BURBANK'S 1918

NEW STANDARD GRAINS

Save wheat, but why not raise more and better wheat at less cost

Upper, *"Quantity"* Middle, *"Quality"* Lower, *"Super"*

"Anyone who opens the way out of the wilderness of wheat shortage or wheat insufficiency must stand in the light of a veritable Moses to the bakers." —T. T. F.-National Association of Master Bakers. Columbus, Ohio, August 6, 1918.

"Your discovery will be of incalculable benefit to this fair land." —C. H. M. & Company, Melbourne, Australia.

"It sounds incredible, but Mr. Burbank has the habit of compelling us to believe the unbelievable. The burden of the proof rests on the doubters, not on him." —Baltimore, Md., "News."

LUTHER BURBANK

Burbank's Experiment Farms *Santa Rosa, California, U. S. A.*

Burbank's New Standard Grains

Save Wheat—But Why Not Raise More and Better Wheat at Less Cost?

DEALERS are too often offering fine looking, plump wheat carefully sifted from fields of common or inferior quality. Fat horses do not win the race; fat wheat kernels *sifted* from fields of ordinary grain look nice and are a little better than the rejected screenings *just for one season*—because they have a little more substance to start with. IT IS ALL IN THE BREED. One bushel of *screenings* from the *best* wheat is worth more for seed than ten bushels of fat, plump kernels *sifted* from a poor strain. Even reselected *screenings* from a *well bred wheat* will produce far *better* crops than the fattest kernels you ever saw from an ordinary wheat, yet best of all they *continue to do so year after year.*

These new grains which I have so long been studying and experimenting upon, working, perhaps as no other person could or would, have been expensive beyond the imagination of ordinary growers, and really this experimental work should not be carried on by a private citizen; it is community or government work; it should be done by and for those who are so tremendously benefited by this kind of work. Why are the wheats of Australia so far above those of our own country? Not on account of soil, climate or culture, but through the careful, painstaking labor of Mr. William Farrar of New South Wales. He died fifteen years ago unnoticed, unacknowledged, unpaid and unappreciated, not having lived to see the marvelous forces which he had set to work, but now a $500,000 monument is being erected in memory of this pioneer in Australian wheat improvement. Some of his productions are the valued Australian wheats: Standwell, Cleveland, Buniup, Thew, Federation, Zenatill, Bomen, Comeback, Zanadilla King, and Zealand.

Why are the United States and Argentina's wheat crops so inferior in yield? Both countries have the best wheat land in the world. It is generally laid to poor methods of fertilization and cultivation and to many other causes, but this insignificant yield is mostly from one cause alone—poor seed—that is, wheats of poor yielding quality, and one of the most quickly and easily remedied. By careful scientific tests of the best wheats of all wheat growing countries side by side in the same soil, the best United States wheats and of Argentina was fully forty per cent less than Swedish, Italian, French and Australian wheats, and *none of them* equaled in yield the best of my new wheats. If the farmers of the United States were now growing my new wheats there should be no shortage, for the crops this season would be greater by many millions of bushels without the expense of a dollar for labor or fertilizer.

It is not so much a matter of soil or culture, but of education in the use of good seed. Those who were fortunate enough to obtain sample heads of my new wheat sent out last season are quite often making a five hundred to one thousand per cent profit on the investment, several growers having been offered ten cents per head for their entire crop, yet I now offer and have yet to offer even better wheats. At the great Panama-Pacific Exposition where the best wheats from the world over were to be seen not one was in any way comparable in appearance with those then growing on my farms. Why plant the old hit-or-miss wheats? You have modern machinery, fertilizers and best soils. Why not plant modern

seed now? You will sooner or later. Eleven years of most careful and very extensive and expensive work on these and other new wheats, barleys, ryes, oats and other cereal crops has very definitely proven that all grain crops can not only be very greatly improved in yield but also in appearance, quality, uniformity, earliness, resistance to disease and adaptability to general culture as well as to new areas where these grains could not before have been grown. The full significance of improved grains in these times of hunger and stress is appreciated as it could not have been when these experiments were well under way in 1906.

