

Business Newsletter...

FERTILIZER EXPANSIONS

Southern Nitrogen Co. has formed a new subsidiary, Florida Nitrogen Co., to produce nitrogen solutions, solid 20.5% lime-nitrate fertilizer, and other nitrogen products at Tampa. A \$3-million plant is being built there to produce those products and nitric acid. Ammonia will come from Southern Nitrogen. Eventually an ammonia plant is to be built, bringing total investment there to \$7 million. Because of the Tampa outlet, Southern Nitrogen is expanding ammonia production by 20 to 25%, bringing production up to the plant's original design capacity. It is now making lime-nitrate product, which consists of 20.5% nitrogen and dolomitic limestone. Company recently spent \$250,000 for new facilities to handle some 400 tons of limestone a day. In addition, Southern Nitrogen will soon be making urea. It has also added new tank cars to its fleet and more trackage in its shipping yard.

J. R. Simplot is increasing high analysis phosphate fertilizer capacity by 65%, and building a 400-tons-per-day sulfuric acid plant at Pocatello, Idaho. When \$2-million expansion is completed in August, Simplot will be able to produce 175,000 tons per year of phosphoric acid and triple super.

Collier Carbon & Chemical is expanding ammonia capacity at Brea, Calif., by 20%. Expansion, engineered by C. F. Braun & Co., is expected to improve company's competitive position through lower-unit-cost ammonia. Completion is scheduled for the middle of this year.

An estimated \$63.2 million will be spent on fertilizer plant construction in 1959 and 1960, says the Manufacturing Chemists' Association. That figure includes \$22.2 million for projects already under way, and \$41 million for projects scheduled for early ground breaking. New fertilizer plants finished in 1958 amounted to more than \$52.2 million. During the three year period 1958 through 1960, a total of almost \$116 million will be spent on fertilizer plant construction. California will get biggest share of the total—\$20.5 million. Following are: Mississippi (\$16.8 million), Idaho (\$16 million), Washington (\$14.6 million), Louisiana (\$12.5 million), Delaware (\$11 million), Kansas (\$5.5 million), Arizona (\$5.2 million), Missouri (\$4.5 million), Arkansas (\$3 million), Utah (\$2.5 million), Florida (\$2.2 million), Alabama (\$1.2 million), and Oklahoma (\$200,000).

ATLAS BUYS INTO AMMONIA PLANT

Standard Oil (Ohio) and Atlas Powder have organized Solar Nitrogen Chemicals, Inc., which will acquire Sohio's present ammonia and related petrochemical facilities at Lima, Ohio. Sohio Chemical, wholly owned subsidiary of Ohio Standard, will continue to operate the plant and act as sales agent for the new company. Sohio says plant has been operating profitably, but that it appears advantageous to add participation by a company that is a substantial consumer of ammonia. Atlas uses ammonia in its explosives and other chemicals. Sale price was not announced, but Atlas and Standard will own equal shares of Solar.

PRILLING WITHOUT A TOWER

Prilled fertilizer without a prilling tower is claim made for Chemical & Industrial Corp.'s new Spherodizer process. System calls for spraying a reaction slurry into a rotating drum instead of a tower. As particles form, they're showered down through slurry spray and build up to product size. Hot gases blown through the drum counter-current to flow of prilling solids dry the product. Spherodizer, says C&I, eliminates auxiliary concentrating equipment, costs about half as much as

conventional tower set-up. These materials have been prilled successfully: ammonium nitrate, ammonium sulfate, ammonium nitrate-limestone, urea (using a 70% slurry), superphosphate, and triple super. Mixed fertilizers include 1-1-1 (up to 20-20-20) and 1-1-0 (up to 26-26-0).

MERGER NEWS

American Agricultural Chemical Co. has bought Deep-Root Fertilizers, Inc., of Olathe, Kans. The purchase gives AAC its first plant west of the Missouri River, and gives it a total of 37 plants.

One proposed merger has fallen by the wayside, however. Wilson & Toomer and Smith-Douglass, which announced last September they were negotiating a merger, now say they could not agree on terms satisfactory to both boards of directors. They refused any other comment.

