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U.S. Department of Agriculture
Washington, D.C.

AMERICAN FARMERS' MANUAL

...HENDERSON'S...
SPECIAL
GRASS MIXTURES
FOR ..HAY.. AND
PERMANENT PASTURE.



..HENDERSON'S..
SUPERIOR SEEDS
OF
GRASSES,
GLOVERS. CEREALS,
FORAGE PLANTS,
ROOT CROPS,
ETC., ETC., ETC.

PETER HENDERSON & CO.
35 & 37 GORTLANDT ST.
NEW YORK.

HENDERSON'S AMERICAN FARMERS' MANUAL

INDEX and Table of Quantities required per Acre.	PAGE	Sow (if alone) per Acre	INDEX and Table of Quantities required per Acre.	PAGE	Sow (if alone) per Acre
Agrostis stolonifera—See Creeping Bent.....	9	2 bushels.	Lolium perenne—See English Rye Grass.....	12	2½ to 3 bushels.
“ canina—See R. I. Bent.....	9	3 bushels.	Lucerne—See Alfalfa.....	16	20 lbs.
“ vulgaris—See Red Top.....	10	3 bushels.	Lespedeza striata—See Japan Clover.....	15	14 lbs.
“ Fancy.....	10	20 lbs.	Meadow Foxtail.....	9	3 to 4 bushels.
Alopecurus pratensis—See Meadow Foxtail.....	9	3 to 4 bushels.	“ Fescue.....	12	2½ bushels.
Anthoxanthum odoratum—See Sweet Vernal, peren.....	10	3½ bushels.	Mammoth or Pea Vine Clover.....	15	10 to 12 lbs.
Avena flavescens—See Yellow Oat Grass.....	13	3 bushels.	Medicago sativa—See Alfalfa.....	16	20 lbs.
“ elatior—See Tall Meadow Oat Grass.....	9	4 to 5 bushels.	Milo Maize—See Douras.....	25	8 to 10 lbs.
Arrhenatherum avenaceum—See Tall Meadow Oat Grass.....	9	4 to 5 bushels.	Millet, German and Hungarian.....	25	½ to 1 bushel.
Awless Brome Grass.....	14	35 lbs.	“ Pearl, Egyptian, Cat-tail or Horse Millet.....	25	(Drills, 5 to 6 lbs. Broadcast, 8 lbs.)
Alsike or Hybrid Clover.....	15	8 lbs.	“ Japanese (in drills, 10 lbs. per acre).....	24	Broadcast, 15 lbs.
Alfalfa Clover.....	16	20 lbs.	Mangels.....	30	6 to 8 lbs.
Artichokes.....	29	8 to 10 bushels.	Melilotus alba—See Bokhara Clover.....	15	10 lbs.
Australian Salt Bush.....	29	2 lbs.	Onobrychis sativa—See Sainfoin.....	28	3 to 4 bushels.
Beet Sugar.....	30	6 to 8 lbs.	Orchard Grass.....	10	3 bushels.
Bermuda Grass.....	14	8 lbs.	Oats.....	18-19	3 bushels.
Bromus inermis—See Awless Brome Grass.....	14	35 lbs.	Poa nemoralis—See Wood Meadow Grass.....	12	2 bushels.
Bokhara Clover.....	15	10 lbs.	“ pratensis—See Kentucky Blue.....	13	2 to 3 bushels.
Broom Corn.....	25	8 to 10 lbs.	“ trivialis—See Rough Stalked Meadow Grass.....	10	1½ bushels.
Buckwheat.....	26	1 bushel.	“ arachnifera—See Texas Blue Grass.....	14	6 lbs.
Barley..... (Sow broadcast, 2 to 2½ bushels)	19	1½ to 2 bu. drilled	Phleum pratense—See Timothy.....	13	10 to 16 qts.
Beans, Field.....	28	1 bushel drilled.	Potatoes.....	32-33	12 to 14 bushels.
Cynodon dactylon—See Bermuda Grass.....	14	8 lbs.	Peas, Field.....	28	3 bushels.
Creeping Bent or Florin.....	9	2 bushels.	“ Cow.....	28	2 bushels.
Crested Dog's Tail.....	13	1½ bushels.	Pea Vine Clover—See Mammoth Clover.....	15	10 to 12 lbs.
Cynosurus cristatus—See Crested Dog's Tail.....	13	1½ bushels.	Perennial Red Clover—See Mammoth Clover.....	15	10 to 12 lbs.
Clovers.....	15-16	8 to 14 lbs.	Red Top.....	10	3 bushels.
Cow Grass—See Mammoth Red Clover.....	15	10 to 12 lbs.	“ Fancy.....	10	20 lbs.
Crimson or Carnation—See Scarlet Clover.....	16	14 lbs.	Rhode Island Bent.....	9	3 bushels.
Corn, Dent and Flint.....	20-21	8 to 10 qts.	Red or Creeping Fescue.....	11	2½ bushels.
“ Fodder.....	22	Broadcast, 2 bu. Drilled, 1 bu.	Rough Stalked Meadow Grass.....	10	1½ bushels.
“ Pop.....	22	6 to 8 qts.	Red Clover (Common or June Clover).....	15	10 to 12 lbs.
Carrots.....	29	4 lbs.	Reana luxurians—See Teosinte.....	25	6 to 8 lbs.
Cotton.....	28		Rye.....	19	1½ bushels.
Dactylis glomerata—See Orchard Grass.....	10	3 bushels.	Root Crops.....	31	
Douras.....	25	8 to 10 lbs.	Ruta Baga.....	31	2 to 3 lbs.
English Blue Grass—See Meadow Fescue.....	12	2½ bushels.	Rape, English.....	27	2 to 4 lbs.
“ or Perennial Rye Grass.....	12	2½ to 3 bushels.	Sorghum Halapense—See Johnson Grass.....	14	1 bushel.
Ensilage Combination.....	23		Sweet Vernal—true perennial.....	10	3½ bushels.
Festuca elatior—See Tall Meadow Fescue.....	11	2½ bushels.	Sheep's Fescue.....	11	2½ bushels.
“ heterophylla—See Various Leaved Fescue.....	11	3 bushels.	Smooth Stalked Meadow Grass—See Kentucky Blue.....	13	2 to 3 bushels.
“ ovina—See Sheep's Fescue.....	11	2½ bushels.	Sweet Clover—See Bokhara Clover.....	15	10 lbs.
“ tenuifolia—See Fine Leaved Sheep's Fescue.....	11	3 bushels.	Scarlet Clover.....	16	14 lbs.
“ pratensis—See Meadow Fescue.....	12	2½ bushels.	Sainfoin.....	28	3 to 4 bushels.
“ rubra—See Red Fescue.....	11	2½ bushels.	Sorghums.....	25	8 to 10 lbs.
“ duriuscula—See Hard Fescue.....	10	2½ bushels.	Sugar Beet.....	30	6 to 8 lbs.
Fine Leaved Sheep's Fescue.....	11	3 bushels.	Sugar Canes.....	25	8 to 10 lbs.
Flax Seed.....	28	½ to ¾ bushel.	Sunflower.....	28	4 qts.
Florin—See Creeping Bent.....	9	2 bushels.	Swedish Clover—See Alsike.....	15	8 lbs.
Grasses, various.....	9 to 14		Texas Blue Grass.....	14	6 lbs.
“ Permanent Pasture Mixtures.....	2	3 bushels.	Tall Meadow Oat Grass.....	9	4 to 5 bushels.
“ “ Clover, for above.....	2	10 lbs.	“ Fescue.....	11	2½ bushels.
“ Renovating Mixture.....	8	1 bushel.	Timothy or Herd's Grass of the North.....	13	10 to 16 qts.
“ for the South.....	14		Trifolium pratense—See Red Clover.....	15	10 to 12 lbs.
Herd's Grass (of the South)—See Red Top.....	10	3 bushels.	“ perenne—See Mammoth Clover.....	15	10 to 12 lbs.
“ (of the North)—See Timothy.....	13	8 to 12 qts.	“ repens—See White Clover.....	15	8 lbs.
Hungarian Grass—See Hungarian Millet.....	25	½ to 1 bushel.	“ incarnatum—See Scarlet Clover.....	16	14 lbs.
Hard Fescue.....	10	2½ bushels.	“ hybridum—See Alsike Clover.....	15	8 lbs.
Italian Rye Grass.....	12	3 bushels.	Teosinte.....	25	6 to 8 lbs.
June Grass—See Kentucky Blue.....	13	2 to 3 bushels.	Turnips.....	31	2 to 3 lbs.
“ Clover—See Red Clover.....	15	10 to 12 lbs.	“ Ruta Baga, Russian or Swedish.....	31	2 to 3 lbs.
Japan Clover.....	15	14 lbs.	Vetch, Spring (Tares).....	28	2 bushels.
Johnson Grass.....	14	1 bushel.	“ Sand or Winter.....	27	1 bushel.
Kaffir Corn.....	25	8 to 10 lbs.	Various Leaved Fescue.....	11	3 bushels.
Kentucky Blue Grass.....	13	2 to 3 bushels.	Wood Meadow Grass.....	12	2 bushels.
Lupins.....	28	2 to 3 bushels.	White or Dutch Clover.....	15	8 lbs.
Lolium italicum—See Italian Rye Grass.....	12	3 bushels.	Wheat.....	17	1½ bushels.
			Wild Rice.....	28	
			Yellow Oat Grass.....	12	3 bushels.
			Zizania aquatica—See Wild Rice.....	28	

ABOUT FORWARDING AND REMITTING.—Every order is executed at once on its receipt, or a reason given why it has not been sent, so that parties ordering may know that if goods are not received in proper time, it is almost certain that the letter has not been received by us. Remittances should be made either in the form of a P. O. Money Order, Bank Draft, Express Money Order, Express Purchasing Order or Registered Letter. Remittances in any other way are entirely at the sender's risk.

We guarantee safe arrival, and make no charge for boxes, barrels, packing or carting. All grass seed bags are furnished free *excepting* bags for timothy and clovers, for which we charge, 2-bushel (seamless), 20c.; 1-bushel, 15c.; ½-bushel, 12c.; 1-peck, 10c.

SPECIAL PACKING for FOREIGN SHIPMENTS, in tin-lined cases or double sacks, charged for at cost.

SPECIAL QUOTATIONS given to buyers of large quantities.

PROCURABLE ONLY FROM

PETER HENDERSON & CO., NEW YORK



"Blood will tell"
in seeds
as well as in animals

IT is not enough to know that seeds grow, for weed seeds will grow!
 The vital point is, What will they produce? This is a matter that is too seldom taken into consideration by the average buyer, many of whom are more interested in hunting for the lowest in price, while progressive farmers and gardeners appreciate that "blood will tell" in seeds as well as in animals, and realizing that

their profits for a whole year depend upon the seeds they plant, they avoid "cheap" seeds as being poor economy, knowing that **superior** seeds produce superior and more profitable crops.

While we do not wish to appear egotistical, yet in justice to ourselves and our seeds, and for the benefit of people who have never dealt with us, we claim to be the producers and distributors of the **best seeds in the world**—it is our business and our profession. We know that planters of seeds buy them entirely on confidence; we realize that to lose a man's confidence is to lose his patronage. If you have never used our seeds, **try them this year**, and we will try and retain your confidence, as we have succeeded in doing with annually-increasing thousands for over half a century.

Henderson's Superior Farm Seeds
Are Grown from Pedigree Strains

HENDERSON'S Superior Grass, Clover, Cereal and other Farm Seeds (which we supply only direct to the planter) are not only of the best pedigree strains, but are of high germination and of choicest, re-cleaned quality. Our warehouses (250,000 bushels capacity), being especially equipped with the most modern seed-cleaning machinery, enable us to supply direct to the farmer Re-cleaned Grass and other seeds of undoubted superiority at lowest possible prices when quality is considered. We are to-day the largest direct suppliers of re-cleaned grass seeds to the farmer in America, and, if at times lower prices are quoted, depend upon it that it is at the sacrifice of quality, for we are so equipped that **no responsible merchant can undersell us for the same qualities**. We would warn our customers that the markets are at the present time flooded with much inferior, and, in many cases, absolutely worthless, grass and clover seeds, much of which has been purposely adulterated and is sold to the unsuspecting farmer by country merchants who do not have the expert knowledge to detect the adulteration, and upon whom it has been foisted by unscrupulous dealers.

FARM MANAGERS.

We have from time to time applications by competent men for positions as farm and estate managers, men who have been trained to the business, and are well posted on agriculture generally, and the raising and care of all kinds of farm stock. We will be very pleased to enter into correspondence with those who require the services of such. We make no charge to either employer or employee.



Peter Henderson & Co.

CHAS. HENDERSON, *President.*

35 & 37 CORTLANDT ST., NEW YORK.



HENDERSON'S SPECIAL GRASS MIXTURE

For Hay and Permanent Pasture.

This famous mixture has seeded thousands of acres of meadow and pasture land for progressive farmers and stock raisers in various parts of the United States, with most gratifying results. It is a well-balanced combination of a number of native and acclimated foreign grasses and clovers, blended and improved upon during exhaustive trials under widely varied conditions, soils and localities for several years, until practically perfect, our aim being to produce under the extremes of the American climate of heat, drought and cold, a PERMANENT, dense and deep-rooting turf that would yield year after year the maximum quantity of hay and afterwards to afford, if desired, a constant and abundant pasturage. Another important essential being superior quality, inviting, sweet and nourishing, whether as hay or pasture. That we have been successful is attested by the numerous letters of praise for this special grass mixture that we have received from the users, and the tributes to its merits published in many of the agricultural journals. Space permits us to print extracts from but a few of these encomiums on pages 4 and 5, to which we refer you, and for the complete description of Henderson's Special Grass Mixture for Hay and Permanent Pastures, see next page, 3.

PRICES Henderson's Special Grass Mixtures

(Described on pages 3 to 8)

Per Bushel of 14 Pounds.

<i>For Hay and Permanent Pasture for Light soils</i>		
" " " " <i>Medium soils</i>		<i>Per bushel, \$2.50</i>
" " " " <i>Heavy soils</i>		<i>20 bush. at 2.45</i>
" <i>Woodlands and Orchards, (page 8)</i>		<i>50 " at 2.40</i>
" <i>Hay only, (page 6)</i>		<i>100 " at 2.35</i>
" <i>Pasture only, (page 7)</i>		
" <i>Renovating Old Pastures, (page 8)</i>		

MIXED PERMANENT CLOVERS
 10 Pounds required for 1 acre, **\$2.00.**

should be sown in addition to the above grass mixtures, but on account of greater weight the clover should be sown separately, and in cold latitudes, in the spring. This mixed clover comprises White, Mammoth Perennial or Cow Grass, Alsike, etc.

...Henderson's Special Grass Mixture...



*For HAY and PERMANENT PASTURE
Produces Wonderful Hay Crops and Luxuriant
Pasture*

The Yield of Hay under favorable conditions averages 3 to 4 tons per acre at the first cutting, or nearly double that of Timothy and Clover, and larger yields are not unusual; then, if not pastured, the second crop is usually about one-half the quantity of the first. This shows the great value of this special mixture of grasses over Timothy, which seldom yields a second crop, nor can it be pastured after cutting without seriously damaging the next season's yield, for Timothy after cutting throws its strength into its bulbous base, on which its yield the next season depends.

In Earliness this special grass mixture is about two weeks ahead of Timothy, enabling the haying to be finished before grain harvesting presses. This earliness gives a longer growing season for the aftermath, whether it is to be pastured or again cut for hay.

Pasturage. After the hay crop is cut the grass commences to grow at once, recovering its verdure in a few days' time and affording a continuous pasturage even through dry summer weather, until winter sets in; or the field may be pastured from earliest spring and still be in prime condition for yielding hay or pasture the next season, and so on year after year, for the various grasses composing this special mixture are all dense, fibrous-rooting varieties, sustaining no injury from cropping—proving its value over Timothy, which would be injured, probably ruined, under similar conditions.

Permanency. Henderson's Special Grass Mixture for Hay and Permanent Pasture, if properly laid down, will maintain its heavy cropping qualities twenty years and more if occasionally top-dressed with manure or suitable commercial fertilizer, and it will steadily improve, whereas a stand of Timothy soon commences to become thin and in three or four years must be plowed up and resown or rotated—with all of the attendant expense.

Heat and Drought-Resisting. The various kinds of grasses composing this special mixture are fibrous, deep-rooting varieties that spread and intermingle, forming a tough matted sod, free from stooling or tussock growth, and, in consequence, the grasses protect their own roots and are therefore less susceptible to extremes of heat and drought, retaining their verdure even through dry, hot weather, when Timothy is burned up.

Adapted to a Wide Range of Soils and Climate. This special mixture of grasses will thrive under a greater variety of soil and climatic conditions than Timothy, and in many instances gives bountiful returns where Timothy can scarcely be grown.

Daisies cannot exist in an established field of this special grass mixture—which covers the ground so thoroughly with dense turf, and if daisies be in the field they do not get a chance to seed, the hay being ready to cut before the daisies are ripe.

The Initial Cost is more in seeding with Henderson's Special Grass Mixture, *but* the ultimate returns are much more profitable than those from ordinary hay and pasture fields, and when the other advantages are considered—including the permanency of a maintained yield—the first expense will be found a paying and satisfactory investment.

The Seed Required. The amount of seed necessary to sow an acre largely depends on the quality of the land; the poorer the soil the larger the quantity required. Taking one soil with another, and owing to the fact that the seeds we use are of higher quality and better cleaned than ever, a fair average would be **3 bushels to the acre.** The thicker the seeds are sown the sooner will a fine, close turf be obtained.

To those accustomed to sow Timothy and Clover, the quantity of seed we recommend will seem large, but the seeds of these permanent grasses are quite different from Timothy, being much larger and lighter; but experience has proven that satisfactory results cannot be obtained with less seed than we recommend, unless under exceptionally favorable circumstances. It may be sown in either spring or fall.

A Description of Soil and Locality should be given when ordering. In the preparation of these mixtures for permanent pasture, the greatest care is exercised in selecting such varieties as are suited to the soil to be sown and are likely to realize the object in view. To facilitate this, **a description of the soil and climate, and the purpose for which sown,** and if *with or without* a grain crop, should accompany each order. **FULL DIRECTIONS FOR SOWING ENCLOSED IN EVERY BAG.**

Prices . . .

HENDERSON'S SPECIAL GRASS MIXTURE for HAY and PERMANENT PASTURE, for light soils, medium soils or heavy soils (state which in ordering): \$2.50 per bushel of 14 lbs.; 20-bushel lots @ \$2.45 per bushel; 50 bushels @ \$2.40; 100 bushels @ \$2.35. Mixed Permanent Clovers, 10 lbs. to sow an acre, \$2.00. (See page 2.)

HENDERSON'S SPECIAL GRASS MIXTURE

for HAY and
PERMANENT
PASTURE.

Described and priced
on pages 2 and 3.



ONLY A FEW OF MANY LETTERS OF PRAISE

from
STOCK MEN
and
FARMERS

We have
HUNDREDS MORE OF
SIMILAR PURPORT

PENNSYLVANIA.