It will be seen that to carry on these experiments extensively for a decade or so is not only a matter of great expense but one which requires rigorous, persistent, endless personal attention, not only at harvesting time but all through the planting, growing and ripening season. These experimental plants can never be sown, reaped, threshed or cleaned by labor-saving machines; each kernel must be planted singly, carefully watched and tested, and harvested by hand with the old-fashioned sickle, threshed by flail and again and again reselected kernel by kernel, plant by plant, year after year by highly trained eyes and hands.

Besides these new wheats I shall soon offer other grains which will to an appreciable extent revolutionize the whole grain trade as I have been and am doing with the rhubarb, potato and the deciduous fruit-shipping trade. Millions on millions of boxes of my new fruits are shipped East from this State each season, and other millions are raised on other continents and islands, bringing fancy prices everywhere and supplanting *all others of their kind.*

Do you realize the difference between the wheats offered you by the seedsmen and grain-dealers generally and these new ones? There is as much difference as there is between a great success and a cowardly failure. The very life of the Nation now depends upon more and better grains. The electric light has replaced the fish oil lamp and the tallow dip. You use the auto, the telephone and a thousand other modern conveniences; better engage the "Burbank" grains to help you, too; raise "Burbank" wheats and eat all the wheat you want. As a patriotic duty begin right, use common sense in the selection of uniformly productive and well-bred seed—the best is none too good. The United States Experiment Stations, enterprising farmers and seedsmen all over America are awakening to their value. I cannot send out my best wheats *first,* simply because I am *constantly making better ones.* These are the best I have to date.

A New Productive White Wheat—"Quality"

After eleven years of very extensive and expensive work, last season I sent out a new wheat which has been a wonder to the thousand or more of my customers who purchased; a very productive wheat. THIS SEASON I offer a superior, *early, hard white wheat* suited to *all climates* wherever wheat can be grown; as a Summer wheat in cold far Northern climates and as a Winter crop in the United States and most wheat-growing countries. It is specially adapted also to short seasons, arid soils, and dry climates. A superior white milling wheat which makes the best light, sweet, nutritious bread and pastry.

I have tested the best wheats, barleys, ryes and oats from all over the world side by side with my new grains and on averaging all these I find that my new wheats will generally yield nearly double those of most of the rest of the world. The best wheats of the world I find are raised in Australia, Italy and Canada; the most inferior wheats are raised in the Argentine

Republic and in the United States, Mexico, China and Africa. The very poorest wheats by actual tests were received from select Argentina kinds and from Oklahoma. The wheats of the United States are often very far from uniform, though there are most notable exceptions. If my new wheats were in general use today there should be no deficiency, as the crop through the whole country would be enormously increased in quantity and value without one dollar more of expense for land, labor or fertilizer except the first outlay for the purchase of the improved kinds of seed. This early, hardy "Quality" wheat which I offer this season will not yield as much as some of the coarse macaroni wheats in some warm, dry sections, but for general culture, with its unusual hardiness and extreme earliness, uniformity, superior milling and bread-making qualities, it stands alone. It most resembles in all these respects the hard Northern wheat "Prize Marquis," but has a vitreous white berry of quite different appearance and quality and of about the same specific gravity as of granite. The heads are of medium size, tapering to a point, beardless, and on ordinary land stand three and one-half to four feet in height. No trace of disease of any nature so far has ever affected it here.

The chemical analysis and baking test of the new "Quality" wheat given below shows its unusual value.

"Quality" Wheat

CHEMICAL EXAMINATION	
% Moisture	11.60
% Total Protein	14.20
% N. G. Protein	1.42
% G. Protein	12.78
Gliadin No.	69
Glutenin No.	31
% Gliadin	8.82
% Ash	.63

BAKING TEST	
Date baked	9-13-17
Yeast	Fleishmans
% Absorption	62.0
% Wet Gluten	38.2
Color of gluten	Very good
Quality of gluten	Very soft
Time to rise	1:49
Time to bake	:25
Expansions	2
Weight of dough	574
Weight of loaf	518
Loss	56
Loaves per barrel	301
Vol. of loaf	2225
Color	Excellent
Texture	Excellent