REORGANIZATIONS

S. B. Penick & Co. has realigned its domestic activities into three divisions, and established a product development department. One of the new divisions is the farm chemical and insecticide division, which will handle feed-grade antibiotics as well as its previous list of specialized chemical and insecticide products. Other divisions are the NYQ chemical division (which replaces the New York Quinine & Chemical Works division) and the botanical and allied products division. Head of product development department will be Giles St. Clair, vice president.

Hooker Chemical will put its new phosphorus division (formed as a result of merger with Shea Chemical) on an autonomous basis, similar to that of Hooker's Durez Plastics division. F. Leonard Bryant, vice president, will be general manager of the division, which will headquarter at Jeffersonville, Ind. Hooker is also forming an autonomous Eastern chemical division, with headquarters at Niagara Falls and with Thomas F. Willers, vice president, as general manager.

NEW FIRM FOR PESTICIDES RESEARCH

Bio-Search & Development Co. is being organized in Kansas City to give "lab to label" service in the biology, toxicology, and chemistry of pesticides and related products. According to the firm's head, J. B. Skaptason, formerly with Spencer Chemical, Bio-Search is designed to permit an economical orientation survey of chemicals for bio-activity without committing a company to a prolonged and expensive research program. Bio-Search is equipped to offer such services as patent and literature searches, market information, formulation and packaging assistance, analytical processes, and bio-assay. Industrial Bio-Test, Inc., Chicago, will handle the toxicological phases of the program.

FOOD ADDITIVES

Monsanto recently became the first company to get a food additive cleared for use under the new amendment to the Food, Drug and Cosmetic Act. Santoquin is the product. It is used to protect dehydrated forage crops from vitamin loss. A tolerance of 150 p.p.m. has been set as the amount allowed to remain on the dehydrated crop; 0.5 p.p.m. will be allowed in meat from animals that eat feed so treated.

Dow has asked FDA to set a tolerance of 175 p.p.m. for mineral oil in or on meat, as a migrant from food-wrapping material.

FD&C Yellows No. 1, 2, 3, and 4, all coal-tar colors, have been removed from the list of those approved for use in food or internally administered drugs. With removal of No.'s 3 and 4, no oil-soluble coal-tar colors can be used in foods. To ease the hardship on food manufactur-

Business Newsletter...

ers, FDA proposes to amend its regulations to allow "lakes" of water soluble colors to be used.

POLYETHYLENE-COATED BAGS FOR ARMOUR FERTILIZER

Armour Fertilizer Works has joined the ranks of firms that use polyethylene for bagging fertilizer—but with a different wrinkle. Armour bags are not entirely polyethylene; they are polyethylene-coated kraft paper. Coating prevents superphosphate from drying out the paper, keeps out moisture, prevents splitting of the bag, and permits use of bags 40% lighter than conventional ones.

FAIRFIELD TO SELL CRAG FLY REPELLENT

Food Machinery's Fairfield Chemicals will handle sales to formulators of Crag fly repellent, a product of Union Carbide. It will be available either alone or in combination with Pyrenone.

PRODUCT DEVELOPMENTS

Merck is preparing for its first full commercial season with Gibrel—in California vineyards. Success of Gibrel on experimental basis last year is being followed this year with expansion of technical service in California and a special workshop on gibberellins held last month. Among West Coast firms interested in supplying ready-to-use Gibrel are: Sunland, United Heckathorn, Calspray, Chipman, Stauffer, Los Angeles Chemical, Durham Chemical, and Niagara Chemical.

Davison Chemical has asked USDA to approve its silica aerogel insecticide (called Dri-Die Insecticide 67) as containing silica gel and ammonium fluosilicate, the latter being the fluoride coating that is said to make the insecticide more effective, through synergism. Davison says some researchers believe it may not be necessary to go through tolerance proceedings for Dri-Die, because it kills by physical action.

MEETINGS

The ACS meets in Boston April 5 through 10. Division of Agricultural and Food Chemistry will have full-day sessions of general papers on April 7 and 8 and a symposium—on natural food flavors—on the afternoon of April 9, for a total of 38 papers. Complete program for the ACS meeting will be in March 2 Chemical & Engineering News.

Distillers Feed Conference, Sheraton-Gibson Hotel, Cincinnati, March 25.