"The grass seed I bought of you produced four mowings for feeding during last season and is the best piece of grass in this section." REV. U. MYERS.

"The growth is simply wonderful, and do not think there is any other grass to equal it for hay or pasture. I sowed about ten acres, from which I have cut what I consider the best hay ever made on my farms." J. S. LONG.

"The Grass seed sent me turned out well. It makes a good grass for meadow or for grazing. It is fine, close grass and the cattle like it." PAUL A. OLIVER.

"The green appearance of the field attracted universal attention. The seed seemed to get hold of the soil completely. It has far surpassed clover and timothy in the amount it yields." J. B. CUMMINGS.

CONNECTICUT.

"The 16 bushels Permanent Pasture Grass you sent me has proved a perfect success. I shall want more in the spring." J. S. MACFARLANE.

"I used 30 bushels of your mixture for permanent meadow on seven acres in one field, and a little less than three acres in another. This year from the three acres I got 9 two-horse loads of excellent quality, and from the seven acres I got 28 two-horse loads, averaging a ton each. I expect to get a good second crop. The mixtures are better than the old-fashioned seeding of Timothy, Red-top and Clover." R. E. HOLMES.

NEW JERSEY.

"From your Permanent Pasture Mixture, about eighty bushels, I had two crops, together about 3½ tons per acre." E. J. GEBBEN.

"Your Grass Mixture was acknowledged by all who saw it to be the best field of grass in this section." JOHN S. BIGELOW.

"We mowed a very good crop the 20th of June, and in two weeks had good pasture—the best in the township, and very good now, and much admired by the neighboring farmers. Our Timothy meadow is nearly all killed or dried up, no pasture. But the Special Grass Mixture is now very nice and green." E. W. BRUEN.

"I have an even, solid stand of grass that affords ample pasture, and far better than those adjoining me who depend on Clover and Timothy." E. P. LAFETRA.

VERMONT.

"I have used your grass seeds for several years, and they are easily the best in the market." F. C. KIMBALL.

"I am more than pleased with the results of both Lawn and Pasture, and am satisfied that P. H. & Co.'s seeds are unsurpassed." C. F. HASTINGS.

VIRGINIA.

"My manager is enthusiastic over your Mixture for Hay and Permanent Pasture. He claims this year he cut 3 tons per acre the first cutting, 1¾ tons the second, and will cut 2 tons the third. The field is a grand sight. People come for miles around to see it." E. E. BARNEY.

IOWA.

"The Grass Mixture I got of you has done extra well, especially this year of drought. It stood the drought and yielded about twice as much as Timothy, and the cattle seem to do better on it." WILLARD WATSON.

MARYLAND.

"It gives me pleasure to inform you that from the Grass seed I bought of you I got a good stand and a splendid growth. I am well pleased; it does well in this section." S. C. JONES.

NEW YORK.

"The crop was much in excess of ordinary grass seeds or Timothy used in the neighborhood. As an evidence of my satisfaction, I have seeded down another lot this fall, using the same seed." JAMES A. MILLER, JR.

"The Special Grass Mixtures bought from you have given every satisfaction, and, after my experience with them, I should never think of planting Timothy again." CHARLES H. LEAYCRAFT.

"It's the finest piece of grass anywhere about here. An old farmer told me last week it would cut 3½ tons to the acre sure." JAMES M. RICHARDS.

"Your Special Mixture of Grasses was a success; compared with Timothy and Clover, the yield is double." OSCAR SILLECK.

"It has yielded more than double the amount of pasture a piece of Timothy and Clover of the same size would have done under the same conditions." FRANK G. MCCOLLUM.

MASSACHUSETTS.

"The Grass Seed turned out very satisfactory, and we have this year cut three large crops of grass from the land seeded last fall with the seed bought of you." C. E. ROGERS.

"The seed for the meadow land was all right, and has proved a great success in every way. I have cut two heavy crops each year." W. H. FAIRBANK.

"The Grass Seed came up so rank I had to cut it the forepart of June, a very heavy crop of nice hay." E. L. BARTLETT.

"This is the third year and there was a heavy crop cut on it two weeks before Timothy was ready, and much to my surprise, there was quite a good second crop in spite of the very dry season." H. L. PARK.

HENDERSON'S SPECIAL GRASS MIXTURE FOR HAY AND PERMANENT PASTURE...

OFFERED ON PAGES 2 AND 3.

EXTRACTS FROM SOME OF THE TRIBUTES OF PRAISE BY THE AGRICULTURAL PRESS.

From "COUNTRY GENTLEMAN," published in Albany, N. Y.

GRASS CULTURE.

By invitation of Messrs. PETER HENDERSON & Co. of New York, a representative of this paper visited their experimental grass plats.

To reproduce English turf in the face of American drouths and heat may not be possible; to better the common clover and timothy practice, with its frequent thin results and speedy running out, is surely feasible. Instead of three or four varieties, ten to fifteen or twenty are used; tall and short grasses, coarse and fine, late and early sorts, are deftly combined in varying proportions according to the end in view.

Below the taller grasses was a thick mat of finer kinds, and the close, rich turf hid every particle of soil. There did not seem to be room for another spear of grass. Going over to an ordinary timothy meadow near by, the contrast was striking. The individual spears in a foot square could easily be counted; "standing-room" for more was abundant. The soil had not been "worked for all it was worth," and the thoughtful farmer might do some suggestive figuring.

From "AMERICAN AGRICULTURIST," published in New York City.

BEST GRASSES FOR HAY AND FOR PASTURE.

By a judicious choice of seeds, mixtures have been effected which will give constant pasturage in this climate from early spring until late in the autumn.

Timothy, and in many parts "timothy and clover," is the standard grass in the country. While timothy is a valuable grass, there are some other kinds so much better, which last longer, yield a heavier crop, will stand various climatic and soil conditions better, it is astonishing that the majority of farmers should still stick to the timothy without even giving one or more of the other kinds and mixtures a fair trial.

It should be remembered that a discriminate mixture of grasses

and clover gives a better result than does any kind grown by itself, for the simple reason that mixtures are bound to grow closer together on the ground, and thereby their component species protect one another from undue heat and drought.

Such mixtures are far superior to timothy or "timothy and clover," or any one grass, costing but a little more, lasting much longer, and giving frequently more than double the yield.

From "FARM AND HOME," published in Springfield, Mass.

MORE HAY AND BETTER PASTURE.

Bare pastures are a source of loss to the farmer. The broad acres that must be devoted to grass are paying taxes and interest, and if not covered with luxuriant hay and pasture are breeding weeds. If seeded with well-proportioned mixtures of proper grasses, even the steep hillside will yield pasture and hay, which every farmer knows is rich with money.

The tendency to run out and the many thin stands obtained with timothy and clover, or with any separate grasses, led to the trial of mixtures of imported and other grasses which have become naturalized in America. The natural sod is formed of a mixture of many grasses, each variety having a certain use in meeting the varying conditions of growth.

The enormous yield of nearly 4½ tons of good hay per acre should convince any one that more hay and better pasture can be grown with mixtures than with timothy and clover alone, as, under the very same conditions, the latter yielded less than a ton and a half (2,760 lbs.) per acre.

From "RURAL NEW YORKER," published in New York City.

THE VALUE OF GRASS SEED MIXTURES.

This firm (P. H. & Co.) has been engaged in a long series of experiments in making up mixtures of grass seeds for hay and permanent pasture, and also for lawns. The underlying idea seems to be that these different grasses, having different root systems, will occupy the ground more fully if a number of different kinds are sown together.

The first piece we visited was one that was seeded with about three bushels per acre of Henderson's Special Grass Mixture for Hay and Permanent Pasture for Light Soil. Mowing had begun in this plot, and it was so thick on the bottom that much difficulty was experienced in getting the mower through it.

The earliness of the grasses as compared with Timothy is a desirable feature, as the haying season comes on at a time when there is little pressing work going on, and the hay is all in the barn before grain harvest.

Few of the old-time methods of seeding will give an amount of hay equal to this first cutting, and after the hay is off, the grasses will start up again so quickly that fine pasturage will be afforded, or at least 1½ ton per acre more hay may be cut in August or September.



We are pleased to offer

ADVICE FREE

on subjects in connection with

PREPARATION
and
MAINTENANCE

of

**GRASS LANDS,
FORAGE AND GREEN
CROPS,
SOILING, ROTATION,
SILOS, etc., etc.**



HENDERSON'S PERMANENT GRASS MIXTURE FOR HAY



CUTTING 4½ TONS PER ACRE . SEVENTH YEAR AFTER SEEDING

HENDERSON'S SPECIAL GRASS MIXTURE for PERMANENT HAY

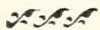
PRODUCES

DOUBLE THE QUANTITY

of

TIMOTHY and CLOVER

and maintains the yield 20 years and more.



SUPPLIES A GOOD CROP OF

HAY

In dry seasons when ordinary Hayfields are burned up. :: ::



QUALITY SUPERIOR.

ALTHOUGH the most widely cultivated hay grass in the United States is Timothy, or a mixture of Timothy and Clover, and while they answer the purpose admirably on farms where the soil is suitable and where the usual three and four years' rotation is carried on, yet, there are many other grasses which will yield more profitable returns.

The prevailing low prices of Wheat, Corn and other grain crops have made their growing, and the usual rotation farming unprofitable, especially in the Eastern States, where it is impossible to compete with the rich prairie soils of the West, but hay still yields a fair profit, and the farmer whose land is sown with a proper mixture of Permanent Grasses, requiring only an occasional top-dressing of manure or fertilizer to MAINTAIN THEIR HEAVY CROPPING QUALITIES FOR TWENTY YEARS OR MORE, does away with the necessity for plowing and rotation cropping with all its attendant expense.

The most serious item of expense on the farm, the labor bill, can be largely reduced and thus give reasonable prospect of profitable annual returns at a minimum of labor and expense. The seed of these Permanent Grasses is more costly than Timothy, and more is required per acre, but by reason of their heavy cropping qualities and permanency they soon repay the extra cost and leave a handsome margin for the farmer, when the cost of plowing, harrowing and re-seeding Timothy every three and four years is taken into consideration.

The grasses used in this Mixture recover quickly after the hay crop is cut, and yield either a second crop or pasture in the greatest abundance during the summer and fall months. Within a few days after cutting, their rich green appearance as compared with Timothy is a desirable feature, especially in fields close to the house, as it gives a park-lawn effect to the surroundings. Sow 3 bushels per acre. Directions in every bag. Price, \$2.50 per bush.; 20 bush. @ \$2.45; 50 bush. @ \$2.40; 100 bush. @ \$2.35. (State whether wanted for light, medium or heavy soils.) Mixed Permanent Clovers, 10 lbs. to sow an acre, \$2.00; should be sown in spring. (See page 2.)

HENDERSON'S SPECIAL GRASS MIXTURE FOR PERMANENT PASTURE.



HENDERSON'S SPECIAL ... GRASS MIXTURE FOR PERMANENT PASTURE

THERE is no more important part of a farm than a good pasture, and that can only be obtained by the use of the proper grasses, varieties that have different root formations and different habits and seasons of growth, in order to maintain a rich, close turf throughout the entire season. Timothy should never be used for pasture, because it will not stand trampling, and soon runs out when heavily pastured and at best is short-lived, as compared with the permanent grasses used in our Special Mixtures. These Mixtures contain over a dozen of the best permanent grasses, both American-grown and imported. All are permanent, and when once established will last indefinitely, if the fertility of the soil is kept up by occasional top-dressing. Owing to the different habits of growth, the grasses grow closer together and form a rich, close turf, covering the soil completely and forming a protection to the roots during hot, dry weather, thereby enabling these grasses to maintain a rich green appearance when Timothy and other grasses are burned up. The thick turf also prevents animals poaching through and destroying the pasture.

We have for years studied the subject of pastures and their formation with exhaustive tests on our own trial farms, where we have had growing separately and in different mixtures all the grasses of which seed can be procured in commercial quantities. These trials have been broadly studied and the results watched with critical interest on the farms of our customers. We are in an unrivalled position to advise you on the subject and to supply suitable grass seeds for Permanent Pasture. While it costs a little more to seed an acre with this special mixture, yet results are so superior and permanent that they more than offset the original cost. Sow not less than 3 bushels per acre. Directions enclosed in every bag.

PRICE: \$2.50 per bushel; 20 bushels @ \$2.45; 50 bushels @ \$2.40; 100 bushels @ \$2.35. (State whether wanted for light, medium or heavy soils.)
Mixed Permanent Clovers, 30 lbs. to sow an acre, \$2.00. Should be sown in spring. (See page 2.)

SUPPLIES
CONTINUOUS and ABUNDANT
PASTURAGE
For 20 Years
AND MORE,
From Earliest Spring until
Winter.
GREEN AND SUGGULENT
ALL SUMMER LONG,
WHEN
ORDINARY GRAZING LANDS
ARE BURNED UP.
UNQUESTIONABLY
SUPERIOR.



HENDERSON'S Renovating Mixture FOR Improving Old Pastures.

\$2.50 per bushel of 14 lbs.

20-bushel lots, \$2.45 per bushel.

Mixed Clovers, 5 lbs. to sow an acre, \$1.00.

GRASS lands, in consequence of being constantly mown or pastured without being fertilized or manured, frequently become impoverished and deficient in the more valuable and nutritious grasses, and in time become unprofitable. It is frequently unnecessary to plow up such land unless it be full of weeds. The turf should be well harrowed with a sharp-tooth harrow, and, if possible, top-dressed with soil and well-rotted stable manure, which should be well harrowed in, and then sown with **HENDERSON'S RENOVATING MIXTURE**, at the rate of one bushel per acre, and five pounds of mixed clovers. This mixture is composed of those sorts that are best suited for sowing on old pastures or meadows, and it will speedily improve the quality and increase the produce. March and April are the best months for sowing, choosing an interval between rains if possible, though, if inconvenient to sow then, very satisfactory results can be obtained by fall sowing. After sowing, the ground should be lightly harrowed and afterward well rolled.



HENDERSON'S Special Grass Mixture FOR Woodland Pastures.

\$2.50 per bushel of 14 lbs.

20-bushel lots, \$2.45 per bushel.

UNLESS there is a superabundance of nitrogen in the soil and a consequent excessive wood growth, in which case it is desirable to sow the land with grasses, it is now customary to sow orchards with cover crops, such as Cow Peas, Clover, etc. These are plowed under and the orchard kept in constant cultivation. But where it is desired to sow the orchard with grass, or for woodland pastures, even when the shade is comparatively dense, we can with all confidence recommend this mixture.

It is composed of a selection of grasses which from exhaustive experiments we have found will thrive under trees. Orchard Grass is, of course, one of the best grasses for the purpose, but this mixture is much superior, as it will make a closer and more even pasture than Orchard Grass alone.

NATURAL GRASSES.

Descriptions of varieties adapted to all soils, climates and conditions in the United States.

"GRASS IS KING." It embraces one-sixth part of the whole vegetable kingdom, and is the true basis of Agriculture in the highest condition.
 "No grass, no cattle; no cattle, no manure; no manure, no crops!"

CREeping BENT OR FIORIN. (Marsh or Broad Leaved Bent.)

Botanical, *Agrostis alba stolonifera*. German, *Fioringras*.
 French, *Agrostide blanche stolonifera*.

Perennial. Time of flowering, July. Height, 1 to 2 feet.

This grass is well adapted for moist situations, and valuable for affording herbage in early spring and late autumn, before other grasses have commenced or have stopped growing, and in consequence is advantageously included in permanent pasture mixtures. It is also excellent for lawns.

Sow (if alone) 2 bushels per acre.
 Weight, about 20 lbs. per bushel.
 Price, 30 cts. per lb.; \$5.75 per bushel; \$28.00 per 100 lbs.



CREeping BENT.

MEADOW FOXTAIL.

Botanical, *Alopecurus pratensis*. German, *Wisener Fuchsschwanz*.
 French, *Vulpin des prés*.

Perennial. Time of flowering, May. Height, 2 to 3 feet.

This grass closely resembles Timothy, but flowers much earlier, and thrives in all soils excepting dry sands or gravels. Its highest state of perfection is attained in strong, moist, rich soils, and it is particularly valuable as a permanent pasture grass, being of very early and rapid growth. It is highly relished by stock; endures close cropping and forms a luxuriant aftermath, and quickly revives after a long drought. It is very nutritious, but unfortunately loses a large percentage in weight after being cut for hay. Sow (if alone) 3 to 4 bushels per acre; weight, about 7 lbs. per bushel.

Price, 40 cts. per lb.; \$2.75 per bushel; \$35.00 per 100 lbs.



MEADOW FOXTAIL.

TALL MEADOW OAT GRASS.

Botanical, *Arrhenatherum avenaceum*. German, *Französisches Raygras*.
 French, *Avoine élevée*.

Perennial. Flowers in May and June.
 Height, 2 to 4 feet.

(This is the *Avena Elatior* of Linnaeus.) Valuable for permanent pastures on account of its luxuriant early and late growth. It is also highly recommended for soil-ing, as it furnishes an abundant and early supply of fodder; after being mown it produces a very thick aftermath. It grows spontaneously on deep, sandy soils when once naturalized, and succeeds on tenacious clover soils. Sow (if alone) 4 to 5 bushels per acre; weight, about 10 lbs. per bushel. Price, 25 cts. per lb.; \$2.25 per bu.; \$20.00 per 100 lbs.



TALL MEADOW OAT GRASS.

RHODE ISLAND BENT. (Brown Bent or Dog's Bent.)

Botanical, *Agrostis canina*. French, *Agrostide des chiens*.

Perennial. Time of flowering, June and July. Height, 1 to 2 feet.

Its hardy creeping habit renders it desirable for close sward, and it is found to be a very desirable sort in some parts of the country for lawns. Sow (if alone) about 3 bushels per acre; weight, 14 lbs. per bushel. Price, 35c. lb.; \$4.25 bushel; \$30.00 per 100 lbs.

AWNLESS BROME GRASS.

Botanical, *Bromus inermis*. German, *Trespe de Hongrie*.
 French, *Brôme de Hongrie*.

Perennial. Time of flowering, June to August. Height, 2 to 5 feet.

For price, full description and illustration of this valuable new grass, see page 14.

ROUGH STALKED MEADOW GRASS.

Botanical, *Poa trivialis*. German, *Gemeines Rispengras*.
French, *Paturin commun*.

Perennial. Time of flowering, July. Height, 2 to 3 feet.

