

PHENIX GUANO

FROM
MCKEAN'S ISLAND

PACIFIC OCEAN.

IMPORTED BY THE

PHENIX GUANO COMPANY.

WILLIAMS & HAVEN, New London, Conn.,

General Agents.

NEW LONDON:

STARR & FARNHAM BOOK AND JOB PRINTERS, CORNER STATE AND BARK STREETS.

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PHOENIX GUANO COMPANY.

In the month of January, 1859, Mr. C. A. Williams and Capt. Thos. Long, of this city, sailed from Honolulu, S. L., in the Schr. E. L. Frost, for the purpose of discovering Guano Islands.

They visited the Phoenix Group, situated in about latitude 8 to 6 South, Longitude about 170 West, landed upon and took possession of three Islands containing Guano, viz:—Starve or Barren, Phoenix, and McKean's.

They intended to visit Enderbury's but the wind and currents prevented landing. On a subsequent voyage, in April Capt. Long, in the Brig Agate, landed upon and took possession of that Island also. Due notice of the discoveries was lodged with the Department of State, at Washington, the bonds required by the President having been executed, the Secretary of State has granted to C. A. Williams & Co., for the Phoenix Guano Co., the usual certificate perfecting the title to the deposits on these Islands, in accordance with the Act of Congress, passed in 1856. This is not an incorporated Company, but a mercantile partnership of persons mostly residents of this city, for the purpose of working these Islands, selling the Guano, and importing the same to the United States. The working of McKean's Island was commenced at once, and fifteen cargoes have been shipped to the United States, and foreign ports.

The term "Phoenix Guano" we claim for our *title* and *trade mark* for the fertilizer which we are now introducing, and have copy righted the same.

We have at present a force of men on the Island employed in digging and drying the Guano, and are prepared to deliver by the cargo if required.

WILLIAMS & HAVEN.

General Agents.

New London, Conn., March 25, 1866.

PHOENIX GUANO.

FROM MCKEAN'S ISLAND.

This valuable new fertilizer, now introduced to the notice of agriculturists, is imported from McKean's Island, one of the Phoenix Group, in the South Pacific Ocean, situated in Latitude 3.35 South, and Longitude 174.18 West.

This article is not of rock formation, but is a real deposit of birds, covering the Island to the depth of ten to fourteen inches. It is readily removed by the spade, and after drying, is put immediately on board ship. The first cargo imported was landed at New London, Feb., 1860. Since then, nine other cargoes from the same Island—over seven thousand tons in all—have been landed in the United States. These have been widely distributed and applied by cultivators to a variety of crops. The testimonials in its favor herein contained will show its success, and have reference to its use the past five years. The Phoenix Guano Co. and their Agents have a supply constantly on hand, and offer it to farmers and gardeners as a reliable and satisfactory manure, adapted particularly to light and worn out soils.

This is not claimed to be an ammoniacal Guano, but owes its fertilizing qualities to the large proportion of Phosphoric Acid in combination with Lime and other ingredients, which it contains. To those who are familiar with the recent discussions of Chemists and Agriculturists, it will be needless to present the arguments advanced to prove the beneficial results of this class of fertilizers; but to those unacquainted with the details of Agricultural Chemistry, we refer to a few facts gathered from sources of reliable authority. Liebig, the German Chemist, says:

"When Phosphates and Sulphates are absent from the soil, the plants growing on it cannot form seeds, because all seeds without exception, contain compounds in which Phosphoric Acid and Sulphur are invariably constituents. Although all the other ingredients of plants may be present in superabundance, the soil will become completely sterile when the period arrives at which it can no longer furnish Phosphates or Sulphates to a new vegetation. * * * These considerations must show the great importance which ought to be attached to Phosphates in the practice of agriculture. * * * It is of great importance for agriculture, to know with certainty that the supply of ammonia is unnecessary for most of our cultivated plants, and that it may be superfluous if only the soil contains a sufficient supply of mineral food of plants when the ammonia required for their development will be furnished by the atmosphere.