The Chemurgic Council, The Congress Hotel, Chicago, Ill., April 1-3.



- Granular herbicides are giving new impetus to control of aquatic weeds (page 155).
- NPFI'S "production potentials" program shows farmers how to attain high yields at low cost (page 157).
- Cost is the main barrier to reclaiming and rejuvenating substandard soils (page 158).

● The world's nitrogen production is still below capacity, but it is expected to hit a new peak this year (page 160).

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Setting New Standards
of Quality Control

count

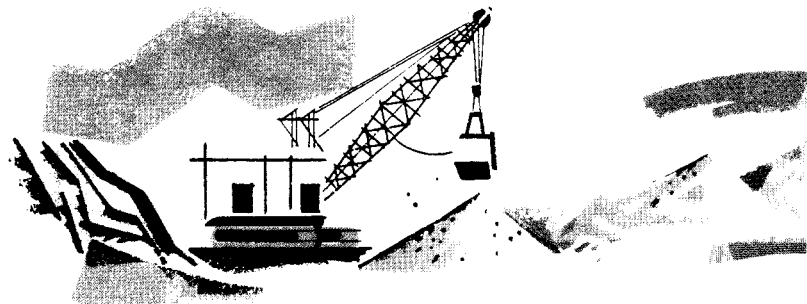


down

at Bonnie, Florida

quality in every phase of

TRIPLE SUPER production



PHOSPHATE ORE

Shipped to Bonnie, Florida via hopper car from International's Noralyn Mine. **4 control analyses.**

SULFUR

High-quality sulfur is shipped to Bonnie from Louisiana and Mexico. **4 control analyses.**

from mine to manufacturer

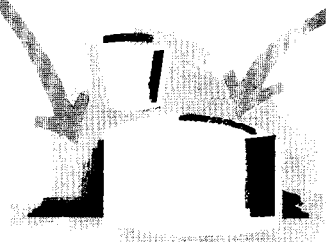
International's triple super quality count-down adds up to a superior processing story

PROCESSING of Triple Superphosphate by modern and precise methods goes a long way toward assuring the high quality product demanded by International customers. But quality is never trusted to equipment alone at our Bonnie, Florida plant.

Over 40 separate tests are used! More than 400 chemical analyses are made daily! International absolutely controls quality with a count-down that follows the product from raw material to shipment of the finished product. And every shipment of International Triple Superphosphate has its own certificate of analysis — mailed to you before material arrives at your plant. *You're guaranteed a high quality product when you order International's Triple Super.*

Another important customer advantage: International offers the services of a trouble-shooting staff to help answer your formulating questions or solve in-plant production problems.

It pays to use International Triple Superphosphate. Contact us now for unmatched product quality and exclusive service that smoothes your way to extra-profitable operation.



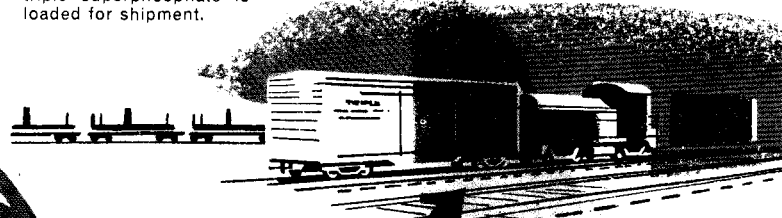
MIXING & DIGESTING

A mixture of gypsum and phosphoric acid is produced. **5 control analyses.**

PLANT FOOD MANUFACTURER

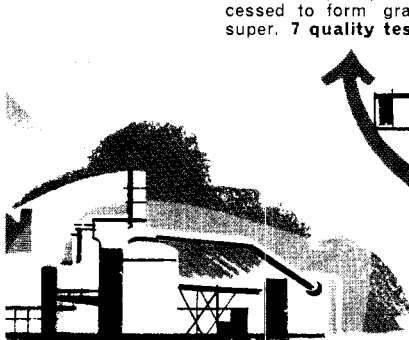
FINAL CONTROL CHECK

6 quality tests made as triple superphosphate is loaded for shipment.



GRANULATION

High grade phosphate rock is reacted with phosphoric acid, processed to form granular triple super. 7 quality tests.