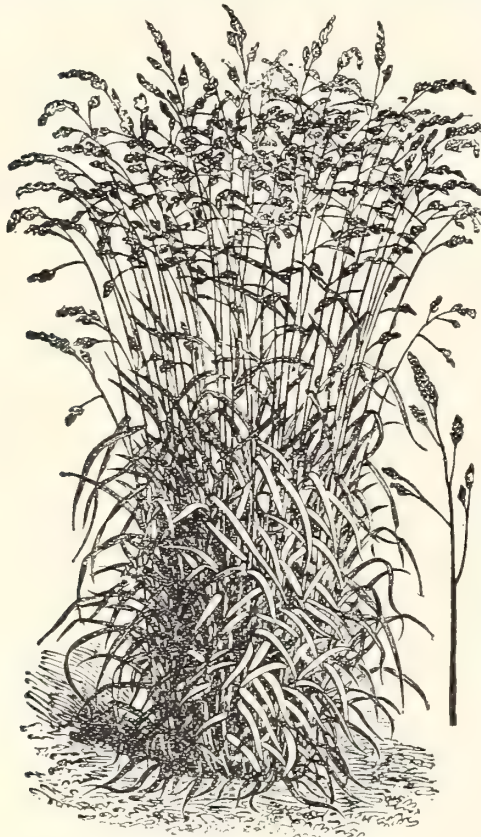
The Lombardy "Queen of Meadow" Grass. An excellent grass for good, deep, rich, moist meadows and stiff, heavy clays. It gives a constant supply of highly nutritive herbage, for which horses, sheep and cattle show a marked partiality. Sow (if alone) $1\frac{1}{2}$ bushels to the acre; weight, about 14 lbs. per bushel. Price, 40 cts. per lb.; \$5.00 per bushel; \$35.00 per 100 lbs.

ORCHARD GRASS. (Rough Cocksfoot.)

Botanical, *Dactylis glomerata*. German, *Gemeines Knaulgras*.
French, *Dactyle pelotonné*.

Perennial. Time of flowering, June. Height, 3 feet.

This is one of the most valuable and widely known of all the grasses, being of exceptional value in permanent pasture mixtures



ORCHARD GRASS.

on account of its earliness and its rapidity of growth. It is ready for grazing several days before any other grass, except Meadow Foxtail. After being mown it produces a luxuriant aftermath. It is quick to recover from close cropping, "five or six days being sufficient to give a good bite." It is relished heartily by all kinds of stock, sheep even passing all other grasses to feed upon it. It succeeds on almost any soil, especially in moist, shady places, and in porous subsoils its roots extend to a great depth. It exhausts the soil less than many other grasses, and stands drought well, keeping green and growing when other grasses are dried up. It flowers about the time of Red Clover and makes a splendid mixture with it to cut in blossom for hay, although it should be cut early

SWEET-SCENTED VERNAL.

(True Perennial.)

Botanical, *Anthoxanthum odoratum*. German, *Gemeines Geruchgras*.
French, *Flouve odorante*.

Perennial. Time of flowering, May and June. Height, 1 to 2 ft.

Very valuable on account of its delicious perfume, to which our hay fields and pastures owe their fragrance. The odor is more distinguishable when the grass is drying or dried, and when included in hay its aroma is imparted to the other grasses, making it relished by the stock and enhancing the value of the hay. Sow (if alone) $3\frac{1}{2}$ bushels per acre; weight, about 10 lbs. per bushel. Price, \$1.50 per lb.; \$14.50 per bushel;

or grazed close, as it becomes hard and wiry and loses its nutritious qualities, to a certain extent, when ripe. It should not be sown in mixture with Timothy, for, being three weeks earlier, it becomes pithy if allowed to stand until the Timothy is ready to cut. Cut at the proper time, however, there is no better or more succulent hay. It is inclined to grow in tufts, and should therefore have other grasses sown with it and be sown very evenly. This tufting characteristic unfits it for lawn purposes. Sow (if alone) 3 to 4 bushels per acre; weight, about 14 lbs. per bushel. Price, Choicest, *Re-cleaned Seed*, 18c. lb.; \$2.25 per bushel; \$16.00 per 100 lbs.

RED TOP.

(Burden's Grass, Herd's Grass of the South, and in poor soils "Fine Top.")

Botanical, *Agrostis vulgaris*. German, *Amerikan red-top*.
French, *Agrostis d'Amérique*.

Perennial. Time of flowering, July. Height, 1 to 2 feet.



RED TOP.

Valuable either for mixing in hay or permanent pasture grasses; is common throughout the country; succeeds almost everywhere, but reaches its highest state of perfection in a moist, rich soil, in which it attains a height of 2 to $2\frac{1}{2}$ feet. If for pasture, it should be fed close, as it is not relished after it grows up to seed. It is often sown with Timothy and Red Clover; the latter of course soon disappears, the Timothy follows; then the Red Top takes its place. Sow (if alone) 3 bushels; weight, 14 lbs. per bush. Price, 12 cts. per lb.; \$1.50 per bushel; \$10.00 per 100 lbs. *Fancy*.—Weight, 32 lbs. per bushel. Price, 20 cts. per lb.; \$6.00 per bushel of 32 lbs.; \$18.00 per 100 lbs.

HARD FESCUE.

Botanical, *Festuca duriuscula*. German, *Harter Schwingel*.
French, *Fétuque durette*.

Perennial. Time of flowering, June. Height, 18 to 24 inches.

A dwarf growing, very hardy grass of great value, and the

most robust of the dwarf grasses. Succeeds in dry situations, and is one of the most important of the Fescues for permanent pastures. In hay its presence indicates a superior quality, and after being mown it produces a very large quantity of food. It comes early, stands long droughts well; stock eat it with avidity, especially sheep. The common name solely applies to the flower heads, which, when ripe, become decidedly hard; the herbage, however, is decidedly tender and succulent. From the fineness of its foliage and its resistance to drought in summer and cold in winter, it is well adapted for lawn grass mixtures. It is somewhat inclined to stool, but when sown with other grasses, if sown evenly, it will not show this characteristic. Sow (if alone) $2\frac{1}{2}$ bushels per acre; weight, about 12 lbs. per bushel. Price, 25c. per lb.; \$2.50 per bushel; \$20.00 per 100 lbs.



HARD FESCUE.

We are prepared to make up Special Mixtures of Grass Seeds for particular purposes—situations or conditions—and any correspondence in regard to such will receive our prompt attention.—P. H. & Co.

TALL MEADOW FESCUE.

Botanical, *Festuca elatior*. German, *Hoher Wiesen-Schwingel*. French, *Fétuque élevée*.

Perennial. Time of flowering, June and July. Height, 3 to 4 feet.

A coarse growing grass, nevertheless it is very nutritive and productive, and is naturally adapted to moist, stiff or clayey soils and shady woods, and is considered by some authorities to be one of the best grasses in cultivation. It is greedily eaten by stock when green, and should be included in all permanent pasture mixtures for moist or strong lands. It also makes a very good quality of hay, but is too robust for lawn purposes. Sow (if alone) 2½ bushels per acre; weight, about 14 lbs. Price, 50 cts. per lb.; \$6.50 per bushel; \$45.00 per 100 lbs.



TALL MEADOW FESCUE.

VARIOUS-LEAVED FESCUE.

Botanical, *Festuca heterophylla*. German, *Wechselblättriger Schwingel*. French, *Fétuque feuilles variées*.

Perennial. Time of flowering, June and July. Height, 2½ to 3 feet.

A native of France and a valuable grass for permanent pastures, especially on uplands, and is a very popular continental grass, well adapted where a heavy swath is wanted. It yields a large bulk of herbage, but produces little feed after mowing. Its beautiful, dark green foliage renders it suitable for park mixtures. Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price, 35 cts. per lb., \$4.50 per bushel, \$30.00 per 100 lbs.



VARIOUS LEAVED FESCUE

SHEEP'S FESCUE.

Botanical, *Festuca ovina*. German, *Schafschwingel*. French, *Fétuque des brebis*.

Perennial. Time of flowering, June and July. Height varies from 6 to 20 inches.



SHEEP'S FESCUE.

For good upland or dry pastures, a large portion of this grass should be included in the mixture, especially if it is used for sheep grazing, as it is greatly relished by them. The Tartars generally pitched their tents in proximity to this grass on account of its value to their herds. It is short and dense in growth, and its excellent nutritive qualities more than counterbalance its slight deficiency in quantity. Its fine foliage and compact habit render it desirable for lawn mixtures. Sow (if alone) 2½ bushels per acre; weight about 12 lbs. per bushel. Price, 25 cts. per lb.; \$2.50 per bushel; \$20.00 per 100 lbs.

FINE LEAVED SHEEP'S FESCUE.

Botanical, *Festuca ovina tenuifolia*. German, *Feinblättriger Schwingel*. French, *Fétuque à feuille menue*.

Perennial. Time of flowering, June. Height varies from 8 to 24 inches.

This is similar to the Sheep's Fescue mentioned above, except that the leaves are much finer. Cattle are very fond of it, and it grows naturally in many parts of the world. It is found in the Arctic regions, in the wilds of New Zealand, and in Europe. In the northern districts of Great Britain it sometimes forms the whole food of the Highland cattle. It is very suitable for permanent pasture, especially on uplands and dry soils. Its rich, dark green gives a fine appearance to hay, and renders it also valuable for lawn mixtures for dry situations.

Sow (if alone) 3 bushels per acre; weight, about 14 lbs. per bushel. Price, 45 cts. per lb.; \$5.75 per bushel; \$40.00 per 100 lbs.

RED or CREEPING FESCUE.

Botanical, *Festuca rubra*. German, *Rother Schwingel*. French, *Fétuque rouge*

Perennial. Time of flowering, June and July. Height, 2 to 2½ feet.

This grass is of a remarkable creeping habit and endures severe droughts. Its roots penetrate so deeply into the soil that it remains fresh and green when other varieties are apparently dried up. It is particularly adapted for dry pastures by the seaside and on loose, light soils, the slopes of railroad cuts, etc., if dry. It yields an average bulk of herbage of fair quality, although most nutritious at time of flowering. Sow (if alone) 2½ bushels per acre; weight, about 14 lbs. per bushel. Price, 35 cts. per lb.; \$4.50 per bush.; \$30.00 per 100 lbs.



RED FESCUE

MEADOW FESCUE.**(English Blue Grass or Sweet Grass.)**Botanical, *Festuca pratensis*. German, *Wiesenschwingel*.French, *Fétuque des prés*.

Perennial. Time of flowering, June and July. Height, 18 to 24 inches.



MEADOW FESCUE.

One of the very best of our natural grasses; very valuable for permanent pastures. It is highly nutritious and greedily eaten by all kinds of stock and is very fattening; makes excellent hay and succeeds well in almost all soils, although it does best in moist land. It is robust in habit and never grows in tufts, although it should be sown with other grasses. It is one of the earliest grasses in the spring and one of the latest in autumn, being particularly valuable for fall and winter pastures. In the climate of Virginia it often remains green under the snow through the winter, and in consequence is frequently called "Evergreen Grass." Sow (if alone) 2½ bushels per acre; weight, about 22 lbs. per bushel. Price, 25c. per lb.; \$5.00 per bu.; \$22.00 per 100 lb.

ITALIAN RYE-GRASS.Botanical, *Lolium italicum*. German, *Italienisches Raygras*.French, *Ray-gras d'Italie*.

Biennial. Time of flowering, June or July. Height, 18 to 30 ins.

A variety unequalled for producing an abundance of nutritious feed in the early spring, as well as throughout the season, and it gives quick and successive growths until late in the fall, even if cut several times, providing the land is in good condition and not too dry. It is of succulent character and quickly responds to rich food and moisture. It thrives on almost any good soil, but reaches its most perfect state in moist, fertile land. As it is not perennial, it is not adapted for permanent pastures, but for one or two year's lay it is unsurpassed. Sow (if alone) 3 bushels per acre; weight about 18 lbs. per bushel. Price, 10c. per lb.; \$1.50 per bush.; \$8.00 per 100 lbs.

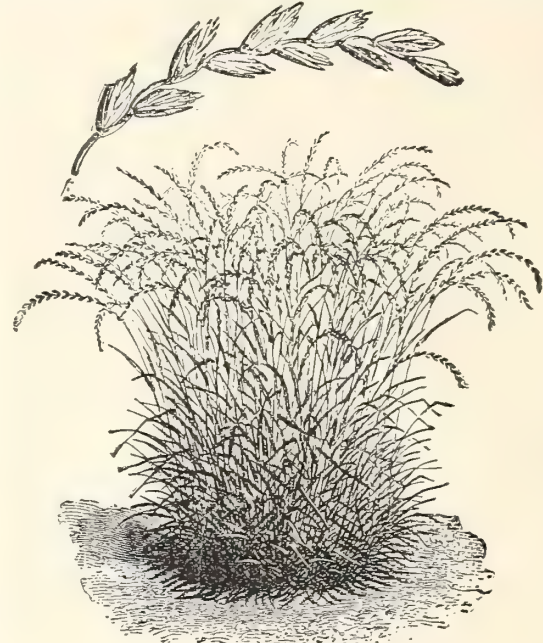


ITALIAN RYE-GRASS.

ENGLISH or PERENNIAL RYE-GRASS.Botanical, *Lolium perenne*. German, *Englisches Raygras*.French, *Ray-grass Anglais*.

Perennial. Time of flowering, June. Height, 15 to 24 inches.

This grass is considered invaluable for permanent pastures. It produces an abundance of remarkably fine foliage, tillers out close to the ground and soon forms a compact sward. After being cut it grows up in a very short time and remains bright and green



ENGLISH RYE-GRASS.

throughout the season; it consequently is well adapted for lawn mixtures. It is also a good variety for hay if cut when in blossom, as it is then most nutritious; if cut much later it becomes woody. It flourishes best in situations not too dry or subject to droughts. Sow (if alone) 2½ to 3 bushels per acre; weight per bushel, 24 lbs. Price (extra fine sample), 10 cts. per lb.; \$2.00 per bushel; \$8.00 per 100 lbs.

WOOD MEADOW GRASS.Botanical, *Poa nemoralis*. German, *Hainrispengras*.French, *Paturin des bois*.

Perennial. Time of flowering, June. Height, 1½ to 2 feet.

This grass is now classed among our good "Shaded Pasture" grasses, and furnishes a fine succulent and nutritive herbage which is very much relished by cattle. It is splendidly adapted for moist, shady places, and should be included in all mixtures for permanent pastures and lawns for moist soils. It is particularly valuable for lawns overshadowed by trees. It produces a much thicker growth than either *Poa pratensis* or *trivialis*. Sow (if alone) 2 bushels per acre; weight per bushel, about 14 lbs. Price, 45 cts. per lb.; \$6.00 per bushel; \$40.00 per 100 lbs.



WOOD MEADOW GRASS.

TIMOTHY OR HERD'S GRASS
Of the North.

Botanical, *Phleum Pratense*. German, *Thimotée-Gras*.
French, *Fléole des prés*.
Perennial. Time of flowering, June and July. Height, 2 to 3 feet.

This luxuriates in moist, loamy soils, and sometimes, in favorable situations, attains a height of 4 feet, and even on light soils it yields fair crops. It is exceedingly nutritious, particularly when ripe, but as it is then very hard, it is better to cut it soon after flowering. It makes magnificent hay. On dry soils Timothy forms a bulbous swelling at the base of the stems from which the next year's growth starts. It is, therefore, highly injurious under such circumstances to pasture stock on the fall growth, as they trample and cut the leaves off that should protect it during the winter. Even in its most flourishing condition it is more or less injured by pasturing it. Sow (if alone) 1/2 to 1 bushel per acre; weight per bushel, 45 lbs.



TIMOTHY.

Price, Henderson's Standard Sample, 10 cts. per lb.; \$4.00 per bushel; \$8.75 per 100 lbs. (subject to change without notice).

A farmer who always looks for the cheapest and pays little or no attention to the quality and cleanliness of the Timothy, Clover and other grass seed he annually sows, will sooner or later find his farm overrun with weeds, and naturally conclude farming is a failure. The seeds of many of the most pernicious weeds so closely resemble the genuine seeds as to require an expert of long experience to detect them, and the farmer should be certain that the merchant has the expert knowledge. As an instance, hundreds of thousands of pounds of Red Clover heavily adulterated with Yellow Trefoil (a small yellow-flowered annual Clover of little or no value) have in recent years been sold to the unsuspecting farmer by country merchants who did not have the expert knowledge to detect it, and upon whom it had been foisted by unscrupulous dealers, who by means of this adulteration can undersell the market and still make more than a legitimate profit.

CRESTED DOGSTAIL. (Gold Grass.)

Botanical, *Cynosurus cristatus*. German, *Kammgras*.
French, *Crételle des prés*.
Perennial. Time of flowering, July. Height, 1 to 1 1/2 feet.



CRESTED DOGSTAIL.

A fine, short grass that should enter into all permanent pasture mixtures, especially for dry, hard soils and hills pastured with sheep, as it is very hardy and but little affected by extremes of weather. Sheep fed in pastures where this abounds are less subject to foot rot. It is tender and nutritious and relished by all stock until it commences to ripen; it then becomes wiry. On account of its close growing habit, the dense turf it produces and its evergreen foliage, it is particularly desirable for lawn mixtures. Sow (if alone) 1 1/2 bushels per acre; weight about 21 lbs. per bushel. Price, 55 cts. per lb.; \$11.00 per bushel; \$50.00 per 100 lbs.

KENTUCKY BLUE GRASS.

Also called June Grass, Smooth Stalked Meadow Grass, Green Meadow Grass, and Spear Grass.

Botanical, *Poa pratensis*. German, *Wiesen Rispengras*. French, *Paturin des prés*.
Perennial. Time of flowering, June. Height, 10 to 15 inches.

This valuable grass is suited to a variety of soils, from an average dry one to moist meadows. It is exceedingly popular in most parts of the country as a pasture grass. It is very productive, unusually early, and presents a beautiful green appearance in early spring, while other grasses are yet dormant. It furnishes delicious food for all kinds of stock all through the season—unless there should be a protracted drought, which would cause it to slowly dry up—until the fall rains, when it springs forth and grows luxuriantly, and furnishes pasturage until frozen up in winter.



KENTUCKY BLUE GRASS.

In Kentucky and similar latitudes, when allowed its full fall growth, it makes fine winter pasture, and sheep, mules and horses will paw off the snow and get plenty to live on without other food. It makes a splendid lawn grass, forming a thick turf, and being of very even growth, producing only one flowering stem a year, while many other grasses continue to shoot up flower stalks throughout the season. Kentucky Blue Grass also makes hay of excellent quality, but the yield for this purpose is not equal to some other grasses. Sow (if alone) 3 bushels per acre. Though offered at the standard weight of 14 lbs. per bushel, we keep nothing but fancy re-cleaned seed, free from chaff, the natural weight of which is 20 to 25 lbs. per measured bushel. Price, 15 cts. per lb.; \$1.75 per bushel of 14 lbs.; \$12.00 per 100 lbs.

YELLOW OAT GRASS. (True.)

Botanical, *Avena flavescens*. German, *Goldhafer*.
Perennial. Time of flowering, July. Height, 18 inches.



YELLOW OAT GRASS.

Particularly adapted for dry meadows and pastures. Being of somewhat slow growth it should be sown with other grasses, and does well with Crested Dogstail and Sweet Vernal. It should be included in all permanent pasture mixtures for light, dry and calcareous soils. It is highly relished by cattle; comes very early and makes a very sweet hay, after which a large aftermath is produced. Sow (if alone) 3 bushels per acre; weight about 7 lbs. per bushel. Price, \$1.25 per lb.; \$8.50 per bushel; \$175.00 per 100 lbs.

