

HE ENRICHES SOIL FOR CROPS THAT GO INTO VITAMIN PILLS

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(A Member of The Star's Staff.)

EVER hear of a vitamin farm? Yes, vitamins may now be added to the varied agricultural production in the Kansas City area. And, on your first glance at a 472-acre establishment in Platte County, you would know that this was not the usual layout for producing cattle, hogs, wheat, corn or other familiar crops.

You wouldn't recognize anything, perhaps, except pale green rye fields, under irrigation from an elaborate system of overhead aluminum pipes. A surmise that somebody was putting money into this project would be correct, and if you wanted to add some other things you might mention eggshells, manure and no end of enthusiasm.

You'd see the eggshells and manure—tons of the stuff—adorning the hillsides in strange winrows. You'd detect the enthusiasm as soon as you talked to the operators of the farm.

Milk and Honey—And Grass Juice.

Your nose would catch strange chemical aromas fresh from chemical and bacteriological laboratories, and, in a nearby farmhouse, at a restaurant-type counter, you would be invited to sample a greenish drink compounded of honey, milk and powdered grass juice.

If you drink enough of that beverage, the operators of the Hillcrest Nutritional farm tell you, your body would get a special feast of vitamins as well as some extraordinary mineral elements for which your mute inner tissues have been yearning for years and years.

And then an odd giddy feeling (not due to an overdose of vitamin X from the chlorophyll cocktail) comes over you when you discuss the potentialities of the fragrant grass juice powder with E. H. Pratt, one of the owners of the farm, and his son, L. D. Pratt, general manager.

The Pratts may mention, all in the same breath a series of

Platte County Farm of E. H. Pratt Produces Grasses That Are Rich in Body-Building Elements—Leaves From Kansas City Streets Used in Basic Compost Piles in Half-Million-Dollar Enterprise.



THESE EXPERTS aid in standardizing the vitamin output. They are Dr. Charles F. Schnabel, chemist, and Dr. Ann Koffler, bacteriologist, shown examining a flask of test solution.

seemingly unrelated things. For one thing there was the speechless surprise of Kansas City street officials, a couple of years ago, when Pratt asked whether they'd mind if he hauled away several hundred truckloads of the beautiful autumn leaves littering the streets. From the leaves the conversation turned to the garbage of Oakland, Calif., and Dr. Ehrenfried Pfeiffer's bacterial conversion of the stuff to 100-proof soil building humus, and the appalling scarcity of strontium and other trace minerals in the Mid-Western soils.

What does it all add up to? To find the answer, you would have to backtrack to E. H. Pratt's retirement, in the spring of 1949, from the active manage-

ment of the Accessories Manufacturing company at 705 McGee street. Pratt, at 46, felt that he was a tired man, getting old before he should. There wasn't anything particularly wrong with his health. But after talking to several Kansas City physicians, he began to wonder whether dietary deficiencies were at fault.

An Idea for Rejuvenation.

Studying the subject of nutrition, Pratt was particularly struck by a pronouncement of Dr. C. W. Cavanaugh of Cornell university: "The fact is there is only one major disease—and that is malnutrition." If some elusive elements were missing from the soil that grew our food, Pratt discovered, persons de-

pending on that food for sustenance might suffer from seemingly mysterious ailments, might be subject to infections that would be thrown off by a well-nourished organism.

Mostly as a hobby, Pratt pursued his nutritional studies by growing his own food in a large garden at his home, 4401 College avenue. He built up the soil with a compost made of various types of manure, leaves, seed cleanings, lime, seaweed, granite dust and rock phosphate. The garden reacted by growing crops of noticeable vigor and quality. After eating the products of the enriched soil, Pratt was astonished at his recovery from whatever had been troubling his health.

In the fall of 1950, Pratt felt so much better that he decided the enriched compost could be produced on a large scale. He sold a 5,000-acre ranch in Colorado and purchased the Platte County farm and started building his compost piles. Besides the fallen leaves in Kansas City, Pratt made use of many other organic materials, even lettuce.

His first idea was to sell the compost, also known as organic fertilizer, to farmers who would be shown how to use the material. Then, according to the initial plan, Pratt would purchase the farmers' products and sell them at premium prices. The theory was that people would be glad to pay extra for corn, oats, beans, tomatoes and so on—if they knew they were getting a product that contained all the known nutritive elements.