Crops of corn, grains, grass and roots, together with the grazing of cattle, remove yearly from the soil a very large amount of mineral constituents, such as Phosphoric Acid, Lime, Potassa, Sulphuric Acid, Silica, Soda, Magnesia, &c.

The milk of the cow and the growing bones of cattle remove a large amount of Phosphates yearly from the soil of any farm, and to restore these should be the aim of every practical and judicious farmer.

It has been, we believe, the experience of all cultivators, that the continual application of ammonia as a fertilizer tends to exhaust the soil, and by constant use its stimulating qualities only impoverish, instead of enriching the ground. Ure says, in his Dictionary of Arts, &c.,

"Guano derives no small proportion of its fertilizing virtue from the great store of phosphoric Acid which it contains in various stages of saline combination with Lime, Magnesia and Ammonia. * * * * * A soil in which Phosphates are not present is totally incapable of producing cereals."

We believe that the Phoenix Guano is an article well adapted to supply to any exhausted soil those ingredients that will produce a healthy and lasting benefit, and a largely increased crop and that at the price at which it is sold, every farmer and gardener will feel satisfied its purchase is money well laid out.

In presenting analysis of our article, we do not propose to hide anything by uniting a comparatively worthless with a valuable compound, but give the actual component parts, so far as they are known, in detail, believing that their effects in the soil will prove their best recommendation.

The first cargo imported was analyzed by Prof. Johnson of New Haven, whose high character is a sufficient guarantee of its accuracy. We give below his letter.

YALE ANALYTICAL LABORATORY, March 5, 1860.

Messrs. WILLIAMS & HAVEN :—

Gentlemen :—

I have examined a fair sample of the Phoenix Guano—cargo of the White Swallow—imported by you into this State, with the following results in duplicate.

Moisture.....	20.85	20.90
Organic Matter and combined water.....	8.43	7.70
Lime.....	87.70	87.70
Magnesia.....	1.97	1.99
Sulphuric Acid.....	2.28	2.01
Phosphoric Acid.....	23.28	23.27
Insoluble Matter.....	.00	.00
Other matter not separately estimated, but chiefly Carbonic Acid.....	5.49	6.43
	100.00	100.00

The Phosphoric Acid is equivalent to 50.44 of bone Phosphate of Lime

From the state of fine division in which this Guano occurs, (the lumps being soft and easily crushed by hand) I am confident it will prove an efficacious fertilizer wherever phosphates are needed in the soil, and at the price you propose to sell it, I think it will compare favorably with other phosphatic fertilizers.

Yours truly, S. W. JOHNSON.

There are many Guanos of a similar character presented to the public, together with artificial compounds that claim to have a much larger per centage of Phosphates, but experience seems to prove that the rock or hard phosphates are not readily soluble in the soil, and are therefore inert for an active fertilizer. We claim that the Phoenix Guano is a bird deposit, valuable for its intrinsic virtues, and that wherever Phosphates are needed a single trial will prove its efficacy.

This Guano is particularly adapted to increase the growth of corn, wheat, rye, oats, buckwheat, grass, cotton, tobacco, turnips, garden vegetables, flowers, &c.

We ask for it a fair and impartial trial. The saving of cost in applying this article will be very great over that of the rough manure. The use of this Guano hastens the maturity of any

crop, and thus secures it against early frosts. We are led to believe from the reports of many of those who have used it, that it is peculiarly beneficial in a dry season, crops manured with it suffering less from the drouth than where other manures were used.

We give below the analysis of several of our cargoes made by Prof. J. C. Draper, of New York, together with an average, showing the uniform quality of this Guano.