Your Special Mixture of Grasses for Permanent Pasture has given entire satisfaction. No more Timothy for me.—CHARLES EVERDING, Branford, Conn.

Drought-Resisting Grasses.

AWNLESS BROME GRASS. (*Bromus Inermis.*)

When we introduced and offered seed of this grass in 1889, our experimental experience with it enabled us to claim for it drought-resisting qualities which have since been amply proven. In addition to this quality, we now claim for it extreme hardness, it having stood uninjured the severe winters of Northern Canada with the snow covering purposely removed to test its hardness. It is now extensively grown throughout all parts of Canada and the United States, and wherever known it is much appreciated both for hay and pasture. With the possible exception of Florida, it thrives throughout the United States.

It will grow on lands too poor for nearly all other valued grasses, and under climatic conditions which would render impossible the cultivation of nearly all other varieties, though of course it will not produce so abundantly. The following extracts from reports give some idea of its wide geographical value:

James Fletcher, of Canadian Experimental Farms, in his evidence before Agricultural Committee of the Canadian Parliament, said:

"Of all the imported grasses this is undoubtedly the most valuable. It grows a heavy crop four feet high. It is the one grass above all others reported upon favorably and uniformly from the North West Territories. I sent out over 2,000 packets of seed for testing, and it was spoken of most highly by every person who sent in a report. These reports show that it is of value in the West, and the experience of it in Ontario, Quebec and the Maritime Provinces is no less favorable. It is an extremely heavy and uniform cropper."

Bulletin, Department of Agriculture, Washington, D. C., says:

"This grass certainly presents a fine appearance, and the Experiment Station reports, nearly without exception, praise it in the highest terms. It is evident from these reports that the grass is little influenced by changes of climate. In Canada, in Mississippi, Kansas, Colorado, Wyoming and California it seems to do equally well. It is resistant to intense cold, to sudden and extreme changes of temperature, and stands protracted drought better than any other variety."

Bulletin, Mississippi Experiment Station, says:

"Endures our summer heat and drought much better than Rescue Grass, and, being a perennial, is much more permanent. It remains fresh and green during a larger part of the year than any other grass we have."

Bulletin, United States Grass Experiment Station, Garden City, Kan., says:

"*Bromus Inermis* is the grass for this Western country; it is the best out of seven or eight hundred varieties tried on this Station."

Sow 35 lbs. per acre. (See cut.)

Price, 25 cts. per lb., \$3.25 per bushel (of 14 lbs.), \$20.00 per 100 lbs.

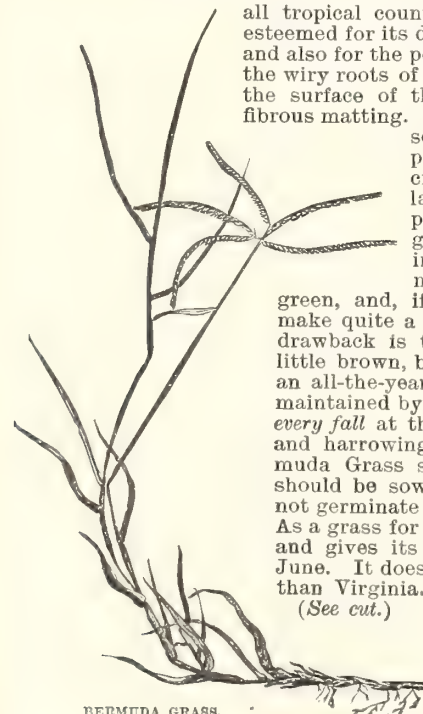


AWNLESS BROME GRASS (*Bromus inermis*).

BERMUDA GRASS. (*Cynodon Dactylon.*)

This is a grass that is eminently adapted for the Southern States, as it withstands drought and the scorching rays of the sun better than any other variety. In all tropical countries this grass is highly esteemed for its drought-resisting qualities, and also for the peculiar habit of its growth; the wiry roots of the grass in running over the surface of the ground form a strong, fibrous matting. This has caused it to be sown largely for the purpose of binding banks of creeks and dams, etc. For lawns it is also highly prized, as while all other grasses are burned up during the hot season, Bermuda Grass will remain green, and, if regularly mown, it will make quite a velvety carpet. The only drawback is that in winter it looks a little brown, but in the Southern States an all-the-year-round green lawn can be maintained by sowing English Rye Grass every fall at the rate of 50 lbs. per acre and harrowing or raking into the Bermuda Grass sod. Bermuda Grass seed should be sown in the spring, as it will not germinate until warm weather comes. As a grass for hay or pasture, it matures and gives its first cutting ordinarily in June. It does not succeed further north than Virginia. Sow 8 lbs. per acre.

(See cut.)



BERMUDA GRASS.

Price of Seed,
80 cts. per lb.;
100 lbs.,
70 cts. per lb.

JOHNSON GRASS. (*Sorghum Halapense.*)

As a meadow or hay grass, this variety is highly esteemed in the South, where during the hottest and driest seasons it can be relied upon to yield heavily. The aggressiveness of this grass has caused it to be considered a veritable curse by some farmers by spreading into cultivated fields, but it is highly esteemed by those who understand it. Where it is desired to keep it within bounds, the seed should never be allowed to ripen, as it spreads from the seeds disseminated through hay much more than is generally supposed. Besides, when fully ripe, the feeding value is little better than corn stalks, but, cut before the seed tops emerge from the sheaths, its value as shown by chemical analysis is better than Timothy hay. When cut at time recommended, the embryo seeds are unpollinated and imperfect, and are incapable of sprouting, so there is no possibility of introducing this grass where it is not wanted by using such hay. We only advise the sowing of Johnson Grass where it is desired to remain as permanent meadow. Should be sown August to October, or in spring, at the rate of one bushel per acre.

Price, 14 cts. per lb., \$3.00 per bushel of 25 lbs., \$11.00 per 100 lbs.

TEXAS BLUE GRASS. (*Poa Arachnifera.*)

A perennial creeping grass, closely related to Kentucky Blue Grass, but stands drought and heat better, and is, therefore, of greater value in the Southern States as a winter pasture or Lawn Grass. An all-the-year-round green pasture or lawn can be maintained, even in the extreme South, by sowing half each Bermuda and Texas Blue Grass, neither seeming to crowd out the other, Texas Blue being one of the few grasses able to withstand the aggressive habit of Bermuda. Sow during showery weather in spring or fall, preferably in the fall. Parties ordering should be careful to state Texas Blue Grass, so as not to confound it with Kentucky Blue Grass.

Price, 20 cts. per packet, 40 cts. per oz., \$1.00 per ¼ lb., \$3.00 per lb.

CLOVERS.

Clovers are one of the most important factors to success in agriculture. They exhaust the soil less than any other class of plants giving equal bulk; they derive nitrogen (the most costly element in fertilizers) from the atmosphere, and actually add to the fertility of the land. Clovers are of the greatest value for plowing under for supplying humus and nitrogen.

RED CLOVER. (Common or Medium Clover, June Clover.)

Botanical, *Trifolium pratense*. German, *Kopfklee*, *roth bluhender*. French, *Trefle rouge*.

This is by far the most important Clover for practical agriculture. It grows luxuriantly in stiff loams, and is fond of lime, though it adapts itself to a variety of soils. In the Northern States it is generally sown in the spring, and in a short time yields abundantly. Sow (if alone) 12 to 14 lbs. per acre. If sown in spring after Timothy, 8 to 10 lbs. per acre. **CAUTION.**—Every care should be exercised in buying Red Clover, for there are always on the market at a cheap price large quantities, badly infested with weed seeds, which in size and appearance closely resemble Red Clover, and cannot be cleaned out. Our seed is of high germination, pure and free from weed seeds and foreign matter. Price (subject to change without notice) Henderson's Standard Sample (extra re-cleaned), 15c. lb., \$8.50 bush. of 60 lbs., \$14.00 per 100 lbs.

"The Clover I bought from you last spring is the best they have had on that farm in twenty years, so I am told by the family that occupied it for sixty-five years."

THOMAS SKIPPER, Woonsocket, R. I.

MAMMOTH OR PEA VINE RED CLOVER.

(Perennial Red Clover, Cow Grass.)

Botanical, *Trifolium pratense perenne*. German, *Bullenklee*. French, *Trefle vivace d'Angleterre*. Perennial. Time of flowering, July. Height, 3 to 5 ft.

Quite distinct from the common Red Clover, and valuable for purposes for which the latter is entirely unsuited. It lasts longer and is two or three weeks later than common Red Clover. Of very robust growth, yielding enormous bulk, valuable for reclaiming exhausted lands. Sow (if alone) about 12 lbs. per acre; weight, 60 lbs. per bushel. Henderson's Standard Sample (extra re-cleaned) (see cut), 16c. per lb., \$9.00 per bushel, \$15.00 per 100 lbs.



COW GRASS, MAMMOTH OR PEA VINE CLOVER.



ALSIKE CLOVER.

ALSIKE OR HYBRID CLOVER.

(Swedish Clover.)

Botanical, *Trifolium hybridum*. German, *Bastard Klee*. French, *Trefle hybride*.

Perennial. Time of flowering, July and August. This is one of the hardiest of all the Clovers. It succeeds on any soil, and resists extremes of drought and wet. It yields enormously, and can be cut several times in a season; is very nutritious, and is good for either green food, pasturing or cured for hay. It is valuable for sowing with other grasses and clovers, as it forms a thick bottom, and increases the yield of hay. Alsike Clover frequently produces heavy crops on soils on which Red Clover will not grow. We strongly advise farmers to add 2 or 3 lbs. per acre to their usual seeding of Red Clover with Timothy. Sow (if alone) 8 lbs. per acre; weight, 60 lbs. per bushel. (See cut.) 25c. lb., \$13.50 bushel, \$22.00 per 100 lbs.

WHITE CLOVER. (Dutch or Honeysuckle Clover.)

Botanical, *Trifolium repens*. German, *Weissklee*. French, *Trefle blanc*.

Perennial. Time of flowering, May to September. Height, 6 inches (creeping). A very hardy creeping variety, which accommodates itself to a great variety of soils, but grows most luxuriantly in moist ground or in wet seasons. It is valuable in mixtures for permanent pastures and lawns, and also prevents the soils from being washed by heavy rains. Sow (if alone) 8 lbs. per acre; weight, per bushel, 60 lbs. (See cut.) 28c. per lb., \$15.00 per bushel, \$25.00 per 100 lbs.

JAPAN CLOVER.

(*Lespedeza striata*.)

Is not a true Clover, but in appearance and habit of growth is much like White Clover. It is especially valuable in the Southern States,



WHITE CLOVER.



MEDIUM RED CLOVER.

where it will flourish on poor and exhausted soils, too poor to produce profitable crops of any other forage plant. It is an annual, but once sown it reseeds itself from year to year, and in that way will last indefinitely, and is pronounced by competent authorities as the best pasture plant for impoverished soil in the Southern States. Sow 14 lbs. per acre; weight, 20 lbs. per bushel; 30c. per lb., \$5.50 bushel of 20 lbs., \$25.00 per 100 lbs.

WHITE BOKHARA CLOVER. (Sweet Clover.)

Botanical, *Melilotus alba*. German, *Wunderklee*. French, *Trefle de Bokhara*.

Biennial. Time of flowering, June to September. Height, 2 to 4 feet.

This is a tall, shrubby plant, bearing quantities of small white flowers of delicious fragrance, and is exceedingly valuable for bees, and is also of great value to plow under as a fertilizer. Sow 10 lbs. per acre. 30c. per lb., \$18.00 per bushel, \$28.00 per 100 lbs.

ALFALFA OR LUCERN.

(*Medicago Sativa.*)

**The Deepest Rooting, Soiling and Hay Plant Grown.
Opens up the Subsoil. Adds Nitrogen and Humus to the Land.**

YIELD.—When fully established it yields as much as eight to twelve, and sometimes as high as sixteen, tons of cured hay per acre at three to four cuttings each year. The hay is palatable and very nutritious.

By the New Jersey Experiment Station and other competent authorities the feeding value of the hay is placed at \$20.00 as compared with Timothy at \$12.00 per ton. As a soiling plant for cutting and feeding green during the summer it is of the utmost value on all dairy farms, as it is ready for first cutting about the time for planting Corn and about as early as green Rye can be cut, and is ready for cutting about every six weeks thereafter. **Alfalfa should be cut every time it begins to blossom, whether the growth is short or tall, for if allowed to form seed, it shortens the life of the plant.**

Owing to slow growth the first season, almost the entire growth going to roots, the land should be clean and free from weeds, and it is, therefore, best to follow Potatoes, Corn or some other crop that has been thoroughly hoed and kept free from weeds.

DEEP ROOTING.—Its drought-resisting qualities are remarkable, rendered so by the wonderful root formation, **THE ROOTS GOING DOWN DEEPER THAN ANY OTHER PLANT**, eight to twelve feet being usual, and a depth of thirty feet has been reported. This deep-rooting quality enables it to reach and utilize plant food beyond the reach of other plants.

There is no plant which can be fed green or cured into hay that is deserving of wider cultivation than Alfalfa, and *there is no State in the Union where it cannot be successfully cultivated under the following conditions:*

LIME NECESSARY.—One of the essentials for its success is LIME in some form, either in the soil or subsoil, and if lime or marl is present, profitable crops may be expected. Therefore, if it is known that there is no lime in the soil, it should be applied as a top-dressing when the land is being plowed preparatory to sowing the seed.

GOOD DRAINAGE is necessary, for an excess of surface water soon rots the roots and under these conditions the plants seldom live longer than one or two years, though excellent results have been obtained on clay soils, provided always that lime is in the soil or subsoil, either naturally or applied.

TIME OF SOWING.—The best time to sow in this section is in April, and if the land is thoroughly clean and free from weeds, it may be sown broadcast, using 20 lbs. per acre, and such weeds as appear kept down by the mowing machine with the cutter bar raised so as to avoid cutting near the crowns of the young plants. *But, even under the most favorable conditions the better plan is to drill the seed in rows 16 inches to 2 feet apart, at the rate of 15 to 20 lbs. per acre.* As soon as the young plants are high enough to mark the rows, cultivation should begin, and if the soil is kept clean and mellow by frequent stirrings, the Alfalfa, if cut often and not allowed to go to seed, will after the first year cover the ground and easily keep ahead of all weeds. **13c. lb.; \$9.00 bushel of 60 lbs.; \$15.00 per 100 lbs.**



ALFALFA OR LUCERN.
(*Medicago Sativa.*)



Crimson or Scarlet CLOVER
(*Trifolium Incarnatum.*)

THE MOST VALUABLE PLANT FOR RESTORING THE FERTILITY OF WORN-OUT SOILS.

The value of Scarlet Clover is now so thoroughly established that we have no hesitation in recommending that all lands from which crops have been harvested during the summer and fall should be sown with Scarlet Clover for plowing under the following spring. Authorities who have made a careful estimate state that plowing under a good crop of Scarlet Clover is equivalent to 20 tons of stable manure per acre, and even if the clover be harvested or pastured, the benefits derived from the wonderful nitrogenous root formation will alone many times repay the cost.

If intended for feeding, it should always be cut while in the young stage and never fed to stock after the crop has ceased flowering, as serious results are apt to follow the feeding of over-ripe Crimson Clover. It is the cheapest source of nitrogen and should be extensively used throughout the entire Eastern States. Its value as a winter soil mulch and for green manuring for orchards cannot be overestimated.

In the latitude of New York, time for sowing may extend from July 15th to September 15th, and further South up to October. The seed needs to be only lightly covered, and a good plan is to sow on fresh plowing and cover with a light harrow. Sow 15 lbs. per acre.

Choice new crop seed of highest growing quality, thoroughly cleaned and free from weed seeds, 10c. lb., \$5.00 bush., \$8.00 per 100 lbs.



HENDERSON'S SUPERIOR WHEATS.



FULL DESCRIPTIONS AND PRICES OF OUR
WINTER WHEATS
 ARE GIVEN IN OUR AUTUMN WHEAT CIRCULAR.
 MAILED ON APPLICATION.



SPRING WHEATS.

Often, through pressure of other work, the seeding of Winter Wheat is neglected until too late and is either not sown at all or results in failure. With the two varieties of Spring Wheat here offered, this difficulty can be overcome by Spring sowing. They are the best of the Spring Wheats, yield well, and the milling quality of the grain surpasses even the best of the winter varieties. Spring wheat is also a satisfactory crop to sow along with grass seed.

WELLMAN FIFE.

The best of all the Spring Wheats, having large heads and grain, and tall, strong straw, with white chaff heads and dark amber kernels. The grain is very hard and produces the finest grade of flour, and is eagerly sought after by millers. Enormously productive, and is invaluable for spring sowing where the Winter Wheat has been killed, or where it was not sown. (See cut.) \$2.25 per bushel; 10-bushel lots, \$2.10 per bushel.

SASKATCHEWAN FIFE.

The favorite variety in the great Spring Wheat sections of the Northwest, where it is much esteemed by the farmer for its earliness, productiveness, vigorous growth and freedom from smut and diseases, and by the miller on account of its unsurpassed milling qualities. \$2.10 per bushel; 10-bushel lots, \$2.00 per bushel.

WINTER WHEATS. Prices on Application.

RURAL NEW YORKER No 6. (Bald.)

Succeeds and produces heavy crops on poor, thin land, where Wheat could not be successfully or profitably grown, and it also has extreme hardiness to recommend it. One of our growers says: "It stools as strong as any wheat I ever saw. It had a vigorous, healthy growth all the season and stood well without lodging."

GOLD COIN. (Bald.)—A very productive variety which has yielded over 60 bushels per acre and even on large acreages has seldom run under 40 bushels per acre. The grain is white, the head long and well filled, frequently having five kernels abreast.

BEARDED WINTER FIFE.—Has all the splendid milling qualities of the celebrated Winter Fife. One of the earliest Wheats, and is a very strong, healthy grower, stooling rapidly in the Fall.

RURAL NEW YORKER No. 57. (Bearded.)

Has heavily bearded heads, straw is unusually tall and strong and stools freely, frequently having 35 to 40 stalks from a single grain.

JONES' LONGBERRY No. 1.—Will soon take the place of the old popular Longberries now no longer profitable, through light yield and weakened vitality.

From the fact that it is a blending of red and amber wheat in one berry, millers will quickly recognize its high milling quality.

PRIDE OF GENESEE. (Bearded.)—Has a long, well-filled head, and will give a reasonably good crop on land so poor that common sorts would be a failure.

Henderson's Clydesdale Oats.