Prices This Season

All *Prepaid* by Mail or Express

One-half pound	$ 2.75
One pound	5.00
Five pounds	23.00
Ten pounds	45.00
Five sample heads	.60
Ten sample heads	1.00

Another Wonderful New Wheat Now First Offered—The "Quantity"

This is well shown in the cut. It is a tremendous yielder, having long, drooping, well-filled heads laden with extra large, fat, light-colored berries. My small field of "Quantity" has been the wonder and surprise of the season. It has a stiff four-foot straw which stands up bravely with its long, heavy, well-filled heads averaging on ordinary soils five to six

and sometimes seven inches in length. No good wheat yields more than "Quantity." It is remarkably true to type and yields nearly twice as much as the ordinary wheats. "Quantity" is medium early and will prove its tremendous yielding abilities in any except the most Northern latitudes.

Prices This Season

All *Prepaid* by Mail or Express

One-half pound	$ 2.75
One pound	5.00
Five pounds	23.00
Ten pounds	45.00
Five sample heads	.60
Ten sample heads	1.00

(About eighty kernels to the head.)

The New "Super" Wheat of 1917

"Super" has been tested alongside of sixty-eight of the best wheats of the world, and has excelled them all in yield and uniformity; the growth is strong, four feet on good ordinary soil, tillers unusually well, and on ordinary valley soil, without special cultivation, care or fertilizing, this Summer produced at the rate of *forty-nine and 88/100* bushels per acre, every plant and every kernel uniform. All this wheat was originally all grown from one single kernel. Even at present prices of ordinary wheat for milling purposes it will be readily seen that the crop of each acre would *purchase an acre of the best wheat land.* The quantity now on hand is extremely small compared with a most surprising and wholly unexpected demand for it; *no large lot can be supplied to any one.*

Prices This Season

All *Prepaid* by Mail or Express

One-half pound	$ 1.60
One pound	3.00
Five pounds	10.00
Ten pounds	18.00
Five sample heads by mail	.40
Ten sample heads by mail	.70

(About eighty kernels to the head.)

How to Greatly Increase the Wheat Crop and How to Make the Most of These New Wheats for That Purpose

In England, Sweden, France, Germany and Italy where it has become necessary to use science and skill to make the land produce great crops, and where the wheat crop averages more than double our own, the following methods are found to produce the heaviest yields, and the same results follow these methods in America:

Wheat thrives best after beans, corn, potatoes, melons or other cultivated Summer crops, doing especially well everywhere after corn *if the weeds have been well kept down.* The fields to be sown to wheat should be disked and harrowed several times, *but not plowed deep;* all weeds removed and a firm, well-drained, level seed-bed secured; and for Winter wheats in the colder states the seed should be drilled or sown early so as to become well established before hard Winter freezing.

Every kernel of these Superior Wheats should be carefully planted and well protected from birds, which is best done by drilling or planting in rows by hand. Too rich soil or heavy manuring is not advisable for wheat, as it is more apt to lodge and the crop is not generally increased, especially on naturally good ground. On poorer soils some good complete commercial fertilizer will increase the yield. Forty to fifty pounds of seed per acre, one-half to one inch deep, will give best results with these new seed wheats. Do not sow too thickly unless you wish for hay, not *grain*. Grain sown too thickly is far more apt to lodge. The results of judicious thin sowing are very evident in increased quality as well as weight of crops.

The wheat crop like all other crops depends so much in yield upon locality, season, soil, fertilizers, droughts, weeds and insects, time of sowing and general management that while a superb variety may yield 60 to 80 bushels per acre under best conditions, it may not yield one-fourth as much under adverse ones.

A New Oat—"White Avalanche"

An extremely *early,* very productive oat of the very best quality as well as a heavy yielder. It should take the place of most of the various common oats now grown. Start right, get pure, uniform "White Avalanche" oat seed. A field of this when ripening appears almost as white as snow; three to four feet in height. Being very early and productive it is suited to growth in all oat climates, even those having an unusually short season.

Heavy screened seed, 3 pounds by mail or express, prepaid, $1.25.

Ten pounds by express, not prepaid, $2.25.