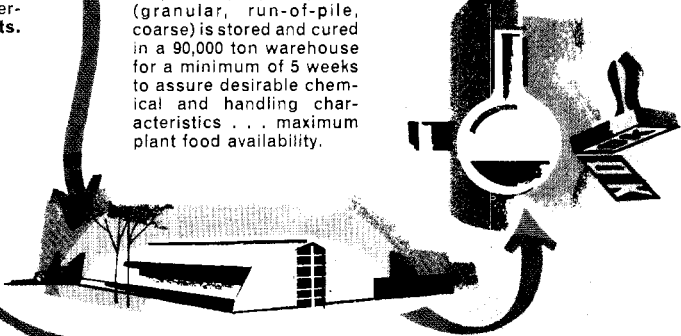


ACIDULATION

High grade phosphate rock is reacted with phosphoric acid to form triple superphosphate. 6 quality tests.

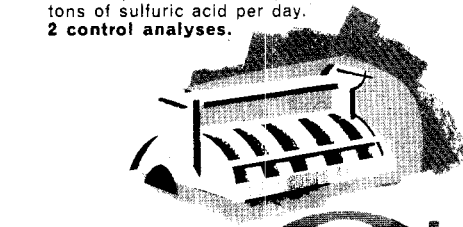
STORAGE

Triple superphosphate (granular, run-of-pile, coarse) is stored and cured in a 90,000 ton warehouse for a minimum of 5 weeks to assure desirable chemical and handling characteristics . . . maximum plant food availability.



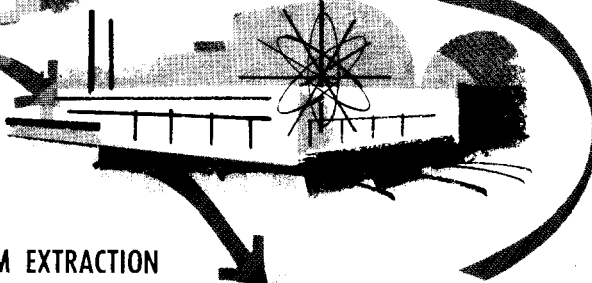
SULFURIC ACID

Bonnie produces over 1,200 tons of sulfuric acid per day. 2 control analyses.



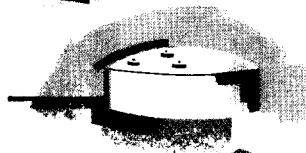
FILTRATION

Gypsum and phosphoric acid are separated. 7 control analyses of filtration product (dilute H_3PO_4) are made.



URANIUM EXTRACTION

Minute amounts of uranium removed from the phosphoric acid.



EVAPORATION

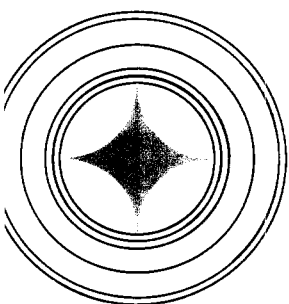
Phosphoric acid is concentrated by heating. 3 control analyses.

CLARIFIED PHOSPHORIC ACID

1 control analysis.

FINAL CONTROL CHECK SHIPMENTS

6 quality tests.