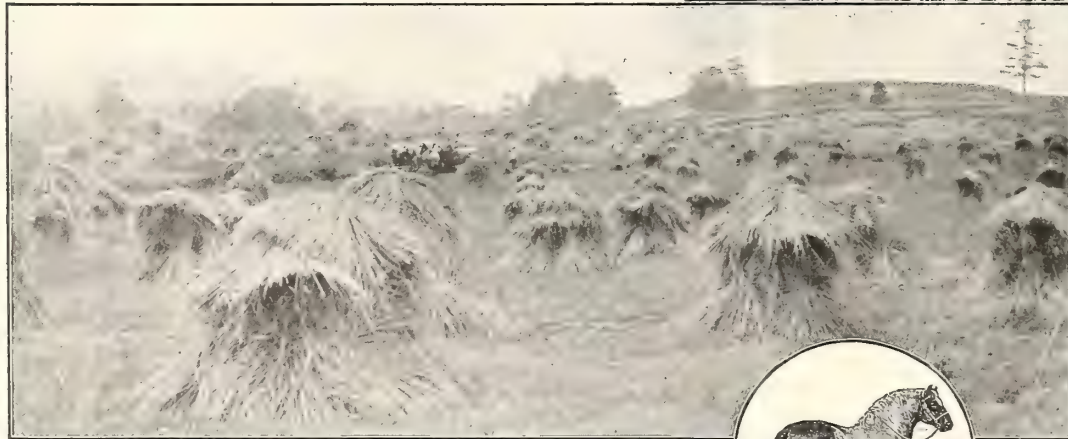
NATURAL WEIGHT, 50 LBS. PER BUSHEL.

The Heaviest, the Earliest and most Prolific White Oat in Cultivation.

Since we introduced this Grand Oat it has steadily and deservedly gained in popularity, until to-day it is **the most popular High-Grade White Oat in the United States.**

The climate of America is unsuited to the production and maintenance of the highest grade of oats, and unless a heavy imported (British) oat be used for seed purposes at least every second or third year, they become light, "chaffy," inferior in quality and unprofitable. The ultimate financial benefit accruing to the American farmers by the annual distribution of several thousand bushels of **Henderson's Clydesdale Oats** cannot be overestimated. These oats weigh naturally **50 lbs. per measured bushel**, and they deteriorate in weight only from three to four lbs. each year they are grown here, so that the produce is worth for seed purposes at least double the market value of ordinary oats. **No other oat can show such a record—75 to 100 bushels per acre**, and double the usual quantity of straw. We offer these oats for sale at the weight of **50 lbs. per bushel**, exactly as grown for us in Britain, so that those purchasing will actually receive for every bushel **over one and one-half bushels** according to the American standard, which reduces the price of "The Clydesdale" to **\$1.44 per standard bushel of 32 lbs.** Another most important advantage of **Henderson's Clydesdale Oats** to the farmer is the fact that they have been thoroughly cleaned by the latest and most improved machinery, and are absolutely free from foreign and weed seeds. (See cut.) Price, by express or freight, **\$1.00 per peck; \$2.50 per bushel (of 50 lbs.)** Or we will supply **3 bushels (150 lbs.)**, the quantity to seed an acre, for **\$7.00. 10 bushels and upwards, \$2.25 per bushel.**

In the "Ohio Farmer," Mr. J. T. Hickman, of the Ohio Agricultural Experiment Station, states that samples of Henderson's Clydesdale Oats and Clydesdale Oats procured from other sources have shown, in a series of experiments, in favor of Henderson's Clydesdale. He also states that the average yield of Clydesdale Oats procured from other sources was something like nine bushels per acre below the results obtained from Henderson's Clydesdale.



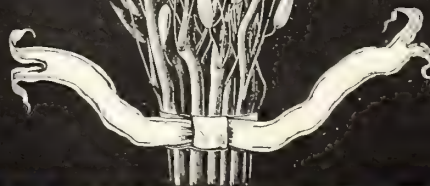
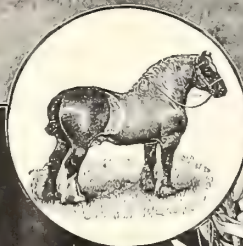
AMERICAN GROWN . . . CLYDESDALE OATS . . .

(Grown in Northern New York.)

In order to give Henderson's Clydesdale a still wider distribution and make their value universally known, and to enable us to offer them at a price within the reach of every farmer, we have had several thousand bushels specially grown for us in the United States during the past year. These we have thoroughly re-cleaned, and are extra choice and heavy, free from all foul seeds and light and imperfect grains. We are within the mark when we say that these oats will yield under ordinary cultivation 70 to 80 bushels per acre, and under favorable circumstances 100 bushels per acre can reasonably be expected. **\$1.35 bushel (32 lbs.); 10-bushel lots, \$1.30 bushel; 100-bushel lots, \$1.25 bushel (32 lbs.)**

"We got one bushel of Clydesdale Oats from your house four years ago. We have been very successful with them; we now raise no other kind. We had about 1,100 bushels of them this year, but wish to renew the seed."

WILLIAM ARCHER, Brier Hill, N. Y.



HENDERSON'S CLYDESDALE OATS.

HENDERSON'S CHOICE SELECTED SEED OATS.

OUR OATS ARE ESPECIALLY GROWN FROM SELECTED STOCK FOR SEED PURPOSES.

All cleaned by the latest and most improved machinery, free from weed seeds and small, imperfect grains.

IMPORTANT.—A change of Seed Oats is even more necessary than a change of Seed Potatoes, and they should be renewed at least every second or third year. At the low prices at which we offer below choice re-cleaned Seed Oats, IT WILL PAY EVERY TIME to even renew stock every year. Oats grown on the same soil or in the same neighborhood year after year deteriorate rapidly and soon become light, chaffy and unprofitable.

LINCOLN. On its merits this has become one of the most popular. Is very strong-strawed, is very early, and is more nearly rust-proof than any other variety. The grain is heavy, handsome, and thin skinned. You cannot go wrong in sowing this variety. \$1.10 bushel; 10 bushels and upward, \$1.05 bushel; 100 bushels and upward, \$1.00 bushel.

PROBSTEIER. A leading white variety. It is very productive and heavy, and straw very strong. It is of Scandinavian origin, but well adapted to this climate; it ripens two or three days later than many varieties, but yields better. (See cut.) \$1.10 bushel (32 lbs.); 10 bushels and upward, \$1.05 bushel; 100 bushels and upward, \$1.00 bushel.

SILVER WHITE MAINE. A grand oat of vigorous habit of growth and seems to thrive better under hot, dry and other unfavorable weather conditions than most other varieties. \$1.10 bushel (32 lbs.); 10 bushels and upward, \$1.05 bushel; 100 bushels and upward, \$1.00 bushel.

WHITE RUSSIAN. Is somewhat coarse, but is much appreciated for its rugged hardiness. It stools freely, has strong, stiff straw, heads large with plump grain. A heavy cropper. It is a side oat, all the grain being borne on one side. \$1.10 bushel; 10 bushels and upward, \$1.05 bushel; 100 bushels and upward, \$1.00 bushel.

BLACK TARTARIAN. The most prolific and distinct variety of Black Oat grown. Its ear is carried all on one side; it is very early, long and strong-strawed, and bears a short, plump grain. 40c. peck, \$1.30 bushel (32 lbs.); 10 bushels and upward, \$1.25 bushel.

WINTER OATS. We are now booking orders for delivery next fall for Winter Oats grown in New Jersey, which are much harder than those grown in Virginia and other Southern States, and will stand the winter as far north as New York City. They stool out strongly, are earlier and much more vigorous in growth than any spring variety, and are less susceptible to rust. They should be planted deep in northern latitudes as they will stand much more severe weather when planted four inches deep than when planted nearer the surface. 40c. peck, \$1.15 bushel; 10 bushels and upward, \$1.10 bushel.



PROBSTEIER OATS.

BARLEY.

Should be more grown than it is, especially in these days of low-priced wheat. The straw makes excellent rough feed for all kinds of stock. It is also one of the best grains with which to sow down to grass in spring.

NEW WHITE HULLESS BARLEY. A valuable new variety, which should be sown at the rate of 1½ bushels per acre, about the time of sowing Oats. It is two or three weeks earlier than ordinary Barley, grows about the same height, and will not shatter in the field, even when very ripe. The grain is not unlike Wheat, and weighs about 60 lbs. per bushel, instead of 48 lbs. as other Barley. For feeding to horses and hogs, when ground, it is unequalled, and is also exceedingly valuable as hay, if cut and cured just before ripening. 75c. per peck, \$2.00 per bushel of 48 lbs.; 10-bushel lots, \$1.80 per bushel.

TWO-ROWED DUCK-BILL. The heads are of great length, and when maturing become slightly curved; the grains are large and plump, and brighter than any other variety of two-rowed Barley. The straw is stronger than the old popular Chevalier Barley, and has yielded nearly 70 bushels per acre. 50c. per peck, \$1.60 per bushel.

VERMONT CHAMPION. Two-rowed, early, hardy and prolific. 50c. per peck, \$1.60 per bushel.

RYE.

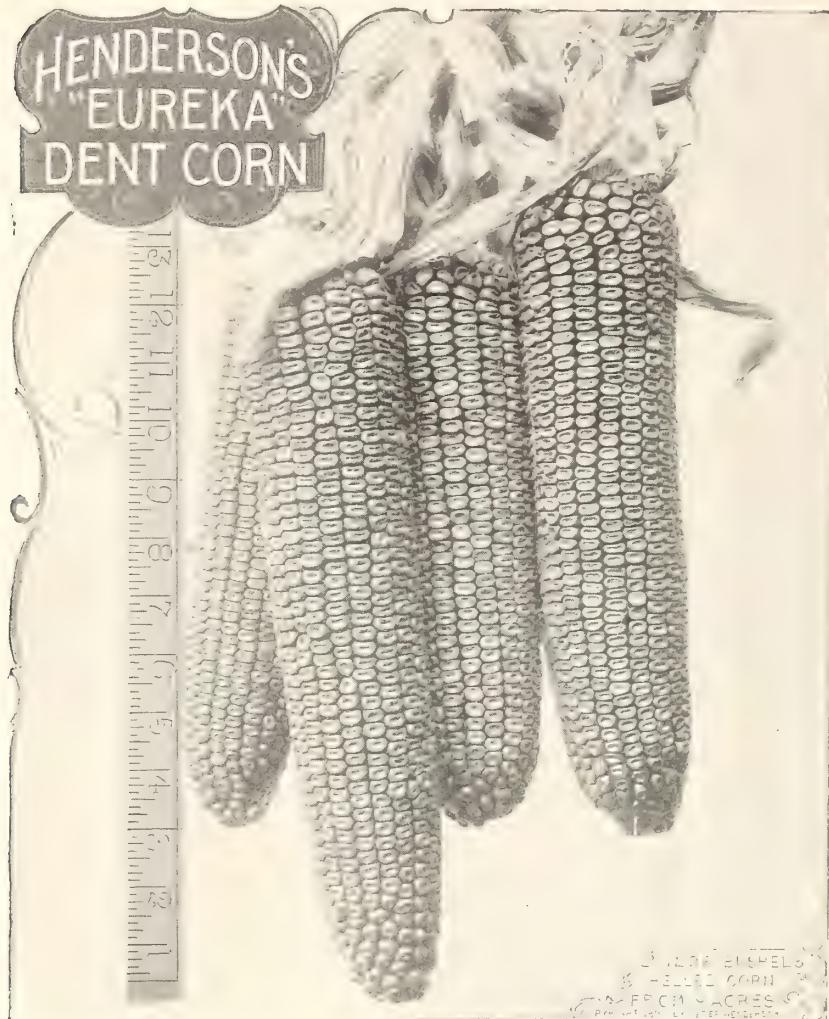
Rye is a valuable crop for either soiling, green fodder, straw or grain. It is largely used by farmers to seed down with in the fall, and is considered preferable to wheat for this purpose, as it protects the young grass and matures two weeks earlier in the summer than wheat. It is also extensively used for fall pasture when sown early and for cutting green in late spring and early summer, but when wanted for cutting it is best sown with the sand or winter vetch.

SPRING. A variety produced by planting Winter Rye in the spring for several years, and selecting the seed until the type was fixed. It is an excellent "catch-crop" where fall-sown grain has been winter-killed, and also for fodder and grain. \$2.00 per bushel; 10 bushels and upward, \$1.85 per bushel.

EXCELSIOR WINTER. A variety from Vermont, that has never failed to yield at the rate of from 40 to 50 bushels per acre. With the originator, a four-acre field yielded 52 bushels to the acre.

WINTER. The variety most commonly cultivated, whether sown for grain, straw or cutting green.

THOUSANDFOLD. Said to be the most productive Rye in cultivation; the straw is tall and strong, with long, heavy heads, and stands up well. Especially recommended where Rye is grown more for the straw than the grain.



FIELD CORN.

DENT VARIETIES.

If wanted by mail, add 15 cts. per quart for postage. Corn planted in hills requires eight to ten quarts per acre.

Henderson's Eureka.

A PERFECT YELLOW DENT CORN.

The Heaviest Yields. Large Handsome Ears.

The photograph gives a very inadequate idea of the magnificent appearance of this Corn. It is the result of the most careful and persistent selection by a wealthy Pennsylvania farmer who makes Corn his hobby and his pride. For sixteen years he has, from a planting of 80 to 100 acres, selected only the best ears at husking time, planting these by themselves and continuing this selection.

He began by offering his huskers five cents for every ear weighing two pounds and over, but that soon became ruinous, and in later years a man was appointed at husking to do nothing but look out for ideal ears.

The ear, always set low on the stalk, is immense, with small red cob, the grain a clear bright reddish yellow, large and of great depth, filled out full over both ends. It runs 18 to 22 rows, and an important feature of the selection clearly shown in the photograph is that the rows run even, the same number at tip and butt, thereby materially increasing the amount of shelled Corn per acre.

May be planted with safety in latitudes as far north as New York City, and even further north in favorable locations. As an indication of its productiveness, a nine-acre field yielded at the rate of 144 bushels per acre. (See cut.)

C. S. CLARK, the well-known Seed and Corn grower of Huron Co., Ohio, writes:

"In your new Eureka Corn you have the largest-eared Corn in cultivation; it's a wonder."

"I was surprised how the Eureka Corn yielded. It is the best I ever planted."—JOHN C. OLEY, Katonah, N. Y.

"The Eureka Corn is the best I have ever seen."—L. L. LEE, Marion, Ala.

20 cts. quart, 75 cts. peck, \$2.50 bushel; 10 bushels and upwards at \$2.40 bushel.

Wood's Northern White Dent.

While the raiser, Mr. James Wood, of Westchester County, N. Y., ex-President of the New York State Agricultural Society, does not claim this to be a new variety, having originally been a white Southern Corn, yet by forty years of intelligent selection, it has become the earliest large white dent Corn we know of, and is quite distinct from the original parent. It will ripen in Connecticut, New York State (except in that portion north of Rochester and Troy), Southern Michigan, Southern Wisconsin, etc., and being vastly superior in every respect to the flint varieties and the small dent corns usually raised, will be by far the most profitable sort in latitudes north of New York City, where the Eureka cannot safely be planted.

This Corn was referred to in the *New York Tribune Farmer*, Nov. 7th, 1901, in an article on Mr. Wood's farm as follows:

"Forty years ago Mr. Wood set out to find the most profitable variety of Corn for him to raise. He had learned that his farm was nearly on the dividing line between the south and the north, agriculturally considered, so he tried the white Southern Dent, obtaining his seed from Long Island, where it had been grown for twenty years. It did well, but the ear was from 4½ to 5 feet from the ground, leaving a nearly valueless butt, and the cob was too large a portion of the ear. For forty years he has been breeding out the butt and the cob. The lower ear on this stalk is now only two feet or so from the ground, and the relative size of the cob has been greatly reduced.

"Corn breeding is exciting much attention at this time. Here are the results of forty years of experiment on that line, and a better object lesson could hardly be found to establish its value and hint at its enormous possibilities. Mr. Wood always looks for one and a half bushels of ears from twenty-five hills, and this represents a larger proportion of shelled corn than is usually estimated. He has often raised 110 bushels of shelled corn to the acre."

(See cut.) 25 cts. quart, \$1.00 peck, \$3.50 bushel.



FIELD CORN.

If wanted by mail, add 15 cts. per quart for postage. Corn planted in hills requires eight or ten quarts per acre.

DENT VARIETIES.

All the varieties offered below in lots of 10 bushels and upwards, \$1.85 per bushel.

EARLY MASTODON. (*The Earliest Large Dent Corn.*) Produces large ears for an early variety. It grows strong at a medium height, with broad, heavy leaves, and makes a fine shelled corn in appearance, being purely Dent. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

GOLDEN BEAUTY. This corn has given most excellent satisfaction. It is exceedingly productive; a large proportion of the stalks produce two fine ears. The ears are of perfect shape, with from ten to fourteen rows, and filled out completely to the extreme end of cob. The cobs are unusually small. The richness of color and fine quality of grain make it very superior for grinding into meal. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

EXTRA EARLY HURON. As early as most of the flint corns, and may be grown even in the most Northern States and in Canada. The grain is somewhat narrow, but long and deep, with small cob. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

QUEEN OF THE PRAIRIE. (*Pride of the North.*) This variety is valuable to grow North, as it matures early. Planted as late as July 4th, it has fully matured by October 1st. The ears grow 8 to 10 inches in length, from 14 to 16 rows, slightly tapering. The kernels are closely set together on the cob, of a light orange color at the outer end, darker in color lower, and makes excellent meal. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

EARLY BUTLER. A cross from *Pride of the North*, and has the smallest cob of any Dent Corn in cultivation. It is also the very earliest Dent Corn and is very profitable to grow. It is just the corn for northern farmers—grows quick and strong, has small cobs, very long grains, and good-sized ears. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

HUNDRED DAY BRISTOL. A very early variety of wonderful productiveness. The ears being remarkably large for such an early ripener; the grain is a light yellow, with small cob. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

LEAMING. Ears are of good size, set low down, and nearly always grow two to each stalk. Very small, red cob, with a deep, long grain, of a rich golden color. It matures reasonably early, and if planted by the first of June, will generally ripen, and be fit to husk and crib early in September. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

WHITE CAP YELLOW. An early variety, said to produce better results on poor, thin or sandy soil than any other variety, and is less affected by drought. The grain is handsome yellow in color, with white tips. 15 cts. quart, 60 cts. peck, 2.00 bushel.

HICKORY KING. Has the largest grains with the smallest cob of any white corn. The stalks, of strong, vigorous growth, generally bear two good ears each, and occasionally three. It is not, however, considered a safe crop north of Philadelphia. Will make more shelled corn to a given bulk of ears than any other variety. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

FLINT VARIETIES.

10 bushels and upwards, \$1.85 per bushel.

LONGFELLOW. A large 8-rowed yellow flint variety well adapted for the Northern States. The ears are remarkably long (*see cut*), some of them measuring 15 inches, and oftentimes two or more good specimens grow on one stalk. Grain large and broad and yellow. The cob is quite small. It is the largest variety of yellow field corn safe to plant in the latitude of Massachusetts, where it is quite extensively grown. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

COMPTON'S EARLY. The earliest known yellow flint variety, ripening in from 76 to 85 days. It is a handsome 10 and 12-rowed sort, very productive, and will ripen in the Northern States. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

LARGE WHITE FLINT. Handsome ears, large and well filled, kernels white and of fine quality. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

LARGE YELLOW FLINT. (*Early Canada Yellow.*) Similar to the above excepting in color; largely grown in the extreme North. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

KING PHILIP. Coppery red. Very early. Usually matures three months after planting. Ears large sized and handsome, 10 to 12 inches long. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

RURAL THOROUGHBRED WHITE FLINT. In appearance this closely resembles the old white flint, but the plant branches and suckers more, and is therefore valuable for ensilage in the Northern States, as well as for the grain. 15 cts. quart, 60 cts. peck, \$2.00 bushel.