Then the compost plant came to the attention of a Milwaukee man, Dr. Royal Lee, head of the Vitamin Products company and one of the country's largest manufacturers of natural vitamins. (Editor's note: The term "natural vitamins" is usually used to apply to food concentrates rich in vitamins as contrasted to synthetic vitamins prepared by chemical processes).

The Idea That Grew.

"What we were starting to do, Dr. Lee told us, was something he had advocated for years," Pratt said. "Then he told me: 'Why, you have one of the best men in the country—in the very work you're interested in—right

here in Kansas City. Why don't you look up Charles Schnabel?"

Pratt, losing no time in locating Dr. Schnabel, found he was the chemist who attained fame ten years ago in discovering that the maximum vitamin content of grasses is attained after eighteen to twenty-one days of growth—just before the tender grass shoots form joints. That discovery resulted in the formation of the Cerophyl Laboratories, Inc., a Kansas City firm which sells high vitamin grass concentrates, dehydrated alfalfa and pharmaceutical preparations.

Dr. Schnabel told Pratt that he could think of no enterprise more interesting than utilizing scientifically compounded composts to build up the soil to a point where it would produce grasses containing, along with the vitamins, a complete range of minerals—including the trace elements—that are needed for maximum nutrition.

The men began to study the complex factors involved in preparation of a compost that would contain every mineral and trace element. They learned that one ingredient of the compost would have to be a seaweed which contains the entire range of rare and unusual elements, including those which are either absent or present in inconsequential amounts in most cultivated soils.

Pratt, Schnabel and Lee also turned their attention to the accomplishments of Dr. Pfeiffer, a Spring Valley, N. Y., biochemist. Pfeiffer, through long experimentation, has produced types and blends of bacteria which, sprayed on organic material, reduce it to a rich black "humus" in a few weeks. The Pfeiffer method has received wide attention from its application to the Oakland garbage.

What Makes Better Tomatoes?

Another question faced Pratt as he considered the complexity of the contemplated compost production: Would a housewife spend 20 cents a pound for tomatoes grown in soil enriched with this compost, when she could buy tomatoes that looked just as good for half as much money?

"That brings up an interesting point," Pratt said. "Tests at Rutgers university have shown that in two tomatoes, which look exactly alike, the iron content in one may be as low as one part in a million; in the other tomato, 1,938 parts in a million. In effect, one tomato is solid

gold and the other is cheap gilt. Yet a truck farmer would have trouble selling one of those tomatoes for more money than the other!"

The net result of compost-making plans led Pratt to a new decision: to utilize the compost in enriching the soil on the Platte County farm, and to raise cereal grasses on this super-fertilized soil and convert them into natural vitamin concentrates.

Two years were spent in building up the soil of the Platte County farm. Dr. Schnabel joined the staff, along with Dr. Ann Koffler, a bacteriologist who helped set up Dr. Pfeiffer's laboratory. Dr. Koffler, holding a doctor's degree from the University of Vienna, later was a

concentrate have been produced in powder and tablet form.

"We've put more than a half million dollars into the farm," Pratt said. "We earned our first penny sixty days ago."

"Our primary interest, however, is to learn more about food and nutrition. If better health results, we figure the money part will take care of itself. In any event, a large share of the profits will go toward setting up a soil science center as an important part of our operation."

With Scientific Process.

Almost \$225,000 has been invested in farm machinery and special equipment. Being installed last week was a 10-ton stainless steel machine which



A SAMPLE JAR of the vitamin concentrate is inspected by E. H. Pratt, Kansas City manufacturer whose studies of nutrition led him into the compost experiments on the Platte County farm. He is one of the owners of the vitamin-yielding acreage (Kansas City Star photographs).

student under Dr. Selman A. Waksman, who was awarded the Nobel prize last month for his achievement in isolating streptomycin. She was also on the biology staff at the University of Kansas City.

Dr. Pfeiffer and Dr. Joseph A. Cocannouer, soils man formerly at Oklahoma Eastern A. & M. college, are advisers in the work.

