

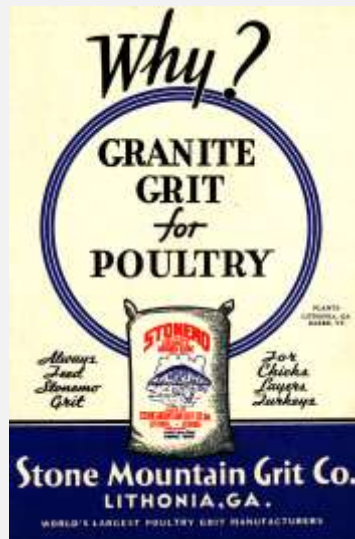
# Granite Poultry Grit

## Barre Aids the “Food For Victory” Program

By Paul Wood, Vermont Granite Museum

paulewood@comcast.net

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Paul Wood's article, which begins on the next page, is presented on the Stone Quarries and Beyond web site.

<http://quarriesandbeyond.org/>

Peggy B. Perazzo

Email: [pbperazzo@comcast.net](mailto:pbperazzo@comcast.net)

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## **Barre Aids the “Food For Victory” Program**

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*This article, the latest in a monthly series on Vermont’s granite industry, is provided courtesy of the Vermont Granite Museum. Many of these articles are based on audio/videotaped granite worker interviews conducted by the museum.*

“Almost none of the [Barre granite] industry could be switched to war. The skilled men, used to air-pressure tools and handling blasts, ‘fit nicely into the Army’. The heavy workers, the riggers and crane operators, had gone off to better pay in the East Coast shipyards. Some of the granite workers left had offered to help the farmers harvest the rotting apples at weekends.”

“There was at least printed rejoicing over ‘a new important possibility-laden field for the utilization of Barre granite’. A local quarry had made a deal with a Georgia firm making insoluble chicken grit. Within the space of four weeks only, it was hinted that prosperity would appear from around the corner. Barre would be manufacturing crushed granite for chicken grit. At the onset, it was reported, the project would employ not fewer than twenty-five men. And Barre would soon be giving vital assistance to the tremendous expansion of the poultry business that the government had requested. Insoluble grit from Barre granite would produce those ‘healthier, sturdier, and larger chickens’ that are the Chickens for Victory.” [The American Home Front: 1941-1942 by Alistair Cooke]

### **Granite Poultry Grit**

Domestic fowl (chickens and turkeys) masticate their food not by teeth (which they don’t have) but by their gizzard, a highly-muscular organ which grinds the food using ingested sand and pebbles. They have two stomachs – the fore-stomach where food is surrounded by gastric juices and the muscular gizzard. Since chickens in modern poultry “factories” have no contact with the ground, adding grit to their diet is essential. Grinding chicken feed in mills was not enough – additional grinding by the gizzard was needed to recover all the food value of mash. This was of critical importance since feed was the largest cost in raising

poultry. The feeding of whole oats required the extra grinding power of insoluble granite grit. A hen was expected, in addition to maintaining herself, to lay six to seven times her body weight in eggs each year and in the process consumed about 100 pounds of feed. A 1¾-ounce chick was expected to increase its weight by 30 times in 12 weeks! Chickens grown without grit consumed one-fifth more mash than those to which grit had been fed.

Domestic fowl rush feed through their digestive tracts, keeping it only from 1/2 to 12 minutes in the gizzard. Insoluble granite grit of the proper sizes in the gizzard grinds feed particles so small that the bird's digestive juices can quickly act on every bit of the valuable proteins, carbohydrates, fats, minerals and vitamins locked within the feed particles, converting them into a form for absorption into the blood stream where they aid growth and egg production. The rough and tough surfaces of granite grit also enable the gizzard to cut up shavings, feathers and other fibrous materials that can clog up the digestive tract. Poultrymen also reported that granite grit helped prevent digestive disturbances, diarrhea, cannibalism, and certain forms of paralysis. Usually a bird will eat no more grit than it needs, which for a layer is 1/6 to 1/3 lbs. per month and for an adult turkey 1/3 to 2/3 lbs. per month. If an occasional flock eats too much grit, changing to the next larger size usually solved the problem. Birds pass out grit that is too small so the best rule is to feed the largest size the birds will eat in normal quantities.

The best grit was very hard and impervious to stomach acids. Granite was found to be an ideal stone for this purpose being durable and having a surface covered with sharp edges. Light colored granite grit with sparkling flecks of mica was found most attractive to poultry. The granite grit increases the size of the gizzard on average as much as 50% and increases its muscular power.