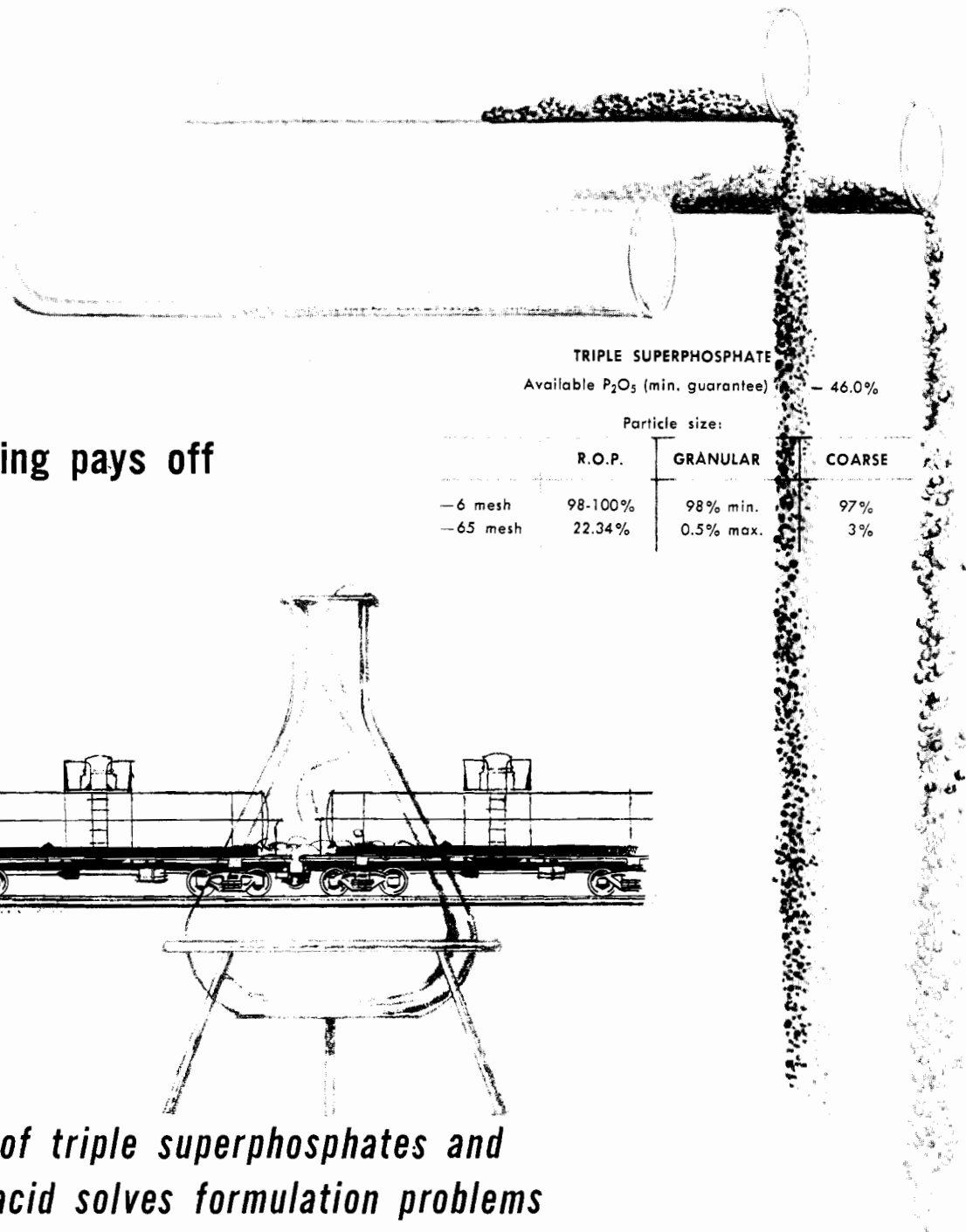
Over 40 separate tests assure quality!
Over 400 chemical analyses daily assure quality!

COARSE — International's coarse-textured Triple gives you the same excellent ammoniation batch after batch . . . promotes desirable agglomeration.

GRANULAR—International's granular Triple is non-crumbling, free-flowing, makes granulation easier. Sponge-like structure of granules facilitates ammoniation.

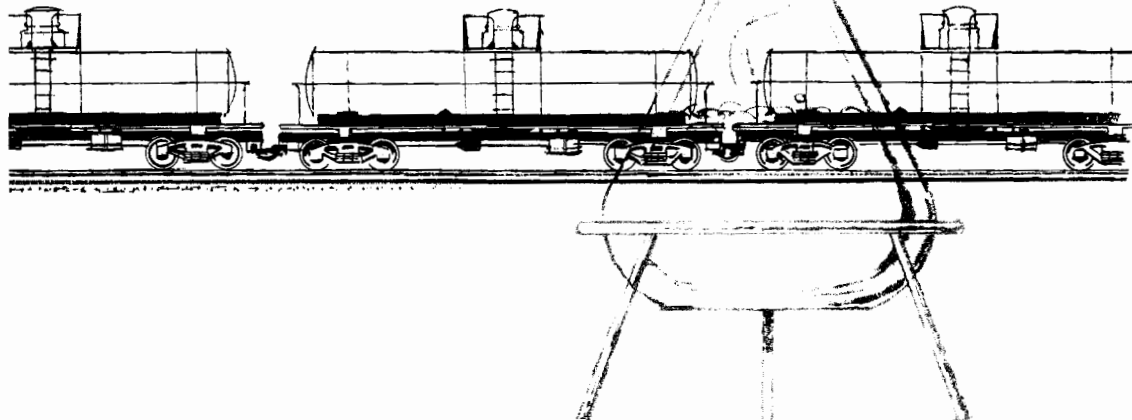
RUN-OF-PILE — International's fine-textured Triple provides uniform particle size, even density and proper moisture level that lets you ammoniate at higher rates, temperatures.