	SHIPS					Average.
	White Swallow.	Aspasia.	Modern Times.	Charles Phelps.	S. Robertson.	
Organic Matter.....	9.00	10.00	9.00	13.50	11.00	10.50
Water combined.....	21.50	23.50	22.50	19.50	15.50	20.50
Soluble Salts.....	6.00	6.00	5.00	4.50	5.50	5.40
Phosphate Lime.....	55.00	50.00	57.00	53.50	53.00	53.50
Sulphate Lime.....	7.50	8.00	6.00	2.00	6.00	5.90
Silica and Carbonate Lime.	1.00	2.50	.50	8.00	9.00	4.20
	100.00	100.00	100.00	100.00	100.00	100.00

	SHIPS					Average.
	Rapid.	Osborn Howe.	Trieste.	Oriental.	Reynard.	
Organic Matter.....	11.50	9.00	10.00	8.50	9.50	9.70
Water.....	13.50	22.50	17.50	23.00	18.50	19.00
Soluble Salts.....	7.50	6.00	5.50	5.00	7.75	6.35
Phosphate of Lime.....	52.00	51.50	50.00	55.00	48.00	51.80
Sulphate of Lime.....	19.00	1.50	1.00	3.00	9.40	4.98
Carbonate of Lime.....	5.50	9.00	15.75	5.00	6.60	8.87
Silica.....	.00	.50	.25	.50	.25	.30
	100.00	100.00	100.00	100.00	100.00	100.00

It often proves that a fertilizer containing less than the maximum of the best ingredients, acts more promptly and satisfactorily, from the fact that the constituents are in a good mechanical condition, and are thus ready soluble. Any one who will examine the Phoenix Guano will readily perceive that it is free from all hard or gritty substance, and that the lumps are so soft as to cause no trouble in applying it to the soil.

Several cargoes of Phoenix Guano were sold and distributed among the planters of Georgia, South Carolina and Alabama in 1861. It has been used in those States with marked success on cotton, corn, and other crops.

The *Country Gentleman* of January 17th, 1861, has a lengthy communication from a well known cultivator of New Hampshire, on the use of Phosphates, in which the writer says :

* Last spring we procured a barrel of Phoenix Guano, and experimented with it upon various crops and soils. The yield of white beans on a poor sandy soil, was doubled by the use of a small spoonful of this guano in the hill, as was also that of corn on the same soil. * * * On turnips and the rape plant it had a most marked effect, doubling the crop over those rows having none, and a similar effect followed its use on cabbages. * * * The grass and hay on many farms in this section, does not contain the necessary amount of phosphates required for the most healthy condition and growth of milch cows and young cattle. If a dressing of these phosphated guanos were applied to the old pastures and mowing fields, and should not materially improve the quantity of the grasses, it doubtless would the quality of them to such an extent as soon to put an end to the bone-eating propensities of the cattle feeding on the grasses and hay of the guanoed lands.

Animal nutrition and physiology are governed by laws more immutable than ever any enacted by the Medes and Persians, and they cannot long be violated with impunity.

WARNER, N. H.

L. BARTLETT.

CRANSTON, R. I., Jan. 21st, 1861.

W. R. STAPLES, Esq., Secretary R. I. State Agricultural Society.

DEAR SIR:—I weighed out 100 lbs. from the bag of Phoenix Guano received from you last spring, and put it on to twenty rows of corn, in the center of my corn field. On an adjoining twenty rows in the same field, I put on an equal value of New York (Lodi) Poudrette. There was a decided difference in favor of the guano, both in stalk and ear. I did not weigh or measure the crop of either, but the guano so far exceeded the poudrette, that I shall use it next year.

Very respectfully,

CALEB CONGDON.

BROOKSIDE, GREAT BARRINGTON, MASS., March 18th, 1861.

Messrs. WILLIAMS & HAVEN :

In April last I received from you two barrels Phoenix Guano, which I gave to my gardener, with instructions to use it in various ways and on different soils, and let me know the result. I made enquiries during the season and learned from him that he considered it the best fertilizer he had ever used, and I have had the Peruvian used on my place. He spoke of it for *Flowers particularly*, as the very best he had ever used. He has now left my employ, and I regret that I cannot give the result of all the experiments.

Very respectfully yours,

D. LEAVITT.

BROOKLYN, L. I., March 12th, 1861.