Poultrymen found that the use of granite poultry grit accelerated growth and reduced food consumption. Hens fed insoluble grit averaged 7% more eggs with 6.3% less feed compared with hens not fed insoluble granite grit. Poultryman Arthur Gray of Canton GA reported that with the addition of six cents worth of granite grit, his chickens added an extra 5 pounds of meat worth \$1.25 – an astounding 2,000% return on investment!

Granite grout was first run through a crusher, then through grinding machines, and finally through a series of screens to produce four grades of grit – a fine grade for baby chicks, medium grade for pullets, coarse grade for laying hens, and large grade for turkeys. Fine-ground (passing through a 120 mesh screen) granite was also promoted as a fertilizer, applied at two tons per acre, since its feldspar and

mica components yielded potassium – an element especially good for alfalfa and clover.

## **Stone Mountain Granite Grit Co.**

John K. Davidson, founder of Stone Mountain Granite Grit Co., was born in Scotland where he learned the paving block cutting trade. He came to Lithonia, GA in 1888 at age 17 but the Paving Cutter's Union (the first paver's union in the US) was on strike and he was forced to find work elsewhere – Pennsylvania, Maine and Barre. Finally, in 1900, he established his own business, the Davidson Granite Co., in Lithonia, the site of large deposits of very hard granite (25,000-pound crushing strength). The company owned a thousand acres of granite deposits or an estimated 400 million tons. In addition to paving blocks, the company produced 1,500 tons of crushed stone per day for road construction.

In the 1920s, Dr. O. B. Kent of Cornell University left his college post to become head of animal feed research at the Quaker Oats Co. Recognizing the importance of grit in poultry digestion, Dr. Kent told the company's salesmen to be on the lookout for sources of supply for hard poultry grit. Harley French, a feed salesman, sold "Sugared Schumacker" feed to Davidson Granite Co. for mules at their quarry. French mentioned the Davidson quarry to Dr. Kent who asked for samples. Samples of screened and sized waste granite was sent to Quaker Oats Co. for testing. The tests were highly satisfactory and Davidson was asked to install crushing, screening and bagging equipment to manufacture poultry grit.

On April 1, 1929, the Stone Mountain Granite Grit Company began production of "STONEMO" Granite Grit. With large quantities of grit now available, Dr. Kent began to publicize its importance in feeding poultry. Davidson sponsored ongoing research on and testing of granite poultry grit and published a booklet "Why Granite Grit for Poultry?" which summarizes the work of a number of researchers. When Davidson senior retired, his three sons took over management of the company which would continue quarried granite production into the 1970's. Granite grit potentially had a very large market since, for example in 1949, over 1.5 billion chickens were hatched and each consumed a half pound of grit in just the first 12 weeks of its life. Stone Mountain Granite Grit Co. became the largest producer of insoluble grit in the US.

Stone Mountain grit was marketed as STONEMO through Quaker Oats dealers. Advertising featured such phrases as: "Do litter, feathers, and fiber rob your birds

of gizzard space for processing feed for eggs?”, “Leading breeders agree .... Stonemo Granite Grit grinds out more eggs and meat from every bag of feed.”, “Stonemo – the grit with the extra grinding surfaces”, “Don’t Steal Your Chicken’s Teeth”, “Suitable Grit Saves Feed”, “Good Grit Is Insoluble”, and “There Is No Double-Duty Grit” (This refers to the fact that additives such as oyster shells that supply essential calcium do not as commonly thought aid mechanical digestion.)

Testimonials from satisfied poultrymen prominently were featured in poultry grit advertisements: “All our growing stock as well as the 30,000 foundation breeding New Hampshires on our farm are fed Stonemo Granite Grit exclusively. We have chosen Stonemo with its extra grinding surfaces because we believe there is none better to help out birds grind out more eggs per pound of feed.” – Oliver Hubbard, Hubbard Farms, Walpole, New Hampshire. “We discontinued using Stonemo for a while, but I feel sure now that it plays a very valuable part in the digestive process of poultry. So, from now on you may count on us as a regular customer.” – Hobart Creighton, Creighton Brothers, Warsaw, Indiana.