**Superior processing pays off
with full value
for your
phosphate dollar**



TRIPLE SUPERPHOSPHATE
Available P₂O₅ (min. guarantee) — 46.0%

	Particle size:		
	R.O.P.	GRANULAR	COARSE
— 6 mesh	98-100%	98% min.	97%
— 65 mesh	22.34%	0.5% max.	3%



***A complete line of triple superphosphates and
phosphoric acid solves formulation problems***

Now you can make International your dependable single source of all high-analysis phosphate ingredients. Benefit from International's three grades of top-quality triple superphosphate plus high purity 53%-55% phosphoric acid. Get all the quality advantages

International's processing adds to your product.

Be sure with International.



Creators of
Living Minerals

PHOSPHATE DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Administrative Center: Skokie, Illinois

Research Newsletter . . .

ACROLEIN FOR WATER WEED CONTROL

Acrolein shows promise as control for submerged aquatic weeds and water snails in irrigation canals. According to Shell Development scientists, who reported their work in Science (Feb. 6 issue), submerged weeds have been controlled as far as 15 to 20 miles below the point of application through addition, over a period of 30 to 45 minutes, of 1 to 1.5 gallons of acrolein for each cubic-foot-per-second of water flow rate. Less than a week after treatment, water carrying capacity of a canal 60 feet wide had nearly doubled. Effect lasted for eight weeks. Treated water did not harm irrigated crops. Further study is needed on residues and on toxicity of treated water to farm animals. (For an up-to-date report on water weed control, see page 155 of this issue.)

NEW FUGITIVE EMULSIFIERS

Tung oil monoglycerides may add something new to the formulation of agricultural chemical sprays. Two chemists at USDA's Southern Utilization Research and Development Division, Leo A. Goldblatt and R. S. McKinney, won the Glycerine Research Award recently for their finding that tung oil monoglycerides can function as fugitive emulsifiers in agricultural chemical formulations. These non-ionic emulsifiers exert only a temporary emulsifying action, maintaining formulated components in suspension only until the spray is applied to the surface to be treated. After application, they strengthen the bond between toxicant and treated surface. Public service patent is pending.

CRAB GRASS CONTROL

Dow Chemical reveals it is working on a new pre-emergence herbicide that may prove effective for control of crab grass in turf as well as weeds in farm crops. Company has not revealed chemical nature of this compound, has no stocks of it available for sale or general sampling, and has not even given it a name as yet. Dow will field test it this year, and will farm it out to public research agencies for further tests.

GRUB KILLER RESEARCH

American Cyanamid is supporting research on the effect of systemic insecticides on cattle grubs. A grant-in-aid (amount not disclosed) has gone to Mississippi State College, where the investigation will be handled by W. W. Neel of the department of zoology and entomology. Several antigrub compounds will be evaluated in feed. The two systemic grub killers now in use are produced by Dow and Chemagro.

WILEY AWARD NOMINATIONS

Nominations for the third AOAC Harvey W. Wiley Award for Achievement in Analytical Methods are in order. More information is available from William Horwitz, Box 540, Benjamin Franklin Station, Washington 4, D. C.

- TIBA found not antagonistic to native auxins in plants; its mode of action is something other than antagonism to auxins (page 176).
- Method for determining residues of anticholinesterase insecticides involves colorimetry (page 178).
- Method devised for lab evaluation of rat repellents as coatings for corrugated paperboard (page 193).

A graphic consisting of a dark, textured circular area with the word "Spotlight" written in a white, cursive font across it.