Messrs. WILLIAMS & HAVEN :

I used 40 pounds Phoenix Guano on one half a piece of grass 107 by 126 feet. The yield was I think 20 per cent. over the half on which none was used. Turnips were improved by the guano; on corn it appeared about equal to sta-

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be means though the experiment was not perfect, as a tornado prostrated the crop I think in most cases I used too little, having no other guide than the
Peruvia.

Yours, &c.,

D. O. CAULKINS.

AMHERST, MASS., March 13th, 1866.

MESSERS. WILLIAMS & HAYEN :

I have experimented with the Phoenix Guano purchased of you last year, and as far as my experiment extended, met with very favorable results. I can recommend it unhesitatingly for use on corn, tobacco and other crops. I disposed of a considerable quantity to farmers of this vicinity, and have yet to hear that it has not succeeded in all that is claimed for it.

Respectfully yours,

JOHN R. CUSHMAN.

EAST HAMPTON, L. I., Aug. 8th, 1865.

DEAR SIR:—Though not considering myself a "practical farmer," I would say, that having used Phoenix Guano several times for wheat, it has invariably answered a good purpose, and produced an excellent crop, I have never had better quality of wheat or greater number of bushels to the acre than I have raised for the past three years, using Phoenix Guano.

Yours truly,

CHAS. R. DAYTON.

SAG HARBOR, L. I., Aug. 8, 1865.

MESSERS. WILLIAMS & HAYEN :

Gentlemen:—Capt William Hedges of East Hampton, gives me verbal testimony to the effect that Phoenix Guano is the best fertilizer he has ever used—has used it for five years, and bought five tons to-day.

Respectfully yours,

C. W. PAYNE.

COLCHESTER, CONN., Aug. 3rd, 1865.

MESSERS. WILLIAMS & HAYEN :—

Gentlemen:—Having had experience in the use of your Guano for the last four or five years, I can testify as to its good effects which are more visible on grass the second year than the first, and will show for three or four years. On a certain piece of clover where three hundred pounds of Phoenix Guano was applied, I cut ten tons more the second year than it would have yielded otherwise. I have tried it on all kinds of farmer's produce, and consider it the cheapest and best fertilizer in the market.

Respectfully yours,

J. E. DAY.

COLCHESTER, CONN., July 10th, 1865.

I hereby certify that I have used a few tons of Phoenix Guano the last five years, and can say that I think it the best fertilizer for the cost, that I have ever tried for such crops as Turnips, Potatoes, Pumpkins, Buckwheat and Rye. It will also pay well on clover; its effects are seen for more than three years, but the best for the first and second years.

ELIJAH M. DAY.

We concur in the above recommendation.

HENRY MARVIN, R. D. FOOTE, JR., E. F. RANSOM

SALMON C. GILLET, WM. E. GILLETTE

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WETHERSFIELD, CONN., Aug. 3rd, 1865.

MESSERS. WILLIAMS & HAYEN :

Gentlemen :—We have used Phoenix Guano on our farm for a number of years. Have applied it to corn, wheat, oats, potatoes, and garden seeds. It has not once failed to have the desired effect on the crop to which it was applied. We have used it this year on Onions and Turnips, but the season is not sufficiently advanced to determine the result.

Yours truly,

S. M. & D. WELLS.

MONTVILLE, CONN., Aug. 19th, 1865.

MESSERS. WILLIAMS & HAYEN :

Sirs :—I used this year on a piece of corn, Fish Guano, Rockweed and Phoenix Guano, not having much faith in the latter article when applied, but as to results I find that the Phoenix Guano produced the best corn that I have seen this year. I applied a spoonful to the hill with no other manure. I can truly say I never had any thing in my experience equal to your Guano. I used Fish Guano on a piece of Rye which was seeded down with Clover, but the red sorrel which was brought in by the fish, choked and almost rooted out the clover.

HENRY D. BOLLES.

SALEM, CONN., Aug. 18th, 1865.

MESSERS. WILLIAMS & HAYEN :

Gentlemen :—I have used Phoenix Guano on Rye, Buckwheat, Potatoes and grass land, and the result has been quite satisfactory. I use from 200 to 400 pounds to the acre for Buckwheat, 200 pounds for Rye, 400 pounds to the acre that turned out forty-seven shocks to the acre. I do not think I should have had half that quantity had it not been for the Guano, for I left a strip without any which told the difference.