"Eclipse" Oats—Reselected Seed

The heaviest yielder of both hay and oats of any tested on my grounds. Foliage, on good soil, almost like corn leaves, sometimes one and one-half to two inches wide. Early and unusually productive of plump hulled, heavy white oats of finest milling quality.

Heavy screened seed, 3 pounds by mail or express, postpaid, $1.25.

Ten pounds by express, not prepaid, $2.25.

Eclipse oats may be sown in the Fall in mild climates; in the Spring in cold climates.

Blue Arabian Hulless Barley

During the past several years, this, by selection, has been greatly improved in the size and quality of the heads and kernels and more than doubled in yield. Height, three feet; threshes out clean like wheat with no skin or hull. *Dark blue* plump grain, like wheat. Highly profitable for *poultry feed* and especially valuable for warm, dry climates.

Prices This Season

Ounce	$ .40
Pound	3.50
Ten pounds, express, not prepaid	20.00

"I got one-half pound of your new wheat last year; have not threshed yet but it is a fine wheat and is going to make at least twice as much as other wheats in the same field. Please quote price on more."—J. M. N., Sellersburg, Ind., July 17, 1918.

"From the twelve heads of wheat purchased from you last Fall I feel sure I will make over six thousand heads. This wheat was planted so very late that it didn't branch at all until this Spring. I have demonstrated to my own satisfaction that one gallon

of wheat will plant one acre and that said acre will produce over fifty bushels. I am expecting not less than two gallons from the twelve heads. Now if I get the same results from the two gallons it will make over one hundred bushels. I believe it would pay you to come and see this wheat. I am getting lots of offers to buy this wheat at ten cents per head and am refusing to sell it. Now can you fill these orders? I am fully convinced that I can plant one gallon of wheat to the acre and with this wheat raise more wheat than by planting eight to ten gallons to the acre."

—E. A. C., Springfield, Ky., May 29, 1918.

"I have observed the wheat grown by Mr. E. A. Cox from the twelve heads sent him by you with much interest. This wheat is now heading out at a height of five feet, with heads about six inches in length, and in appearance will bear about 80 grains per head. Mr. Cox planted this wheat about 6 to 8 inches apart each way but now it has tillered to such an extent that it covers the entire ground. Some bunches have as many as 25 culms. All will average at least 10, I think."—C. L. M., Asst. Emergency Demonstration Agt., Springfield, Ky., May 28th, 1918.

"Last year I purchased and sowed a pound of 'Burbank' wheat which I bought from you. We regard the wheat as the most excellent grown in this state. I am extremely well pleased with it and those who have seen it regard it as in every way being a prize product. I want to congratulate you upon your most beneficial and untiring work. I believe it a complete revolution of the wheat growing industry, particularly in this state, for the reason that our average yield per acre here is only thirteen bushels of common wheat."—O. S. H., Okla. Thresherman's Association, Oklahoma City, Okla., July 23, 1918.

"E. G. Purvine of Two Rock Valley displayed in Petaluma Thursday a stalk of the new Burbank white oats which stood six feet tall in the boot, while the ear had over 500 kernels. Six of these stalks all developed equally prolific, sprang from one kernel of oats so the great wonder can be realized. He only has a quarter of an acre, but he is going into it heavier next season. The stalk is just like a corn stalk, with broad, flat leaves, and the kernels grow where the corn tassels should come. His crop will go 40 sacks to the acre, which, at the present price of oats, makes the crop worth more per acre than the land on which it is grown. He left the wonderful exhibit at the Tomasini Hardware Company's store, where it may be seen. He also has some of the new Burbank wheat and says that it is wonderful."—Petaluma, Cal., "Argus."

"As to the ten sample heads of wheat which I bought from you last Winter; in the first place I got it planted rather late and we had a very dry Spring. In spite of this the wheat averaged about four feet in height with an average of ten good sized heads from each grain, with an average of about 80 fair sized grains to each head. I have saved all the grains carefully, and will be able to plant quite a field of it this Fall."

—C. D. F., Colfax, Cal., July 15, 1918.