POP CORN.

WHITE PEARL. Smooth-grained ears, 4 to 5 inches long, by $\frac{7}{8}$ to $1\frac{1}{8}$ inches diameter, good for either family or market use. 10 cts. lb.; 100 lbs., \$8.00.


EARLY AMBER RICE. A new and distinct shade of color, it matures very early and is in every respect a first-class pop corn. 15 cts. lb.; 100 lbs., \$12.00.

WHITE RICE. (*Rat Tooth.*) A very fine white variety, ears 4 to 5 inches in length, and 1 to $1\frac{1}{2}$ inches diameter. Kernel pointed. Especially salable among the retail grocers. 10 cts. lb.; 100 lbs., \$8.00.



LONGFELLOW CORN

Buy Corn for Feed. Buy Seed Corn for Seed.



HENDERSON'S
EARLY IMPROVED
HORSETOOTH CORN



CORN...

FOR FODDER AND ENSILAGE

is not grown nearly so much as it should be, and it would pay farmers, instead of growing so much cheap grain, to turn their attention to stock-feeding and dairying, and thereby not only make as much money but improve the fertility of the farm. Corn

EVERGREEN SWEET FODDER CORN. Fodder grown from the Evergreen Sweet Corn is superior in quality to that of the ordinary field varieties, being richer, sweeter and more digestible. The best plan is to sow in rows 24 to 30 inches apart, using one bushel of corn per acre. \$2.00 bushel; ten bushels and upwards, \$1.80 bushel.

SWEET FODDER CORN. Best for cutting and feeding green during the summer months. This is better than any field corn, from the fact that it is so very sweet and nutritious that cattle will eat every part of the stalk and leaves with relish. Drill thickly, in rows three feet apart, using $1\frac{1}{2}$ bushels of seed per acre. \$1.75 bushel; 10 bushels and upwards, \$1.60 bushel.

SOUTHERN HORSE TOOTH. Grows to a large size, is very leafy and well adapted for ensilage. Large quantities of this corn are sold by feed and other stores which usually result in disappointment to the farmer. There is no corn more difficult to cure or keep properly, and much of it is kiln-dried, while large quantities have been stored in elevators and gone through a sweating process which has destroyed the germ. The stock we offer is carefully selected and sun-dried and of high germination. \$1.60 bushel; 10 bushels and upwards, \$1.50 bushel.

IMPROVED EARLY HORSE TOOTH. Being nearly two weeks earlier, this variety is better adapted for fodder and ensilage in the Northern States than the ordinary Southern Horse Tooth. \$1.60 bushel; 10 bushels and upwards, \$1.50 bushel.

RURAL THOROUGHbred WHITE FLINT. An early variety, valuable for the Northern States. Owing to its suckering and branching habit, it yields enormously. \$2.00 bushel; 10 bushels and upwards, \$1.80 bushel.

is, undoubtedly, the best of the plants for the silo, and in these days of sharp competition in the dairy business, no dairy, whether for milk or butter, can be profitably run without an abundance of ensilage, especially when it is made of the combination of Corn and Soja Beans as recommended on page 23. For though Corn is undoubtedly the most serviceable crop for ensilage, it is deficient in albuminoids or flesh formers, and this deficiency is supplied by the Soja Beans, which are exceedingly rich in albuminoids, thereby making a complete balanced ration and a **SAVING IN FEED BILLS OF HUNDREDS OF THOUSANDS OF DOLLARS** annually to the dairymen and stock-feeders of the United States. Every year the testimony becomes stronger that fodder corn should not be sown broadcast. It may be planted in hills, but the largest crops can be raised by planting in rows about three feet apart and thoroughly cultivating. The corn should, if possible, reach the glazing stage, as in that condition it makes a better quality of ensilage. In the North, Rural Thoroughbred and Early Mastodon are the best for ensilage, being early, large, and ear well. Further South, the Southern Horse Tooth and Improved Early Horse Tooth produce the largest crops and are the most satisfactory. Especially on farms where a large amount of ensilage corn is planted we recommend that two or three varieties be used, so that the work can then extend over several weeks if necessary, and all put in the silo in proper condition.

SOJA OR SOY BEANS.



EARLY SOJA BEAN.

Valuable
for . . .
either .
Fodder .
or . . .
Grain . .

EARLY GREEN.—These beans have attracted much attention in recent years on account of their high feeding qualities, but all were too late to be of value in the Northern States. This variety has proved its earliness and value in the Northern States by not only producing large fodder crops, but ripening the seed as far north as Massachusetts. They are worthy of a place on every farm, either as a grain crop or fodder crop to feed green, or for the silo. The grain is the richest known vegetable substance, and when ground and fed to cattle gives a milk richer and better than cotton seed or other meal. Planted in rows 2½ feet apart, with 6 to 8 plants to the foot of row, requiring about half a bushel per acre, they yield 15 to 20 tons per acre of fodder exceedingly rich in flesh formers. For green feed, use from time of blossoming till pods are well filled; for the silo, cut as soon as most of the pods are well filled, and cut into ½-inch to 2½-inch lengths. They are soil enrichers, gathering nitrogen from the air in the same manner as clover, the roots being crowded with tubercles, which give them this power. 15c. lb., \$1.25 peck, \$4.00 bushel.

LATE.—Being nearly a month later than the early variety offered above, should not be used north of Virginia. \$1.00 peck, \$3.00 bushel.

The "HENDERSON" ENSILAGE COMBINATION.

A Complete, Balanced Feed Ration Grown on the Farm.

Corn is the most serviceable crop for ensilage, but though ever so well preserved as to succulence, odor and flavor, it is an incomplete feed for cattle, being deficient in albuminoids or protein (the flesh formers), as well as fat. This deficiency has hitherto been supplied by feeding, in addition to the corn, silage, grain, such as oats, wheat, etc., grown on the farm, or the purchase of concentrated feeds, such as meal, oil cake, or some other commodity, rich in the elements in which corn silage is deficient. But the American farmer can now, by the aid of the Soja or Soy Bean, grow on his own farm, at small cost, a combination which furnishes a wholesome, economical and complete feed for milch cows. This combination is composed of two parts corn or millet to one part Soja Beans, grown separately, but mixed, when filled in the silo. It may be mixed in these proportions, at the time of cutting and filling of the silo, care being taken to mix thoroughly. The combination ensilage develops a most agreeable aromatic odor, and is greedily relished by cattle—both dairy cows and fattening stock. It is a complete, balanced ration, and when generally used (as it certainly will be by all up-to-date farmers and dairymen), it will revolutionize the dairy industry of the United States. We do not recommend the feeding of this combination to the entire exclusion of grain or other concentrated feed. We recommend that grain be fed occasionally as a change, but four-fifths of the grain bill can be saved. We recommend all farmers to plant this year at least an acre or two of the Soja Beans, to test and prove for themselves the value of the combination, and we are confident that, thereafter, all who try it will each year grow a larger acreage. Planted the latter part of May in latitude of New York the Beans are ready for harvesting in about 100 days.

Wm. P. Brooks, Professor of Agriculture, Massachusetts Agricultural College, writes Nov. 25th, 1898:

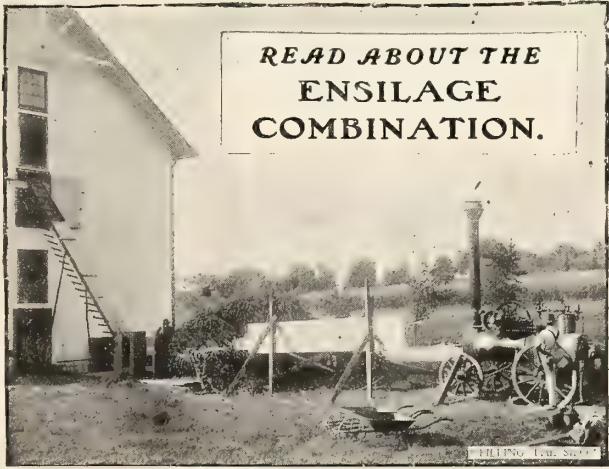
"The combination of Corn or Millet, and early Soja Beans, in suitable proportions, certainly puts it within the power of the farmer to produce silage which makes more nearly a perfectly balanced feed for dairy cows than any other combination with which I am acquainted. This will be evident from the table below, which shows the most generally accepted standard for the feeding of the cow, and the composition of different kinds of silage. It will be seen

that the millet and soy bean silage contains the various nutrients in nearly the same proportions called for in the standard. The nutritive ratio, that is the proportion of digestible flesh formers (albuminoids) and digestible heat producers (carbohydrates and fat), called for by the standard, is 1:5.7. In the millet and soy bean silage, it is 1:6.0. In our experience, the best proportions are about two of the corn or millet to one of the bean.

"The millet and beans make a very sweet and aromatic silage, highly relished by cows. None of this silage is wasted by the animals, as it is all fine and succulent. When it is remembered, that under fairly good conditions, the millet will give 20 to 25 tons of forage in suitable condition for the silo per acre, that the bean will give about 12 tons for the same area, and that the latter, when once it has been grown for a

few years upon a farm, will be able under right management to take most of the nitrogen required by the crop from the air, it will be readily admitted that these crops possess great value for furnishing winter feed for our dairy stock.

"The combination of corn with the soy bean possesses perhaps equal advantages, and upon soils inclined to be dry the corn is to be preferred to the millet, which requires a retentive soil. The millet should be cut for the silo when the seed is in the early milk; the bean, when the pods are all nearly filled, but before the seed begins to harden."



	PROTEIN	FAT	CARBOHYDRATES		† NUTRITIVE RATIO
			EXTRACT MATTER	CRUDE FIBRE	
Standard for cow (1,000 lbs. live weight) per day (digestible)	2.5 lbs. per cent.	0.5 lbs. per cent.	13.0 lbs.		1:5.7
Corn Silage total	1.9	0.8	per cent. 12.8	per cent. 6.0	1:10.6
Millet " (Japanese) total	1.7	0.9	13.6	7.5	1:13.6
Corn and Soy Bean Silage total	2.5	0.8	11.1	7.2	1:8.1
Millet (Jap.) and Soy Bean Silage total	2.8	1.0	7.2	7.2	1:6.0
100 lbs. Millet and Soy Bean Silage, furnish	2.8 lbs.	1.0 lbs.	14.4 lbs.		

NOTE.—The standard above calls for digestible nutrients in the quantities given; the compositions given show total nutrients. † Nutritive ratio is ratio between total digestible nitrogen containing (protein), and total digestible carbon containing (carbohydrates), substances.

Japanese Millet



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16 TONS PER ACRE GREEN FODDER BY PETER HENDI

JAPANESE MILLET. (*Panicum crus-galli major*.)

The best recent introduction for the Silo and Cutting Green.

Entirely distinct from any other millet, grows tall and produces an enormous crop. It may be sown from the middle of May to the 1st of July, broadcast, at the rate of 15 lbs. per acre, but it is better to sow it in drills, 12 to 18 inches apart, using 10 to 12 lbs. per acre, and hoed between the rows to keep down all weeds until the plant attains a height of 12 to 18 inches, when its rapid growth will smother all weeds. It grows 6 to 8 feet high, stands remarkably well notwithstanding its great height, and yields from 10 to 12 tons green fodder per acre. When cured it makes an excellent quality of hay, and its feeding value is far superior to corn fodder, and it is much relished by all kinds of stock, whether green or cured. If to be made into hay, cure as you would a heavy crop of clover. An ideal ensilage mixture may be composed of two parts of this millet to one part of soja beans (*see page 24*), mixed when filling the silo. The soja beans supply the albuminoids and fat in which the Corn and Millet are deficient. **This mixture forms a complete balanced ration for milch cows without the addition of grain**, though it is, of course, advisable to feed grain occasionally as a change. This ensilage combination will certainly become popular, and when generally used, as we predict it will be, it will result in a saving of hundreds of thousands of dollars annually to the dairymen and farmers of the United States. This Millet does not endure drought well, except it be sown early in retentive soil, and it is not adapted to the climate, nor is it recommended for the Southern States; but north of Washington, and especially for good, rich soils, we confidently recommend its general cultivation. It will produce a fair second cutting, if sown early in May, and cut when in blossom. (*See cut.*)

Especially valuable for the Northern and New England States.

FROM EIGHTH ANNUAL REPORT

OF THE

HATCH EXPERIMENT STATION,

OF THE

MASSACHUSETTS AGRICULTURAL COLLEGE.

FOR GREEN FODDER AND THE SILO. "Of Japanese Millet several pieces, of an acre or more each, were sown for feeding green or for the silo. The earliest, sown broadcast about the middle of May on rich land, one peck of seed to the acre, averaged about six feet in height, and produced over 15 TONS PER ACRE. This was cut from day to day, beginning before the millet had blossomed. Another field of about an acre, sown the last of June, yielded at the rate of rather over 18 tons per acre. Another field, sown July 26th, after a crop of hay was removed, yielded about 12 tons per acre. The crop of the two last fields was put into the silo. That cut from day to day, and fed to cows, was much relished. Its superiority to well-eared flint corn fodder was very apparent. Cows with both before them always take the millet first; they consume it without waste, while they are apt to leave a part of the stalks of the corn as it approaches maturity. In alternating this feed with corn fodder, the cows invariably increased in milk when put upon the millet, and fell off when changed to corn.

It has been ensiled with soja beans,—about two parts by weight of the millet and one of the beans. This combination makes very superior silage."

FOR HAY. "A more extensive trial of this millet for hay has been carried out this year than ever before. It is coarse and difficult to dry. I have always felt that these qualities would render it undesirable as a crop for hay. We have, however, cured it successfully this year, mostly in small cocks, as clover is often cured; and the result is encouraging. The hay is coarse, but is freely eaten by horses, being preferred to a good sample of timothy, red top and clover mixture. The yield of the millet is very large, having on good land amounted to 6 tons per acre of well cured hay. It will produce a fair second cutting if sown early in May and cut when in blossom."

Hundreds of our customers who have procured seed of Japanese Millet from us during the past two seasons can endorse the above.

Price, 10c. lb.; 10 lbs., 90c.; 100 lbs., \$7.50.

MILLET.

Excellent catch crops for sowing during the summer, and are especially valuable in seasons of short hay crop. They cure into excellent hay if cut when in blossom; if allowed to ripen they become too woody.

HUNGARIAN. (*Panicum Germanicum*).—Is the quickest of catch crops for hay, and as it may be sown any time during the summer months up to middle of August, it is invaluable for overcoming a shortage of the regular hay crop. Many farmers now occupy their land with other crops, and for their hay depend entirely on Hungarian Grass, which they can sow after other crops have been harvested. Sow 1 bushel per acre. (See cut.) 8 cts. lb., \$1.80 bushel, \$3.50 per 100 lbs., 10 bushels and upwards, \$1.75 bushel.

GERMAN OR GOLDEN. (*Panicum Miliaceum Aureum*).—This variety is considerably larger than Hungarian and yields a much heavier crop, but is later and not so quick growing, consequently cannot be sown much after the fourth of July in this latitude. To maintain its heavy cropping character, seed of this variety needs to be specially cultivated.

Our seed is specially grown and selected, and will produce nearly double the crop of seed not so grown and which can be offered at a cheaper price. Sow one bushel per acre. 10 cts. lb., \$2.25 bushel, \$4.25 per 100 lbs., 10 bushels and upwards, \$2.00 bushel.

PEARL MILLET. (*Pennisetum Spicatum*).—Is not so hardy as the other varieties, and succeeds best in latitudes south of New York. The first cutting should be made when about 3 feet high; this will cause it to tiller and spread, and as the season advances and becomes warmer, it grows with marvellous rapidity. No other crop will yield as much forage as Pearl Millet when sown on richly manured land. Sow in drills, 5 to 6 lbs. per acre; if broadcast, 8 lbs. per acre. Weight, per bushel, 56 lbs. (See cut.) Clean Seed, 12 cts. lb., \$10.00 per 100 lbs.



HUNGARIAN MILLET.



PEARL MILLET.

PLANT IN ROWS OR HILLS.

SORGHUMS.

CULTIVATE SAME AS CORN.

TEOSINTE. (*Reana Luxurians*).—Plant resembles Corn, but is more leafy and tillers enormously. After cutting it grows again with remarkable rapidity. Those having only a small amount of land on which it is desired to produce the maximum amount of forage should sow Teosinte. Plant in drills, 6 to 8 lbs. per acre. \$1.00 lb., 10 lbs. and upwards, 90 cts. lb.

RURAL BRANCHING DOURA. (*Millo Maize, Sorghum Vulgare*).—A wonderfully productive fodder plant that makes a great amount of foliage, and can be cut several times in the season. Plant 4 to 5 lbs. to the acre. 12c. lb.; 100 lbs., \$8.00.

YELLOW BRANCHING DOURA. (*Yellow Millo Maize*).—Earlier than the Rural Branching, and of taller growth, often attaining a height of 9 to 12 feet, but it does not stool out quite as much from the ground, although it branches out from the joints. It produces an enormous quantity of fodder, for which stock show a marked partiality. Plant 4 lbs. to the acre. 12c. lb.; 100 lbs., \$8.00.

BROOM CORN, EVERGREEN. Entirely free from all crooked brush, and remains strictly green, consequently always commands the highest market price. 10c. lb.; 100 lbs., \$6.00.

JERUSALEM CORN. Grows about five feet high, and is one of the surest crops for dry countries and seasons, having in the driest season in the past 15 years in Kansas produced a crop, without irrigation, when other forage plants perished. Five pounds will plant an acre. 12c. lb.; 100 lbs., \$8.00.

WHITE KAFFIR CORN. Grows four to five feet high, with numerous wide leaves, and makes an excellent fodder, either green or dried which is highly relished by all kinds of stock. It should be sown in drills three feet apart. (See cut.) 10c. lb.; 100 lbs., \$6.00.

RED KAFFIR CORN. This very leafy and juicy variety is taller but more slender than the white, ripens a little earlier and yields heavier. It is also valuable for sowing on poor land, as it will give better results under these conditions than the White Kaffir Corn, as well as other Sorghums, most of which require a well-enriched soil. (See cut.) 10c. lb.; 100 lbs., \$6.00.

SUGAR CANE, Early Amber. Of great value for cutting green and feeding green during hot weather in summer, when pastures are apt to be burned up. Being a tropical plant, it makes its best growth during just such weather, and cattle, horses and sheep relish it, and it may be fed to them with safety. Sow in drills, 10 to 12 lbs. per acre; broadcast, 20 to 25 lbs. per acre. Should be cut when about 2 feet high, and will yield several such cuttings. Earlier than the Orange and may be grown even in Northern States. Cured in the same way as a heavy crop of Clover it makes an excellent quality of hay. 10 cts. lb.; 100 lbs., \$8.00.

