 22.	
Anisim .....	76	2	4	6	10	—	Should be used by Jan. 1. Flavor badly impaired Jan. 22.
Arctic .....	40	.....	.....	1	2	...	One of the best. In excellent condition at last examination.
Bethel .....	6	.....	.....	.....	.....	.....	This variety and the next are firm as when put in the cellar.
Boiken .....	5	.....	.....	.....	.....	.....	
Borsdorf .....	86	1	.....	8	6	—	Inclined to shrivel. Loses flavor by the last of January.
Cross .....	48	4	1	3	12	...	Soft and shrivelled in January. Quality still good. All worthless March 1.
Doctor .....	75	1	.....	2	4	3	All remaining specimens in excellent condition at close of test.
Dudley .....	47	10	7	12	.....	.....	Should be used by January 1. Flavor lost.
Golden Russet .....	57	.....	.....	.....	1	2	Picked too early. Shrivelled badly early in the season, but retained flavor well.
Green Crimean .....	44	5	2	22	.....	.....	A fall variety; worthless after January 1.
Haas .....	44	5	4	7	.....	.....	A December variety. All very soft when examined in Jan.
Harry Kaump .....	48	.....	2	.....	5	5	An excellent keeper, but loses flavor by March 1.
Hurlbut .....	45	.....	.....	.....	.....	9	One of the best. Begins to break down in March.
Koursk Reinette .....	45	10	10	14	.....	.....	An autumn variety; should be used by December 15.
Large Anis .....	47	.....	2	2	5	.....	Retains form and color but is mostly soft and worthless after January 15.
Lead Apple .....	42	7	3	2	7	.....	Begins to soften and rot at the core in January.
Longfield .....	74	4	1	9	17	.....	Begins to shrivel and lose flavor in January.
Mann .....	61	1	1	.....	.....	.....	One of the best keepers; not of high quality.
Milding .....	26	.....	1	.....	2	4	In excellent condition at close of test.
Munson Sweet .....	100	.....	.....	2	2	3	Form and flavor still good at close of test.
Northwestern Greening .....	25	.....	.....	.....	.....	.....	As firm in texture at close of test as at first. Good.
Peter .....	39	.....	1	2	.....	.....	Retains form and color well, but is soft and worthless for market after January 1.
Pewaukee .....	41	1	.....	5	1	2	Begins to shrivel in February. Retains flavor well.
Porter .....	21	.....	.....	3	3	.....	Retains form and texture remarkably well. Begins to lose flavor in January.
Rall's Janet .....	53	.....	.....	.....	.....	.....	One of the best keepers. Color is not attractive.
Sandy Glass .....	41	4	2	6	.....	.....	An autumn variety. Soft and worthless after January 1.
Shiawassee .....	33	.....	.....	3	4	2	Excellent in form and texture through the season. Begins to lose flavor by February 1.
Stark .....	44	.....	.....	.....	.....	.....	Firm and in excellent condition at close of test.
Striped Winter .....	20	5	4	.....	.....	.....	Soft and worthless after Jan. 1.

Variety.	Whole number specimens.	NUMBER DECAYED.					Remarks.
		November 19.	December 18.	January 22.	March 1.	March 22.	
Talman.....	47	....	....	....	2	1	Begins to shrivel in March.
Thompson No. 24.....	44	4	9	6	—	—	Limit reached about Jan. 1.
Thompson No. 26.....	17	1	1	1	....	2	Keeps till April but begins to lose flavor by February 1. An early fall variety.
Thompson No. 34.....	29	18	4	—	—	—	
Walbridge.....	67	....	1	..	1	3	Keeps well but of poor quality.
Westfield.....	24	..	1	..	....	2	One of the best.
Winesap.....	62	....	.	...	1	2	Shrivels some, but retains flavor till spring.

An examination of the above table reveals some interesting facts concerning the varieties named. Dudley, Haas, and most of the Russian varieties are comparatively poor keepers and should be used before January. Borsdorf, Longfield, Pewaukee, Porter and Shiawassee, are at their best before the first of February, though keeping well into March. Hurlbut, Milding and Munson Sweet, begin to break down in March; the latter is in good condition from October to this date. Arctic, Bethel, Boiken, Mann, Northwestern Greening, Rall's Janet, Stark, Westfield, and Winesap are in prime condition up to April 1. Munson Sweet, Porter and Shiawassee showed most surprising results and indicate that with care these sorts may be kept much longer than is generally supposed. Peter, which became too soft for market in January, made very good pies as late as the end of March.



In the growing of certain crops spraying for insects and fungi is as important as any other part of their culture. The Station has issued concise directions for preventing the diseases of apples, cucumbers, and potatoes. The following publications will be sent free on application:

How to Fight Apple Enemies.

How to Fight Cucumber Enemies.

How to Fight Potato Enemies.

## THE PURITY OF SEEDS.

A law passed in 1896 requires that "every lot of seeds of agricultural plants, whether in bulk or in package, containing one pound or more, and including the seeds of cereals, (except sweet corn), grasses, forage plants, vegetables, and garden plants, but not including those of trees, shrubs and ornamental plants, which is sold, offered or exposed for sale for seed by any person or persons in Maine, shall be accompanied by a written or printed guarantee of its percentage of purity, freedom from foreign matter."

The law allows the dealer to base his guaranties upon tests made by himself, his agent or the Maine Experiment Station. As the Station has no funds available for this purpose, a charge sufficient to cover the cost of making the tests must be made. The charge for testing seeds for purity for the purpose of basing a guarantee is one dollar per sample.

## FREE ANALYSIS OF SEEDS.

The Station desires to ascertain the kinds of weed seeds contained in the agricultural seeds sold in the State and will make prompt analysis, free of charge of all samples sent with the following descriptions:

Name of seed.

Name of dealer and P. O. address.

Guaranteed per cent of purity.

Name and address of sender.

CHAS. D. WOODS, *Director.*