"The wheat is about three and a half feet tall, very even in height, and the large heads are remarkably uniform. I should not be surprised if this should prove your greatest triumph. Under present world conditions its importance is very great. . . . The little patch certainly makes a fine show, free from all disease, and has immense heads. It runs very uniform, more so by far than our standard kinds. It sounds large, but appearances indicate that it would almost double our crop were this variety to replace the present ones, and Kansas is slated to produce 112,000,000 bushels this season."

—W. A. H., State University, Topeka, Kans., June 7, 1918.

"Stalks of oats with heads fully a foot long were displayed yesterday on the floor of the Merchants' Exchange, San Francisco, by George T. Page, ship broker. The grain was grown on Page's ranch at Cotati. Grain experts were amazed at the size of the oats, the diameter of the stem being three to four times that of ordinary oats, and the head about three times the usual length. It is estimated the yield will be from thirty-five to forty sacks to the acre. Page purchased the seed from Luther Burbank. He said no special care was given to the cultivation of the grain."

"Last year I bought ten heads of your wonderful wheat. I planted it in rows six inches apart in a plot of nine feet by fifteen feet. I have now cut it down and saved the wheat, which has given me almost eight pounds. I was very proud of it for it was my first experience and I felt I would like you to know what an amateur can do."

—E. J. M., Mountain View, Cal., July 22, 1918.

"Of the value of your many wonderful contributions to humanity I presume there is at this moment no accurate measure. However, there is a general consensus of opinion which ascribes to you a place of peculiar pre-eminence not alone of the men of today but of the entire century. There is one group of men, moreover, for whom I am privileged to speak, who consider your production of a new and more valuable variety of wheat as an achievement in the science of agriculture and almost beyond

measure of value to the human race. This particular group is the National Association of Bakers. We are just passing out of the most acute period of shortage this generation has ever known. Probably more than any one man in the world, you have done most to prevent a recurrence of such a crisis. I am speaking with the voice of the leaders of an industry which embraces more than 25,000 people in the United States when I say it is their earnest desire to have an opportunity to show to you their respect and to profit by your words and the inspiration of your presence."—T. T. F., National Association of Master Bakers, Columbus, Ohio, July 27, 1918.

"The size of the wheat crop is no longer merely a matter of interest as affecting the fortunes of those who speculate in the Chicago wheat pit, but as it determines the more vital question of whether we shall have bread. There is much for Americans to learn about farming and many other matters, but they are learning the lessons. Lands must be reclaimed and improved instead of being continually depleted. Intensive instead of expansive methods must prevail if production keeps pace with demand. But this is coming."—Chattanooga, Tenn., "News."

"In regard to the 'Super' wheat I received from Mr. Burbank; it was dry here last Fall and I did not plant it until the middle of February, at that it came up and stooled wonderfully heavy and made fine progress up to the time it commenced heading and unluckily my neighbor's stock broke in and ruined the entire patch. There is no doubt in my mind but this will be a wonderful wheat, a great producer, as shown by the heads that I received. The heads contained three full developed kernels to every mesh, and the time mine was now heading the heads run from four to six inches long. I shall certainly have another supply of more seed and a greater quantity this coming Fall."
—J. A. S., Oklahoma Thresherman's Association.

"Last year as you will remember you sent me 40 pounds of your 'Super' wheat and last week the crop was threshed. My yield was thirty-four bushels from forty pounds."
—S. H., Evansville, Ind., July 13, 1918.

"Our small patch of 'Super' wheat is as fine as it can be at this writing and if it has no bad luck it will yield at least 50 bushels per acre if not more if there is anything in looks."—J. M. S., Bonanza Seed Farms, Booneville, Ark., April 8, 1918.

"I regard this photograph as being the three strong men upon which this nation must rely in the case of war."—Prof. C. D., Carnegie Institution of Washington, Long Island, N. Y., March 13, 1917.

No one outside of my own helpers can have any possible idea of the amount of personal care, constant labor and attention and tremendous expense of producing these new wheats. With my long experience and long days of labor each and every day of the year, I am able to come out even on them, but not more, and as long as I can do this I shall continue, as I enjoy the work and am delighted to be able to serve our Country during its time of stress, and so am satisfied to go forward as long as life and strength are left.

LUTHER BURBANK.