

Researchers say rice can be used in cement

UNIVERSITY PARK — Researchers at The Pennsylvania State University are investigating a way rice can be used in the making of cement. It's a study that could have major implications for underdeveloped countries, as well as for the rice industry.

Paul R. Gronney, of West Springfield, Pa., a graduate student in civil engineering, and his research director, Dr. Philip D. Cady, professor of civil engineering, have found that silica — along with lime, a major ingredient in one type of cement — can be obtained from burning rice hulls.

The researchers have discovered that ash obtained from burning hulls constitutes 15 to 20 percent of the hulls' weight; 95 percent of this ash is silica. They think that the use of the silica from rice for cement making can help to solve a costly disposal problem for the rice industry, in addition to providing a "cottage-level" industry for many un-

derdeveloped nations.

The disposal of rice hulls, say Dr. Cady and Gronney, now poses a problem for the rice industry — ash from the burned hulls cannot be put into land fills because it makes soil conditions unstable.

"In the United States alone," Dr. Cady advises, "there annually are, based on the latest figures available, over 800,000 tons of rice hulls which contain approximately 118,000 tons of silica. Using two parts of lime to one part of silica, this would make about 354,000 tons of cement.

"We roughly estimate that companies are paying about \$3.50 per ton for disposal of the rice hulls. So, we're talking about nearly three million dollars per year just for disposal."

While the "rice-hull cement" is not as strong as the more common Portland cement, it would be extremely beneficial to poor, underdeveloped countries where rice is bountiful for

use in single-family dwellings and building foundations, say the researchers. Too, it is more durable than Portland cement in areas which contain sulfates, such as locations near sea and ground water, because sulfates attack the aluminous component of Portland cement.

Dr. Cady adds that the new cement could be used in the building and construction industries in the United States when mass, not strength, is required.

Dr. Cady, a member of VITA (Volunteers in Technical Assistance), became involved in the rice hull project when he was asked by the technical director of VITA to develop a method for the small-scale manufacture of lime and cement in underdeveloped countries.

Try A Classified Ad It Pays!

Dairy princess contestants sought for Schuylkill County

Announcement was made by the Schuylkill County Dairy Princess Committee that the 1976 state dairy princess, Miss Charlene Rae Maust, will attend the local contest June 19, 1976, to be held at Boscov's and the Fairlane Village Mall, Route 61, Pottsville, Pa.

Requirements for any Schuylkill County girls interested in entering the contest are:

1. Must live in Pennsylvania.
2. Must be the daughter of a dairy farmer, a dairy farm manager, herdsman, or dairy farm owner during the current year or be the owner of more than one dairy animal prior to May 1, 1976.
3. Have completed her junior year of high school and will not reach her 22nd birthday by December 31, 1976.
4. Must be single and never married.
5. Must have parents' or guardians' consent.

Planned activities for the day in addition to the pageant include a dairy foods cooking contest and mall-wide promotion of dairy. Any groups or individuals interested in promoting all aspects of dairy including history,

nutrition, industry, recipes, and demonstrations or helping organize events, please contact Mr. Carl W. Brown, Chairman at 739-4187 or Mrs. Kathy Buggy at the Cooperative Extension Service 385-3431.

ATTENTION

SPECIAL MAES INFLATIONS

BUY 10 INFLATIONS — GET 2 FREE

Hickory Stock Canes, Cow Tags, Neck Chains, Dust Bags, Udder Mother Liquid Calf Feeder.

Why Not Try our Livestock Medication Program & Special Prices Today.

Now Available

CLEAR PLASTIC FOR PLANT BEDS ALSO BLACK MULCHING PLASTIC

ZIMMERMAN'S ANIMAL HEALTH SUPPLY

Also available at David Good's Sales.

RD#4, Litzitz, PA 17543

Home Store Phone 717-733-4466



CONGRATULATIONS

TO



National Champion

John Sweeney, Appleton, NY, One Acre Contest, Muncy Chief SX550, 268 bushels to the acre. National Champion carries a \$250.00 scholarship.



New Jersey Champion

Robert Bullock, Belvidere, NJ, One Acre Contest, Muncy Chief SX777, 198.5 bushels to the acre. Shown here with his check for \$100.00 and trophy.

MUNCY CHIEF 200 BUSHEL HYBRIDS

1977 CONTRACT PRICES NOW READY

GOOD SUPPLY STILL AVAILABLE FOR 1976 PLANTING

CLIP & MAIL

REGISTRATION & PRODUCT INFORMATION CARD
MUNCY CHIEF HYBRIDS, MUNCY, PENNSYLVANIA 17756

- Please send catalog Wholesale pricelist, I am a Dealer
 1976 Retail Price List I am interested in Dealership.
 I am interested in being salesman (saleslady) for Muncy Chief. Send 1977 Contract Price List
 Film "The Proof is in the Harvest" Date Wanted _____
 Award Book _____

Name _____ Date _____
 Street or RD _____ Phone _____
 City or Town _____ County _____
 If Student _____
 Parents Name _____ State & Zip _____
 Acres Farmed _____ Corn Acres _____ Age _____

- Dairy farmer General farmer Corn Grower Student Advisor Seed Dealer Machinery Dealer Fertilizer Dealer Other

FARMER and BANKER



...the Winning Team

Your farming know-how, and our banking experience, can work together to solve your financial problems. Give us a call and we'll put this team to work to win bigger farm profits for you.

On a farm it takes money to make money. Nobody knows that better than we do because we've been helping farmers with customized farm loans for years. If you're a farmer planning the future, see us first. You'll get a new point of view on how helpful a bank can be.

a new view



NEW HOLLAND FARMERS NATIONAL BANK

Your Family Banking Center

A FULL SERVICE BANK

Offices in New Holland and Smoketown

Member F.D.I.C.