I am now cross-plowing a lot of twenty acres broken up last spring, old worn out pasture. When ploughed I level with a tooth harrow, sow my Guano and Rye plough in very lightly, harrow again, sow my hay seed, (clover, timothy and furze-top) and brush it down smooth. I think the straw pays for the Guano, to say nothing of the extra rye, and benefit to the pasture, which will produce both double the quantity and quality of feed for the next four or five years—and this is not all—good pastures make good stock.

For corn and potatoes in the hill, I compost the Guano with barn-yard manure five or six weeks before using ; in this way it pays well. I sowed Guano at the rate of 400 pounds to the acre, in strips across my mowing fields, late last fall, and had no difficulty in finding it in mowing time, for my grass was mostly lodged where it was applied.

I have used other kinds of fertilizers, but think the Phoenix Guano is the cheapest. I am calculating to use several tons this season.

Very respectfully yours,

SIDNEY MORGAN.

MILLSTONE POINT, WATERFORD, CONN. March 21, 1866.

This may certify that I have used the Phoenix Guano for the past five years. I find from experience that it is an excellent fertilizer for Corn, Rye, Oats, Turnips, Potatoes, and Grass land; I prefer it to Peruvian Guano or to fish.

To grass lands I apply it when the land is laid down and it never brings in foul seed; I have raised the largest crop of rye I ever had on my farm, with Phoenix Guano, and it made the best flour. I have plainly seen its effects for four or five years after it was applied.

HENRY GARDINER.

A large proportion of the importations of Phoenix Guano are sold to go South, for use on plantations in the states of South Carolina, Georgia and Alabama. We give below some of the results of numerous experiments in that section of the country.

CAMDEN, S. C., Dec. 13th, 1860.

MESSRS. WILLIAMS & HAVEN:

DEAR SIR:—The Phoenix Guano has been thoroughly tested by those among whom I distributed the barrels you sent me, to the entire satisfaction of a majority of them, and in the few cases where it failed, I am convinced it was a misapplication of it. There is therefore much enquiry about the article by those who have used it, and others who have seen its effects. I shall be able to obtain strong certificates as to its merits. I have no doubt you can dispose of at least one hundred tons in this district. I will take ten tons myself, for the amount of my cotton crop for the next year will much depend on my getting your guano.

Yours very respectfully,

B. PERKINS.

WARRENTON, GA., Oct. 23d, 1860.

D. H. WILCOX, Esq.,

Dear Sir:—The barrel of Phoenix Guano which I received from you last spring, I applied to cotton, in the same field with Peruvian and American Guanos and Rhodes' and Hoyt's Superphosphates of Lime, and am satisfied that the yield from the Phoenix was better than from either of the others.

Yours respectfully,

M. H. WELLBORN.

WEST POINT, GA., November 19, 1860.

MESSRS DANIEL H. WILCOX & Co., Augusta, Ga.,

It affords me pleasure to state, that the Phoenix Guano sent by your Mr. Gibbs, was applied by me on a turnip patch, and the result has far exceeded my expectations. I divided the patch into squares, upon which I varied the application: upon some Guano alone, others Guano, Salt, and Ashes, and others, Guano, Salt, and Lime, putting at the rate of 300 pounds Guano to the acre, 2 bushels of salt, and 1 bushel of lime and ashes. It was all carefully done under my personal supervision, and up to date I cannot discover any difference in the different plats, but the whole is one of the finest patches of turnips I ever saw. The soil is a light sandy surface, with clay sub-soil and not naturally strong. I am greatly pleased with the Guano.

Respectfully yours,

JNO. C. WHITNER.

WARD'S STATION, Randolph Co., Ga., Nov. 15, 1860.

MR. DANIEL H. WILCOX, Augusta.