## **The Websterville Branch**

The “Report of the state geologist on the mineral industries and geology of Vermont” from 1938 states: “A good deal of poultry grit is used in Vermont and it has been obtained from dealers outside the State ... But there is no good reason why the grit cannot be made from Vermont rocks. The Wells-Lamson Quarry Company, of Barre, is now offering a product made from their granite waste.” There was a tremendous wartime expansion of the poultry business which included increased consumption of dried eggs by the troops overseas. Also, there was a strong incentive to reduce freight mileage for poultry grit due to greatly increased essential wartime rail traffic. As a result, the Stone Mountain Granite Grit Co. and Maurice Kelley, owner of Jones Brothers, agreed in 1942 to open a branch operation at the Wells-Lamson quarry to supply the Northeast market, including about 1,500 dealers, with poultry grit under the STONEMO trade name. Wells-Lamson granite, medium gray with flecks of black mica, had been tested and found to be ideal for poultry grit. In fact, employees of the Wells-Lamson quarry had for years screened granite particles for grit for their own chickens. One newspaper wanted to reassure its readers that the amazing poultry grit was not going to take over the entire granite industry by saying that “Quarrying For Memorials Will Be Continued”.

The market was to cover New England (10 million chickens), New York (12 million chickens), northern Pennsylvania (15 million chickens), and Canada. Stonemo Plant No. 2 in Websterville was projected to produce about 100 tons of grit per eight hour shift and provide employment for 40 men when in full operation. Websterville had a vast supply of granite in grout piles where waste granite had been dumped for many years. First grout from the Wells-Lamson quarry would be used and then grout from other quarries. Local newspapers headlined “First Aid To Chicken Digestion”, “Gov. William Wills Filled the First Sack today”, and “Barre Granite Now On Department Store Counters in the Large Cities of the Country”.

The existing crushing plant was enlarged to meet the needs of poultry grit. The necessary equipment and building supplies could be obtained even during wartime since poultry grit was considered an important part of Secretary of Agriculture Wickard’s “Food For Victory” program. The Wells-Lamson poultry grit facility, a wooden structure, was an enlargement of the Websterville crusher plant that had produced various granite aggregates for road and building construction. The new facility was officially opened on November 18, 1942.

Besides the existing large crusher, a grinding room was constructed with three Allis-Chalmers stone grinders that could produce 100 tons of grit in an 8-hour shift, as well as a sacking room, a loading room, and a storage building. Whereas the large crusher broke up the grout between a stationary and a movable crushing plate, the grinders employed rotating abrasive wheels to produce four grades of grit. The grit was put up in 10, 25, 50, and 100 pound bags in the sacking room with chutes and nozzles. The storage building, loaded by a conveyor belt, could hold 250 carloads of grit. At the 1944 convention of International Baby Chick Association, the Stone Mountain Granite Grit Co. booth featured a working miniature model of the Websterville plant. This is probably the model made by H. Gregoire, chief machinist at the Wells-Lamson Quarry, which is now at the Vermont Granite Museum.

The crusher and grinding machines generated large amounts of airborne granite dust that was hazardous to both man and machine. The belts and buckets that moved granite between manufacturing stations in the four-story building were also major sources of airborne dust and were therefore completely enclosed to prevent the escape of dust. A dust collection system was installed which pulled the dust inside the building out into a large metal box located outside with 50 cotton cloth filters. Dust caught in the cloth filters dropped into dust-tight hoppers and a truck positioned underneath the hoppers hauled away the dust.

During World War II, Macy Department Store's Victory Barnyard featured Vermont granite poultry grit and Purina chicken feed. Macy's Herald Square store had a street sign that read "Macy's Victory Barnyard" and lining the sidewalk were rows of chicken cages. Macy's was distributing the rationed chickens to New Yorkers. The 1950 Canadian Poultry Review reported that the Websterville plant was on a two-shift schedule in an effort to keep up with the demand. Two-shift operation was probably made necessary by a May 26, 1950 fire that totally destroyed the Lithonia plant including a new \$15,000 crusher that had been installed only ten days before. The newly rebuilt plant was not in operation until November. Assuming 100-ton Websterville processing capacity per shift, 200 tons of poultry grit would be produced per day, requiring five box cars per day each with 40 tons of grit.

Although the Wells-Lamson facility went out of operation a half century ago, granite poultry grit is still manufactured by the North Carolina Granite Co. of Mt. Airy, NC. They produce five grades of "GRAN-I-GRIT" poultry grit – starter, grower, developer-layer, turkey, and turkey finisher – from granite that is quite similar to Lithonia and Wells-Lamson granites.

We would like to learn more about the operation of this unusual plant. If anyone has old photos of the STONEMO plant in Websterville or has working experience in the plant, please contact me at the Vermont Granite Museum – Paul Wood.  
( email: [paulewood@comcast.net](mailto:paulewood@comcast.net) )