The first large-scale harvests of the tender grasses took place this summer and fall, and a few tons of the greenish grass juice

will give the grass concentrate production fifteen times more capacity. This machine, similar to those used to concentrate orange juice for frozen packaging, evaporates the water from the grass juice under a high vacuum and at temperatures low enough to prevent damage to vitamins and enzymes.

"As a sideline we'll be in the distilled water business," Pratt commented. "The concentrator evaporates a ton of water an hour. An acre of rye, from a

foot to eighteen inches high, yields five tons of fresh greens. They're 85 per cent water, 7½ per cent fiber, and 7½ per cent solids. It's the solids that we produce in the food concentrate. We don't add anything, and we don't take away anything."

The resulting green powder requires special handling. It may be stored at 8 degrees below zero. For the ultimate consumer it is packed under nitrogen in tin cans or bottles. There is no bragging about production figures, for the material has reached the general public only in limited quantities. One commercial customer, however, is making a half million tablets a week and is behind in his orders. Dietitians at universities and hospitals are experimenting with the green powder.

One thing that Dr. Schnabel and Dr. Koffler would like to have ascertained is the amount of the various trace elements that move from the compost-treated soil into the grasses, from the grasses into the final green powder and the effect of these as they are assimilated in the body.

"It would take many scientists, much money and many years to figure out the answers," Schnabel said. "But I can't think of a more important project. The surface has been scratched on a few of those trace elements—manganese, cobalt, copper, iron, molybdenum, zinc and boron. But there are sixty-some others—everything from antimony to zirconium. Where do they fit into the nutrition picture?"

One hint of the many indications of the importance of trace elements, Dr. Schnabel said, had come from the findings of an independent Danish investigator, Ottar Rygh. He said Rygh had discovered five elements that are concerned with the body's use of calcium; strontium, vanadium, zinc, barium and thallium, the first two tending to promote calcification, with the latter three aiding decalcification.

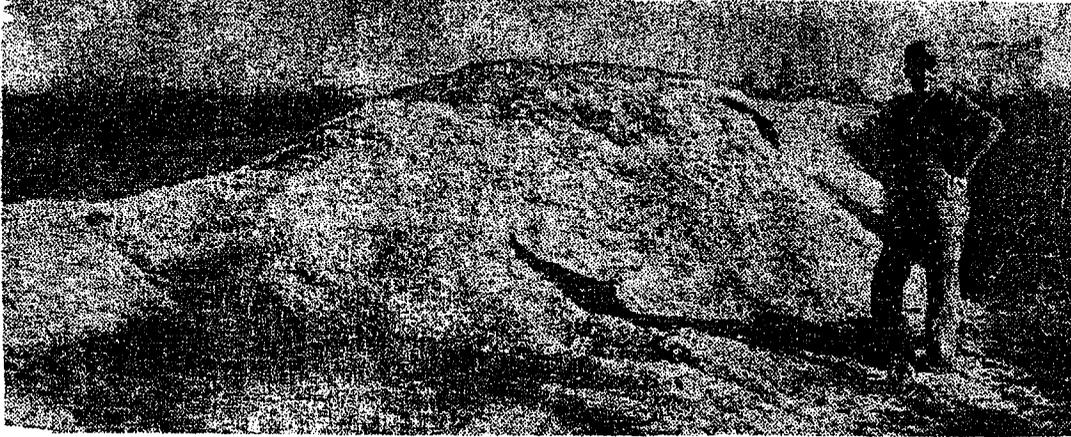
Much Research Needed.

"The trace element field in nutrition studies is wide open," Schnabel said. "On the farm here, we already have reason to believe these elements are also needed by the soil bacteria, including certain nitrogen fixing agents."