Dear Sir:—The barrel of Phoenix Guano, which your Agent, Mr. S. R. Weston, of Dawson, sent me last spring, was used on cotton, and the result was perfectly satisfactory. It was late before I got it and the season was very dry and unfavorable, but with these disadvantages it more than doubled my crop where it was used.

The land was very poor where it was applied. I planted four rows with Guano, at the rate of 200 pounds per acre, and left the next four rows without any, and so on alternately four with and four without Guano for forty rows.

The cotton from each twenty was carefully weighed and the Guanoed rows considerably more than doubled the others.

I am well pleased with the Phoenix Guano and fully believe it will pay well in any ordinary favorable season.

Yours truly,

JOHN P. WARD.

RICHMOND COUNTY, Ga., October 15th, 1860.

MR. DANIEL H. WILCOX.

Dear Sir:—You ask me to give the result of the use of the Phoenix Guano bought of you last spring. I used it on corn and am so well pleased with the result that I shall certainly try it again next season, believing from experience the past season that it will double my corn crop, with an ordinary favorable season. I used American Guano on the same kind of land and do not hesitate to say that the Phoenix is greatly superior to the American Guano.

THOS. SKINNER.

NEW HAVEN, CONN., Aug 6th, 1865.

MESSRS. WILLIAMS & HAVEN:—

I take pleasure in giving you such information as I possess in regard to Phoenix Guano imported from McKean's Island. As you know, I dealt largely in commercial manures for some years before the war, at Augusta, Georgia. In the early spring of 1860, I heard of this then new Guano, and sent for one hundred barrels of it solely to have it subjected to a severe practical test on the Cotton and other crops of that region. The following planting season I distributed it among the best planters whom I knew to be interested in the matter of fertilizers, in Georgia and South Carolina, requesting them to use it and report to me in the fall. During the summer I visited a large number of the plantations where it was being tested, and saw for myself the effects as compared with other fertilizers. The result of my observation was such as to induce me to make a contract with the importers of it for several thousand tons to be delivered the ensuing winter and spring. And so favorable was the results as testified to by the planters who had experimented with it, that I sold thousands of tons, (all in fact that reached me in time for that grain crop) notwithstanding the country was distracted with incipient civil war, and I may add that so far as I could learn the parties using it were, with few exceptions, satisfied, not

only with its effects upon the first year's crop, but saw even greater benefit the second and third years. Each cargo of this Guano which I received was subjected to a rigid chemical analysis, and showed a great degree of uniformity. It is different from most Phosphatic Guano, in that it is in its natural state ready for use, being without hard lumps, and has a sufficiency of soluble phosphates of lime, together with enough of potash, ammonia and organic matter to greatly benefit the first crop, and a large base of insoluble phosphates to serve as a permanent fertilizer.

Truly yours,

DANIEL H. WILCOX.

The character and value of Phoenix Guano was so well established in Georgia, that a portion of the last cargo received by Mr. Wilcox, was sold at Augusta, in the winter of 1861-62, at the rate of *one hundred dollars per ton in gold*, while other Guano's claiming to be of a like character could not find purchasers at any price.

DIRECTIONS FOR USING PHOENIX GUANO.

On Corn land 250 to 400 pounds per acre, putting in the hill with a slight covering of earth before dropping the seed.

For all grains sowed broadcast the same quantity worked into the soil with harrow or brush.

On Grass land 200 to 400 pounds per acre. For other crops the judgement of the farmer or gardner will guide him.

For Tobacco a liberal application, direct to the hill.

Seeds are not injured by this Guano, and it can be used with entire safety in the Flower garden.

This Guano is imported by the undersigned, General Agents for the Phoenix Guano Company, in the United States, and is sold at retail at forty dollars per ton without package. Purchasers taking over one half ton will be allowed a reduction of price.

Orders by mail will receive prompt attention. Address

WILLIAMS & HAVEN,

NEW-LONDON, CONN.

NEW-LONDON, March 25. 1866.

PHENIX GUANO,

FROM

DIRECTIONS FOR USING

McKEAN'S ISLAND,

FOR SALE BY

Agent.