SUGAR CANE, Early Orange. Produces a larger and heavier growth than the Amber, but is later. 10 cts. lb.; 100 lbs., \$8.00.



KAFFIR CORN.



.....HENDERSON'S.....
JAPANESE BUCKWHEAT



JAPANESE BUCKWHEAT

Customers
PRAISE
 Henderson's

"I had a small quantity of Japanese Buckwheat from you last year, which I planted on the 5th day of July, and from this I cut, and had in good, clean Buckwheat, 1,392 pounds, which ripened earlier and has produced more than three times the yield of the Silver Hull with the same culture."

DAVID BEAM, Midvale, N. J.

"The Japanese Buckwheat ripened about one week sooner than the old-fashioned kind, and produced more than as much again to the same amount of sowing the past season."

LEMUEL VAN NESS, Pompton, N. J.

"Truly, the Japanese Buckwheat is one of the greatest improvements, in a single line of grain, of the present age. All other kinds of buckwheat can be well thrown aside; and not only the bee-keepers of our land, but farmers in general, can unite in tendering a vote of thanks to our enterprising seedsman, Peter Henderson."—GLEANINGS IN BEE CULTURE.
 "I prefer the Japanese Buckwheat to all other kinds."

F. N. HILTON, Pontiac, Mich.

"The Japanese Buckwheat I got from you beats any I ever saw."

C. A. DEAN, Meshoppen, Pa.

"The Japanese Buckwheat I purchased from you is distinct, and stands the sun better than any other sort."

JOHN WILSON, Sandwich West, Essex Co., Ontario, Can.
 "The Japanese Buckwheat that I purchased from you yielded me over five hundred-fold."

J. C. VAUSELOUR, Faribault, Minn.

"I found your Japanese Buckwheat first rate; it yielded four times more than the old kinds did in the same lot."

DAVID CEAS, Bloomville, N. Y.

"The Japanese Buckwheat I had of you last year produced four times as much (by weight) as any other variety, not counting what my neighbor's chickens, who visited it daily, stole."

PHILIP WECK, Col. Co., N. Y.

Japanese Buckwheat

—THE BEST VARIETY—
 YIELDS DOUBLE THAT OF OTHER SORTS
 —VERY EARLY—
 MAKES THE FINEST BUCKWHEAT FLOUR

GROWN FROM IMPORTED SEED

SINCE we introduced the Japanese Buckwheat nearly twenty years ago, the tendency, on account of the hot, dry summers in the United States, has been for the grain to gradually grow smaller. The seed we offer is grown from the largest type imported from Japan and is much larger in grain than that usually offered, and it will pay all growers to renew their seed. The seed we offer is only one year removed from imported Japanese seed. This variety is now more generally grown than any other, but to those to whom it may still be unknown we would say that the kernels are at least twice the size of any other variety and of a shape peculiar and distinct from all others. The color of the kernels is also most distinct, being of a rich dark shade of brown. It ripens fully a week earlier than the Silver Hull, the straw is heavier, and it branches more and does not need to be sown so thickly as the other kinds. There is always a good market for the grain as it is in demand for all purposes, the export demand now being enormous. For bees it is of the greatest value and for this purpose has displaced all other varieties.

ALWAYS SOW WITH CRIMSON CLOVER

An excellent plan is to sow Crimson Clover along with buckwheat, especially when put in late from middle of July to first of August. They come up together, but the buckwheat is the stronger grower and the Crimson Clover makes but little showing until the buckwheat is removed. If frost should kill the buckwheat before ripe, it may be left as a protection, the dead buckwheat being just the sort of mulching and protection needed by the clover. The Crimson Clover and mulching of buckwheat can be plowed under in May and for potatoes or corn there is no better preparation. Japanese Buckwheat is one of the most satisfactory crops to sow on new or rough land, but buckwheat should invariably be sown as a second or catch crop, and we would advise all growers to sow Crimson Clover along with it as recommended above for, even though the buckwheat be killed by an early frost, the value of its own humus is worth more than the cost of the seed in addition to its value as a winter protection to the clover.

Price, \$1.50 bushel; 10-bushel lots, \$1.40 bushel.

"Last year I raised 116 bushels, 85 of Japanese and 31 of Silver Hull. I think the Japanese quite a bonanza."
 J. H. KENNEDY, Quenemo, Osage Co., Kan.

"Your Japanese Buckwheat is a grand success and an acquisition of sterling worth, out-yielding all other varieties fourfold, with ordinary culture."
 JACOB SENN, Cheswold, Del.

Dwarf Essex Rape



At the Michigan Experiment Station, 128 lambs were pastured for eight weeks on 15 acres of Rape sown in July, and showed a gain of 2,890 lbs. at the rate of 3 lbs. per lamb each week.

COPYRIGHT 1895 BY PETER HENDERSON & CO.

TRUE DWARF ESSEX RAPE.

Valuable for Cattle, Sheep and Hogs.

In the United States we have millions of acres of good land that annually lie idle or run to weeds the latter part of the season, after the grain, potato and hay crops have been harvested, a large portion of which might be made to produce one of the finest feeds imaginable, and in the greatest abundance, at a time when cattle, sheep and hogs are roaming through bare pastures in search of a scanty living. Under favorable conditions it is ready for pasturing sheep or cattle within six weeks from time of sowing, and on an average one acre will carry twelve to fifteen sheep six weeks to two months. When on the Rape they should at all times have access to salt; but water is not necessary. There are several varieties of Rape, but care should be taken to procure the **Dwarf Essex**, or English, as it is sometimes called, which does not seed the same season as sown, unless in some exceptional cases, as when sown too early and the young plant is touched by frost. In the Northern States it should be sown from April to end of August for fall pasturing, but as it thrives best in cool weather, it should not be sown in the Southern States until September, or October for winter pasture. In the latitude of New York it should be sown in April, or in July or August. Its fattening properties are probably twice as good as those of Clover, and for sheep the feeding value of Rape excels all other plants we know of. At the Michigan Experiment Station, 128 lambs were pastured for eight weeks on 15 acres of Rape sown in July, and showed a gain of 2,890 lbs., or at the rate of 3 lbs. per lamb each week. Even so far South as Alabama it has proved a boon to the farmer. In a recent bulletin published by the Alabama Experiment Station they state: "Quality of product good for both hogs and cattle. The growth was enormous. By repeated sowings it will and did carry more hogs through our dry, hot summers than four times the amount of land planted in anything else ever grown here. I would recommend it to all Southern farmers." To secure the best results, the Rape should be sown in drills. Sow 4 lbs per acre broadcast, 2 to 3 lbs. per acre in drills. (See cut.) Price, 10c. lb., \$3.75 bushel of 50 lbs., 100 lbs. \$7.50. If by mail, add 8c. per lb.

SAND, OR WINTER VETCH.

(*Vicia Villosa.*)

Though it succeeds and produces good crops on poor, sandy soils, it is much more vigorous on good land and grows to a height of 4 to 5 feet. It is perfectly hardy throughout the United States, remaining green all winter, and should be sown during August and September, mixed with Rye, which serves as a support for the plants, or in spring with Oats or Barley.

It is the earliest crop for cutting, being nearly a month earlier than Scarlet Clover, and a full crop can be taken off the land in time for planting spring crops. Being much harder than Scarlet Clover, this is the Forage Plant to sow in the Northern States where Scarlet Clover winter-kills, though it is equally valuable in the South. Every dairyman and stock-breeder in the United States should have a field of it, and if you try it once you will never be a season without it.

It is exceedingly nutritious, much more so than Clover, is eaten with relish, and may be fed with safety to all kinds of stock.

It will also prove valuable for a Hay crop in the South and dry Western regions, as it may be sown in the fall and will make a luxuriant growth during the fall and spring months, and will yield a heavy crop, which may be cut and stored before the droughts set in.

Sow one bushel per acre, with one-half bushel of Rye or Wheat. (See cut.) Price, 15c. lb., \$7.25 bushel of 60 lbs., 100 lbs. \$12.00. If by mail, add 8c. per lb.



SAND OR WINTER VETCH

PEAS FOR FODDER.

"Peas could be made to bring more nitrogen to the soils of this country every year than is now purchased annually by the farmers at a cost of millions of dollars. As a food for fattening cattle and dairy cows, peas are probably unexcelled. Much of the success which Canadian feeders have achieved in preparing cattle for the block has arisen from the free use of Peas in the diet."

—Year-book of the U. S. Department of Agriculture.

For the Northern States there is no crop of greater value than Field Peas, and is more neglected, which can only be attributed to a lack of knowledge as to its merits. Whether for fodder in mixture with oats, sown at the rate of two bushels each per acre, or the Peas sown alone at the rate of three bushels per acre for plowing under, there is no crop that we can so strongly recommend for

more extended culture in all latitudes north of Washington. South of that we recommend the Cow Peas, as they thrive better and are more certain croppers in warmer States than the other varieties.

Like all leguminous crops, Peas have the power of extracting nitrogen from the air, and the soil from which a crop of Peas has been harvested is richer in nitrogen than before the Peas were sown upon it, and there is no kind of live stock on the farm to which Peas and Oats in mixture cannot be fed with positive advantage. The Canada varieties, the Mummy and Marrowfat, should be sown early in spring, but Cow Peas are more tender and should not be sown until corn-planting time. Cow Peas, being of very rapid growth during warm weather, can be sown as late as the middle of July with reasonable assurance of a profitable crop, either for harvesting or plowing under. (See cut.)

CANADA WHITE PEAS. 60c. peck, \$2.00 bushel; 10-bushel lots, \$1.80 bushel.

CANADA BLUE. 60c. peck, \$2.25 bushel; 10-bushel lots, \$2.00 bushel.

LARGE MARROWFAT. Of immense growth, yields heavily both grain and fodder, and we consider it the best of the Field Peas, whether for growing alone or in mixture with oats or barley. \$2.60 bushel; 10-bushel lots, \$2.50 bushel.

THE MUMMY. We have much pleasure in recommending this Pea for soiling or fodder, either in mixture with oats or grown by itself. 60c. peck, \$2.25 bushel; 10-bushel lots, \$2.10 bushel.

COW PEAS. One of the most valuable of the leguminous crops, and is a soil improver which can be sown in the spring or summer and plowed under in the fall. It has no superior, especially for light soils. Its capacity for gathering nitrogen from the air is not surpassed by the clovers, and enables the farmer to dispense with buying that most costly ingredient for commercial fertilizers — nitrogen. \$2.75 bushel; 10-bushel lots, \$2.60 bushel.



HENDERSON'S FIELD PEAS FOR FODDER.

BEANS.

VELVET. A leguminous plant which grows an enormous crop, but is very late, and is valuable only in the Southern States and tropical countries. Specially desirable for plowing under in orange groves and sugar plantations. 75c. peck, \$2.50 bushel.

BURLINGAME MEDIUM. A little smaller in the grain than the ordinary medium beans, but is whiter and far handsomer in appearance. \$1.25 peck, \$4.00 bushel.

IMPROVED RED KIDNEY. Much more prolific than the ordinary Red Kidney. \$1.25 peck, \$4.00 bushel.

BOSTON SMALL PEA BEAN. A desirable variety to grow, being early, hardy and prolific. \$1.25 peck, \$4.00 bushel.

SOJA, or SOY. (See page 23.)

WHITE MARROWFAT, or NAVY. The variety so extensively grown for sale in the dry state. \$1.25 peck, \$4.00 bushel.

MISCELLANEOUS AGRICULTURAL SEEDS.

If by mail in quantities of half pound and upward, postage must be added at the rate of 8 cents per pound.

SPRING VETCHES, or TARES. (*Vicia sativa.*) A species of the Pea, grown for stock, and sometimes mixed with oats for soiling. Sown broadcast at the rate of 2 to 3 bushels per acre. 10c. lb., \$2.75 bushel of 60 lbs., 10-bushel lots, \$2.65.

AUSTRALIAN SALT BUSH. (*Atriplex semibaccatum.*) A valuable forage plant recently introduced and highly recommended for growing on alkali soils and in sections subject to protracted droughts. Experiments have proven that it will grow on soils where nothing else will grow. It is nutritious and readily eaten by all kinds of live stock. One pound of seed is sufficient for an acre. The best plan is to sow the seed in well-prepared garden soil and the seedlings, when 2 or 3 inches high, planted 6 or 8 feet apart. 20c. oz., \$1.50 lb.

WILD RICE. (*Zizania aquatica.*) It succeeds best when sown in the fall broadcast, from a boat, in 2 to 3 feet of water having a mud bottom, but it can be sown in the spring. As an attraction for wild fowl it cannot be equalled. 25c. lb., \$18 per 100 lbs.

ARTICHOKES, JERUSALEM. A hardy perennial, forming roots like a potato, making excellent feed for stock, especially for hogs. 25c. quart, \$1.25 peck, \$4.00 bushel.

FIELD LUPINS. May be sown from April to July, and succeed well on the poorest soil; are particularly valuable for plowing under on poor, sandy soils. 15c. lb., \$12.00 per 100 lbs.

SUNFLOWER, MAMMOTH RUSSIAN. Highly valued as an excellent and cheap food for fowls. It is the best EGG-PRODUCING FOOD known. It can be raised cheaper than corn. Four quarts of seed will plant one acre. 10c. lb., \$1.50 bush., \$6.00 per 100 lbs.

COTTON, UPLAND. 12c. lb., \$8.00 per 100 lbs.

COTTON. Choice named varieties. Descriptive price list mailed free on application.

COTTON, SEA ISLAND. 12c. lb., \$8.00 per 100 lbs.

FLAX SEED. 25c. quart, by mail, 40c.; \$4.00 bushel.

SAINFOIN. An excellent fodder plant, particularly for light, dry, sandy, gravelly, limestone or chalky soils. 12c. lb., \$2.25 bushel of 20 lbs., \$10.00 per 100 lbs.

HENDERSON'S . . . SUPERIOR ROOT CROPS FOR . . . FARM STOCK.



**HENDERSON'S
HALF LONG
DANVERS CARROT**

OUR PAMPHLET . . .
"ROOT CROPS
FOR
FARM STOCK"

FREE to Customers asking for it.

It tells how to grow, winter and feed roots.

**696 BUSHELS
PER ACRE**

Copyright, 1899, by Peter Henderson & Co.

CARROTS.

There is no more profitable root crop on the farm than Carrots, especially on deep, sandy soils. When grown as a field crop the finest and most shapely roots can be sold at a handsome profit, the balance fed to stock with the most beneficial results. Horses are particularly fond of them, and besides the nutritive value they seem to be a sort of tonic to horses, keeping them in the best of condition with sleek-looking coats. They can be stored or pitted in the same way as potatoes and marketed or used during the winter. The best plan is to prepare the ground in April and harrow twice before sowing the seed the latter part of May. This will kill most of the weeds, and sown at this time the Carrots will come along quickly and be easily cultivated and kept clean. The rows should be 18 inches to 24 inches apart, and to secure large, shapely roots they should be thinned to 5 or 6 inches apart.

Any farmer who once grows a good crop will appreciate their value and never be without them.

WHITE VOSGES.—The heaviest-cropping field Carrot, producing thick, shapely carrots, which are easily harvested. They are used for stock feeding. They grow clean and free from side roots, and are easily harvested. 10c. oz., 30c. ¼ lb., 80c. lb.

LONG ORANGE IMPROVED.—Of large size, fair specimens averaging 12 inches in length, with a diameter of 3 inches at the top. Color orange-red. Fed to milch cows it imparts to the butter a delicious flavor and rich golden color. 10c. oz., 25c. ¼ lb., 70c. lb.

HENDERSON'S HALF-LONG DANVERS.—A handsome cylindrical-shaped Carrot of good size and stump rooted. Under the best cultivation it has yielded from 25 to 30 tons per acre. (See cut.) 10c. oz., 25c. ¼ lb., 90c. lb.

LARGE WHITE BELGIAN.—Exclusively grown for stock. 10c. oz., 20c. ¼ lb., 50c. lb.

LARGE YELLOW BELGIAN.—Similar to above except in color. 10c. oz., 20c. ¼ lb., 50c. lb.

BIG CARROTS. *From the Watkins Express, Watkins, N. Y.*

"Mr. Bowers has on exhibition in his store a bushel-basket of carrots grown by Mr. Craft, Dr. S. B. Allen's gardener. The combined weight of twelve of these carrots makes a bushel. One of the carrots is fifteen inches and three-quarters of an inch in circumference, one foot long, and weighs nearly seven pounds. Upon being asked the reason of his success in gardening, Dr. Allen said it was due to the use of good seed, which for the last fifteen years he had purchased of Peter Henderson & Co., of New York. Dr. Allen further remarked that he thought farmers were generally too indifferent in regard to the quality of seed which they used, and that he had found it most economical in the end to purchase the best."



LONG SMOOTH PARSNIP.

PARSNIP, LONG SMOOTH.—Excellent for dairy cows, possessing nutritive properties of the highest quality. (See cut.) 10c. oz., 20c. ¼ lb., 50c. lb.



MANGEL WURZEL.

Mangels are the most important of all root crops for feeding, and may be grown in any part of the American continent on fairly good farm land; all that is necessary is good cultivation.

The best soil for Mangels is loose, friable loam and deep plowing. If expedient, follow the plow with a subsoil plow, and the crop will more than repay the extra trouble. The ground should be well enriched, and the seed sown in May in drills 24 inches apart in light soils, and 30 inches apart in strong, rich land; thin out the plants with a hoe to 9 inches apart in the former and 12 inches apart in the latter. 6 to 8 lbs. of seed are used per acre if sown with a drill, or double that quantity by hand. Cultivate with a horse hoe.

If by mail, add for postage at the rate of 8 cents per lb.

HENDERSON'S COLOSSAL LONG RED. The roots are smooth and regular, of the largest size and blood-red color. The quality is exceedingly nutritious, and in all respects this variety is most distinct and valuable. (See cut.) 35 cts. lb.; in lots of 10 lbs. and upward, 30 cts. per lb.

"I raised over 100 tons of your Colossal Long Red Mangel on 2 acres. In many cases three weighed over 100 lbs., the best crop I ever saw on an average, either in this country or in England."—JOHN HOBGSON, Crystal Lake Farm, Paterson, N. J.

"From 5 lbs. of your Colossal Long Red Mangel I raised 944 bushels. One mangel weighed 22 lbs., one 21 lbs., and over 300 of them 18 lbs. each. Thoroughly rolling ground after planting is one of the great secrets of success."—J. J. KEATOR, Supt. Rathburn Farms, Ontario, Canada.

HENDERSON'S GIANT INTERMEDIATE. This is a variety between the Golden Tankard and Yellow Globe. It is larger than the Tankard, not such a rich golden color, but a heavier cropper. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

GOLDEN TANKARD. The flesh is bright golden yellow, and in this respect differs from most other varieties, which cut white. Sheep have a preference for this sort over other Mangels; it is said that they will pick out every piece of Golden Tankard before touching others. It yields under the best cultivation 75 tons per acre. 30 cts. per lb.; in lots of 10 lbs. and upward, 25 cts. lb.