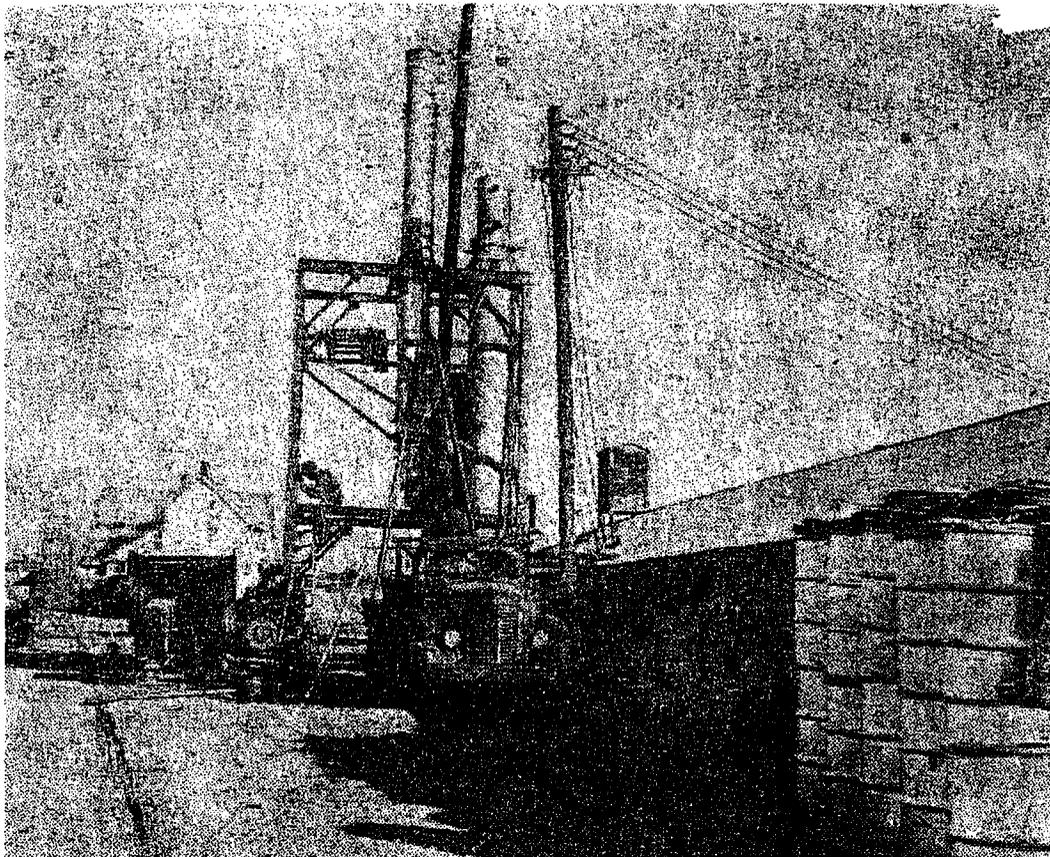
Throughout the discussions a visitor has with the soils and

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crops experts at the farm, there grain. There is a good deal of cover almost magically after his of the compost seaweed on runs a vein of thought indicating talk about the vigor of crops soil had been built up to the pro- rather poor land, had brought, the health-through-nutrition phi- raised on compost-enriched per high level? Human beings, the corn yield up from twenty- losophy, of the value of natural land, such as the Ohio farm of too, will be much more vigorous, seven bushels an acre to sixty- fertilizers as contrasted to Louis Bromfield, which produces and less prone to disease, Pratt seven at a cost of \$7.50 an acre. chemical fertilizers, the benefit such hardy plants that sprays and his associates are certain, if Wouldn't a man be able to get a of natural foods as opposed to and insecticides are not neces- their food intake contains a few pounds of that stuff for use sary. greater assortment of nutritive in his garden? The answer was bleached sugar and honey adorn The recurrent theme is health; elements. No, all the compost production, the farmhouse table. A better not fertile soil, but healthy soil. A visitor to the Platte County will be used on the vitamin farm. bread, these experts say, is After all, didn't Dr. Pfeiffer's farms learned that a Kansas City farm manager, using some baked from freshly-milled whole Bangs disease-ridden herd re-



TONS OF EGGSHELLS ready for use in compost are in this stockpile on the vitamin farm. Other ingredients, including seaweed and manure, are added to the compost and worked into the soil to insure grass crops of maximum vitamin and mineral content. Looking over the shell heap is L. D. Pratt, general manager of the farm.



MAKING VITAMINS FROM GRASSES requires the use of special equipment such as the machinery shown here in the process of installation. This device, on the Hillcrest Nutritional farms in Platte County, evaporates the water from grass juices under a vacuum at low temperatures which do not harm the enzymes and vitamins. The new equipment will make it possible to produce fifteen times as much of the vitamin concentrate.