LONG RED. This variety is more generally grown for agricultural purposes than any other, producing roots of large size and excellent quality. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

LONG YELLOW. Differs from the Long Red only in color. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

HENDERSON'S CHAMPION YELLOW GLOBE. Smooth, globe-shaped roots, of large size and excellent quality, are the distinctive features of this variety. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

YELLOW GLOBE. Roots of large size and globular form; very productive, keeps better than the Long Red, and is better adapted for growing in shallow soils. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

HENDERSON'S RED GLOBE. A variety similar to the Yellow Globe in shape and size, and different only in color. 30 cts. lb.; in lots of 10 lbs. and upward, 25 cts. lb.

Sow 12 to 15 lbs. per acre. **SUGAR BEET.** Yield, 20 to 25 tons per acre.

VILMORIN'S IMPROVED WHITE. A greatly improved variety of Sugar Beet, obtained by over 20 years' continued and systematic selection. The proportion of sugar in the roots, under ordinary circumstances, amounts to 18 to 20 per cent., while in other varieties the usual average is 12 to 15 per cent. Has yielded 30 tons and over per acre, and is unequalled for feeding cows and young stock. 25 cts. lb.; in lots of 10 lbs., 20 cts. lb.

KLEIN WANZLEBEN. Heavy yielder and easy to dig. Extensively grown both for sugar and stock feeding. 25 cts. lb.; in lots of 10 lbs., 20 cts. lb.

LANE'S IMPERIAL. An improved variety of the French Sugar Beet, obtained by careful selection in this country, and recommended as being hardier and more productive. 20 cts. lb.; in lots of 10 lbs., 15 cts. lb.

WHITE. Attains a large size, and is extensively grown for feeding; largely cultivated in France for the manufacture of sugar. 20 cts. lb.; in lots of 10 lbs., 15 cts. lb.

HENDERSON'S
LONG ISLAND IMPROVED
RUTA BAGA



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Ruta Bagas, Russian or Swedish Turnips.

Grow very rapidly, and yield from twenty-five to thirty-five tons per acre, in good, rich, deep soil, with proper cultivation. The Ruta Baga proper should be sown in this latitude from May 25th to June 25th; while the smaller-growing turnips can be sown from July 1st to the middle of August. Sow 2 to 3 lbs. per acre.

Long Island Improved Purple-Top Ruta Baga.

This is undoubtedly the finest variety of purple-top Ruta Baga, and originated by one of our Long Island growers. It is twice the size of ordinary American stocks, and although size is usually got at the expense of quality, the quality is superior to any that we have tested. It is perfectly hardy. In a fair test on several Long Island farms, alongside some of the best European and American varieties, it produced almost twice the weight per acre of any other variety. (See cut.) 10 cts. oz.; 25 cts. per ¼ lb.; 55 cts. lb.

IMPROVED AMERICAN (Purple-Top).—An old leading variety; very hardy and productive; flesh yellow, solid, sweet and fine-flavored; equally good for stock or table use. 10 cts. oz.; 20 cts. ¼ lb.; 40 cts. lb.

LAING'S IMPROVED.—One of the earliest of the Ruta Bagas; keeps well; good for stock or table use; 5 cts. pkt.; 10 cts. oz.; 20 cts. ¼ lb.; 40 cts. lb.

LARGE WHITE FRENCH.—Flesh firm, white and solid; attains a large size, and has a very rich and sweet flavor; a very popular variety. 10c. oz.; 25c. ¼ lb.; 45c. lb.

Turnips

SPECIALLY ADAPTED FOR
STOCK FEEDING.

WHITE FLESHED.

PURPLE-TOP WHITE GLOBE.—One of the best early varieties grown; fine, thick globe-shape, of large size, rapid growth, and of extra fine quality; heavy cropper; in other respects similar to the Red Top Strap Leaf. It keeps well, and is unequalled for stock-feeding, table use or marketing. 10 cts. oz.; 20 cts. ¼ lb.; 45 cts. lb.

LONG WHITE OR COW HORN.—Matures very quickly; root shaped like a carrot, about half of which is formed above ground; flesh white, fine-grained and sweet, and of excellent quality. 10 cts. oz.; 20 cts. ¼ lb.; 55 cts. lb.

YELLOW FLESHED.

YELLOW GLOBE.—One of the best varieties for general crop; flesh very firm and sweet, and keeps well until late in the spring; grows to a large size, and is excellent both for stock or table use. 10 cts. oz.; 20 cts. ¼ lb.; 40 cts. lb.

YELLOW ABERDEEN.—Very hardy and productive, good keeper; globe-shaped; color, pale yellow, with purple top. Very firm in texture, and closely resembling the Ruta Bagas in good-keeping qualities; good for table or stock. 10 cts. oz.; 20 cts. ¼ lb.; 45 cts. lb.

If desired by mail add 8 cts. per lb.

POTATOES FOR SEED.

In drills 3 feet apart; 10 to 12 bushels to the acre.

1 peck will plant about 125 hills.

Our potatoes are all specially raised for seed purposes, are "Northern Grown," and are exceptionally fine in quality this season. By recent enactment the legal barrel of New York State contains 174 lbs. of potatoes. Our barrels contain 174 lbs. In comparing prices this should be borne in mind, as 165 lbs. is the general standard. In comparing our prices on potatoes, remember we make no charge for barrels or cartage, and deliver F. O. B., New York, at prices quoted. Prices subject to variation. We deliver all potatoes into the hands of transportation companies safely packed; after that our responsibility ceases. Purchasers must take all risks from freezing or heating.



"SIR WALTER RALEIGH."

The product of one hill. Not a small potato in the lot.

EARLY VARIETIES.

"EARLY NORTHER." Several days earlier than the Early Rose, and equally prolific; a most desirable sort. It is a strong, vigorous grower, and the potatoes are bunched well together in the hills. In shape it resembles the Early Rose; the eyes are few and shallow. Its table qualities cannot be excelled, cooking dry and floury, whether baked or boiled. Seems to do well everywhere. 75c. peck, \$2.25 bush., \$4.50 bbl.

QUEEN. A grand potato, closely resembling Beauty of Hebron in appearance, color, size and shape, but is much earlier and a heavier yielder. 75c. peck, \$2.25 bush., \$4.50 bbl.

ROCHESTER ROSE. Of recent years the Early Rose has not done well in some sections. The Rochester Rose, which we now offer, is a seedling of the Early Rose, and is an improvement in every respect. It will average larger in size, is not quite so early and is a much heavier yielder. 75c. peck, \$2.25 bush., \$4.50 bbl.

THE "BOVEE." (See next page, 33.)

HENDERSON'S EARLY PURITAN. One of the most valuable early varieties, entirely distinct from all other early sorts, the skin being nearly pure white. It cooks dry and floury, and is unequalled in quality. Awarded the medal at the American Institute Fair. 80c. peck, \$2.50 bush., \$5.00 bbl.

EARLY OHIO. Tubers almost round; flesh solid; cooks dry and mealy; very early. 80c. peck, \$2.50 bush., \$5.00 bbl.

EARLY ROSE. The leading variety for earliness, quality and productiveness. 75c. peck, \$2.25 bush., \$4.50 bbl.

BEAUTY OF HEBRON. One of the best early sorts; productive and of excellent flavor; a good keeper; pure white skin and flesh. 60c. peck, \$2.00 bush., \$4.25 bbl.

CLARKE'S No. 1. Earlier than the Early Rose and very productive. Cooks mealy. 75c. peck, \$2.25 bush., \$4.50 bbl.

MAIN CROP VARIETIES.

SIR WALTER RALEIGH is from four to six days later than the Rural New-Yorker; the color of the skin is the same, but the flesh is whiter and of better quality; in fact, it is the whitest-fleshed and finest-grained potato, excelling even the Snowflake. It is unquestionably the best of its type, and will soon supersede all others for main crop. (See cut.)

Price, 30c. lb.; 3 lbs., 70c.; 5 lbs., \$1.00, post or express paid. If by freight or express, at purchaser's expense, deduct 8c. per pound.

Price, 60c. peck, \$2.00 bush., \$4.00 bbl. By express or freight, at purchaser's expense.

NEW IDEAL. Yields a very much heavier crop than any of the earlies; in fact, it outyielded several of the late potatoes. It is a handsome potato, having a pink-russet skin. 80c. peck, \$2.50 bush., \$5.00 bbl.

CARMAN No. 3. Of perfect form, even in dry seasons, almost every potato being of uniform size and shape. It has but few eyes, and they are very shallow. The skin and flesh are extremely white, no hollow or dark parts, and its cooking qualities are exceptionally fine. 60c. peck, \$2.00 bush., \$4.25 bbl.

"UNCLE SAM." On clay or heavy soils "UNCLE SAM" is not a satisfactory potato and is apt to get coarse and unshapely, but on a loam or sandy soil there is no potato which will outyield it or give more satisfactory results. Its productiveness is largely attributable to the uniform size of the potatoes, nearly all sizing up alike, none too large and few too small, but its crowning merit is its superb cooking qualities, which will ultimately place "UNCLE SAM" on every table where quality in potatoes is appreciated. Its handsome, pure white, floury appearance attracts the attention of all. The tubers are oval, with pure white-russet skin, with very shallow eyes near the surface, and are so handsome in appearance and perfect in form that they will always bring an enhanced price upon the market. 60c. peck, \$2.00 bush., \$4.00 bbl.

CAMBRIDGE RUSSET. An exceedingly handsome russet potato, the entire skin being heavily netted. A strong grower, heavy yielder, remarkably free from disease and of superb cooking qualities. 75c. peck, \$2.25 bush., \$4.50 bbl.

LATE PURITAN. In the LATE Puritan we have a potato which is identical with the Early Puritan in appearance, color and quality, but far more productive. 75c. peck, \$2.25 bush., \$4.50 bbl.

TO EVERY CUSTOMER FOR POTATOES WE WILL SEND FREE,

if asked for, our new pamphlet, "BEST METHODS OF GROWING POTATOES FOR HOME AND MARKET," including how to keep Potatoes, prevent sprouting, prevent scab, combat insects, spraying, etc.

Henderson's "Bovee" Potato



"TWO WEEKS AHEAD OF HIS NEIGHBORS."

Copyright, 1899, by Peter Henderson & Co.

HENDERSON'S "BOVEE" is praised in AMERICA.

"The 'Bovee' is the best frame Potato I know of. Its eating quality is extra fine."—N. BUTTERBACH, Gardener to C. N. BLISS, Esq.

"The 'Bovee' is the best early Potato we have. It was the best and earliest among ten varieties."—S. O. BENJAMIN, Aquebogue, L. I.

"The 'Bovee' is at least twelve days earlier than Early Ohio. The almost perfect shape of the 'Bovee' would win the prize every time over the poorly shaped Early Ohio. Will yield more per acre, with a smaller proportion of unmarketable tubers."—THE RURAL NEW-YORKER.

"Uncommonly prolific for such an early variety."—OHIO AGRICULTURAL EXPT. STATION.

"Yielded at a rate above any other in trial, and a very promising new variety."—MASSACHUSETTS AGRICULTURAL EXPT. STATION.

"The 'Bovee' is exceptionally promising."—MINNESOTA AGRICULTURAL EXPT. STATION.

"I was very much pleased with the 'Bovee' Potatoes I ordered from you last year. They yielded better than any potato I ever planted."—Mrs. J. P. FEARS, Athens, Ga.

HENDERSON'S "BOVEE" POTATO.

A Marvel in Quality!
White, dry and mealy.

A Marvel in Earliness!
The earliest of all.

A Marvel in Yield!

Outyielding all of the Earlies, and equaling the heaviest cropping Lates.

A Marvel in Uniform Size
and perfect shape.

A Marvel of Popularity
in Europe and America.

WHEN we introduced Henderson's "Bovee" Potato, our own tests and the opinions of others led us to claim a good deal for it, and our confidence has not been misplaced. Not only is it the earliest, but it takes a leading place among the heavy cropping varieties, an unusual thing among first earlies. It is even earlier than Early Ohio, and compares favorably with Triumph, a light-cropping variety that has only extreme earliness to recommend it, while the "Bovee" in all competitive trials has outyielded all the early Potatoes, and in many of the tests conducted by Experiment Stations and private growers it has outyielded even the late varieties. The vine is dwarf and stocky, enabling it to be planted six inches closer than nearly all other varieties, which results in a much larger return per acre, and is a feature of the utmost value where land is valuable. The tubers grow remarkably close, all bunched together in the hill close up to the vine. They size up to a marketable size more evenly than any Potato we ever saw; none too large or too small; practically the whole crop being merchantable and the quality is perfect. We have only one warning—it is apt to prove disappointing on poor soil or with poor cultivation, as it sets so freely the tubers are apt to be small. But on good Potato ground, well fertilized and cultivated, no other early Potato to-day compares with it.

Price, 30c. lb.; 3 lbs., 70c.; 5 lbs., \$1.00;

post or express paid. If by express or freight, at purchaser's expense, deduct 8c. lb.

80c. peck, \$2.75 bushel, \$5.50 barrel,

by express or freight, at purchaser's expense.

HENDERSON'S "BOVEE" is praised in EUROPE.

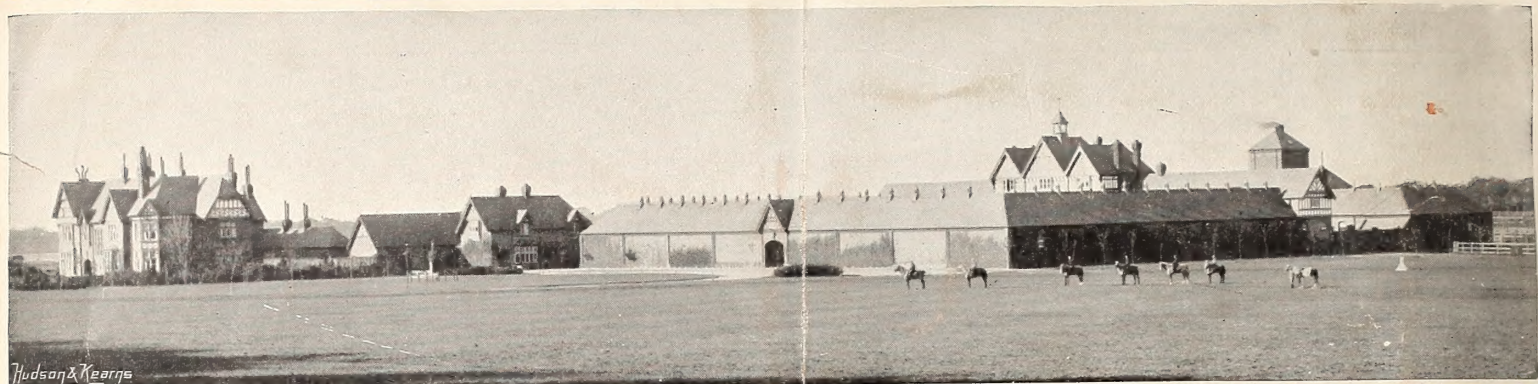
From England.—"It is very early and quite white and dry."—JOHN CROOK, Forde Abbey Gardens.

From Germany.—"Of a fine oval form and almost all of a uniform medium size, fit for table use. Was ripe ten days sooner than Early Rose and a week earlier than our Improved Six Weeks."—HAAGE & SCHMIDT, Erfurt.

From Sweden.—"The 'Bovee' is a most valuable addition to the many you have sent out. I had a splendid crop of the finest quality, and it is the best this season out of thirty sorts."—SVENSONS FROHANEL, Stockholm.

From Italy.—"Your 'Bovee' Potato will become the leading variety in our country. I found them far superior to any of the numerous varieties I have tried to this day. The plant is strong and very healthy."—GIUSEPPE SADA, Milan.

From Holland.—"The crop was simply marvellous, and there does not exist here a heavier cropping variety. It not only excels in earliness and beautiful shape of the tubers, but the flavor is also excellent."—L. VAN WAVEREN & Co., Hillegom.



Hudson & Kearns

HENDERSON'S
SPECIAL
GRASS MIXTURES
FOR... **HAY**... AND
PERMANENT PASTURE
HAVE SEEDED
THOUSANDS OF ACRES
IN
AMERICA.

THE LARGEST
STOCK FARMS,
PROGRESSIVE
FARMERS,
AND THE
AGRICULTURAL PRESS
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HENDERSON'S
SPECIAL GRASS
MIXTURES.

From the N. Y. World
of Nov. 11, 1911

W. C. WHITNEY
ON RANCOCAS

Turfman Tells Why He
Chose Lorillard Farm
for His Horses.

William C. Whitney to-day at his home, No. 871 Fifth avenue, told why he had decided to bring his horses from Lexington, Ky., to the Rancocas farm in New Jersey, now owned by Mrs. Lillie Barnes Allen, her property since the death of Pierre Lorillard.

"These arrangements," said Mr. Whitney, "have been completed, and I expect in the near future to bring all my horses to the New Jersey farm. We have not bought Rancocas. The farm is not for sale. I have simply made an arrangement to use the horses on a part of it."

"When a man is interested in horses three-fourths of his leisure time is spent in seeing the horses. I want to look at the animals for three times a year at least. My horses are in Kentucky, and it is only possible for me to see them about once a year, and because of that I have been looking over the field in the East for the last two years to find a suitable place for my stables."

Can't Afford to Lag.
"But you must consider that there are other things to consider besides the pleasure of looking at your horses. If a man is going into the speeding business now he must remember it is the day of sharp competition and he cannot afford to lag behind in any particular. Therefore it becomes a vital question as to where the field lies for the very best development of his animals."

"I have studied the Eastern section in every respect, as to climate, food and other necessary features for the horses' welfare."

"For instance, there is what is called the milk region in New York, where the great dairies are. I have looked into that district, and while it may be suitable in the summer the winters are so cold that the horses would lose in such rigorous weather what they would gain in summer."

"August Belmont attempted to breed horses on his Long Island farm, and after a fair trial was obliged to admit that it was an absolute failure. Mr. Paget brought a car load of horses from Colorado a few years ago, and took them to my place at Westbury, I. I. I told him to turn them out in a meadow there, where the grass is a foot and a half high, but instead of thriving the horses got thin. So that you see it is a very important point to find out just where the horses are capable of the very best development."

Best Place for Horses.

"I have had Rancocas Farm in mind for some time. I knew that Mr. Lorillard had brought this farm up to the highest point of development for the breeding of horses. He had selected the farm because of its favorable location, and he had developed the very best grasses that are conducive to the health of horses. In raising these grasses he consulted with Henderson, the seedman."

"The farm lies back of the pines and is just sheltered from the severity of the wind. It is in the best location which is noted, as regards its salubrity, of any place in the East."

"The only reason I did not buy it was because of the cost. I would have bought it for breeding purposes."

"I was very much interested in the large farm of Mr. Allen for such an amount of money. Besides, the farm of Mr. Allen was very large for such an amount of money."

"No one else would buy it when it was offered for sale. It is a very fine farm, and it is a very fine farm."

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