Business Newsletter . . .

Expansions and Additions

Swift & Co. joins fertilizer companies who have entered **liquids field.** Its first such plant started up at Merced, Calif., in mid-April, will make aqua ammonia, ammonium phosphate solutions, and a range of complete neutral fertilizer solutions . . . **American Cyanamid's** Canadian subsidiary has started building facilities **to triple production of amino triazole** weed killer and defoliant. Plant, scheduled for completion in 1957, will be located at Niagara Falls, Ont., where ammonium nitrate and nitrogen solutions for fertilizer are also made. . . **Nitric acid** facilities are going up at **Allied Chemical's** ammonia plant at Omaha, Neb. Chemical & Industrial Corp. will design and construct the new plant, which will not increase basic nitrogen capacity. Completion date: early this summer.

Reduced Nitrogen Consumption

Aikman, Ltd., says use of nitrogen on U. S. farms will probably **drop 12.5%** during the current year. Late last year Aikman predicted a 6% increase for current year. Increased industrial consumption will help the situation, says Aikman, but there will still be a **6.25% drop in over-all U. S. nitrogen consumption.** It also says U. S. stocks are now probably about 800,000 metric tons, or a surplus of 300,000 metric tons over normal stock requirements at present production rate.

Merger Announced

Proposed **merger of U. S. Potash and Pacific Coast Borax** (see page 494) is now official. Directors announce that holders of 725,000 common shares of U. S. Potash—exclusive of the Borax group's holdings—will be offered one share of preferred and five shares of common stock of the new **United States Borax & Chemical Corp.** in exchange for each five shares of U. S. Potash common. Upon stockholder approval and completion of merger, the capitalization of U. S. Borax & Chemical will consist of $14.5 million of 4.5% preferred stock, and 4,175,000 common shares, of which **3.1 million shares will be owned by the Borax group.**

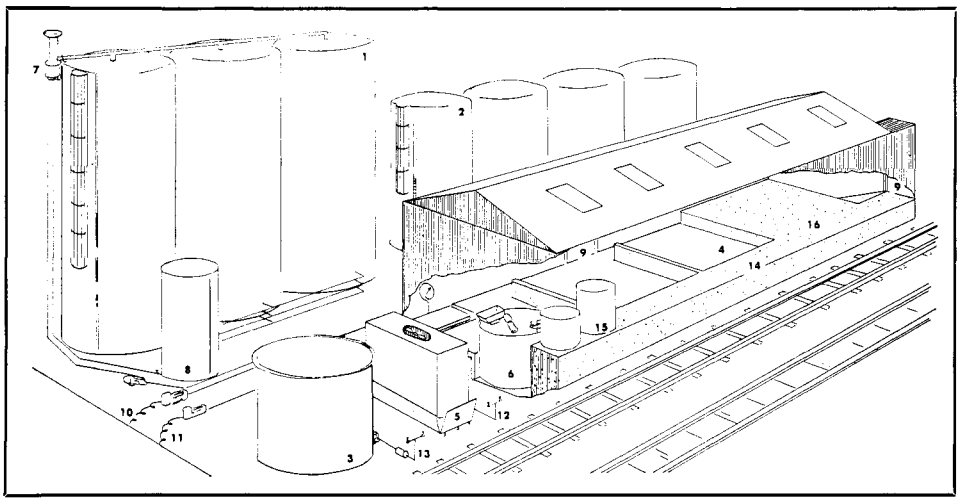
Synthesis Gas from Coal

Olin Mathieson's experimental unit for producing synthesis gas by **partial oxidation of coal** started up late last month. Located at Morgantown, W. Va., the unit will produce enough gas to turn out **80 tons a day of ammonia** or equivalent methanol. Process is one developed by Texaco Development, now in commercial use with fuel oil and natural gas as raw materials. Olin Mathieson unit will determine whether process is commercially feasible with coal as raw material.

- Quarantine, bait sprays, and fumigation are the weapons being used as Florida mobilizes to eliminate outbreak of Medfly (p. 481)
- U. S. potash industry engaged in major exploration and expansion program matched only by opening of Carlsbad district in 1931 (p. 482)
- Low income for farmers makes it difficult for aerial applicators of chemicals for agriculture to extend use of their services (p. 484)
- Desire to speed up their service to customers leading formulators of agricultural chemicals to invest in their own truck fleets (p. 491)

An Open Letter to the Industry...

On aqua ammonia and neutral liquid fertilizers.



Typical Layout, F. M. Neutral Liquid Fertilizer Plant

1. Aqua Storage	5. Converter	9. Switch Box	13. Unload Acid
2. Liquid Mix Storage	6. Reactor Tank	10. Load-Out Aqua	14. Unload Solid
3. Acid Storage	7. Scrubber	11. Load-Out Liquid Mix	15. Batch Tanks
4. Dry Mix Storage	8. Scrubber Tank	12. Unload NH_3	16. Load-Out Dry Mix

Fabricated Metals, Inc., designs, produces and markets converters for aqua ammonia and plants for the manufacture of neutral liquid fertilizers. We designed and produced plants to create a market for our storage, transport and application equipment.

We are pioneers in this industry. Our stabilized design of plant and equipment is the result of nine years of close collaboration with ammonia and acid producers, farm advisors, fertilizer dealers, and with the farmers, themselves.

During this nine years, we have designed, built, and installed over 70 separate plants, with an aggregate total capacity of more than 15 million pounds daily.

Many of these plants have been erected for major producers of anhydrous ammonia; some have been installed for independent fertilizer dealers. But large plant or small, from Canada to Mexico and from coast to coast across the nation, the performance of our equipment has been uniformly satisfactory and profitable to our customers; and the farmers have readily accepted the liquid fertilizers produced.

F.M. application equipment has become the standard of the industry in the West, and widely accepted in other parts of the country. No better equipment for accurate metering and placement of liquid fertilizer is available anywhere.

One of the reasons why F.M. has achieved unparallelled customer acceptance for both plant and application equipment is because, through years of experience, we have developed a "know-how" that enables us to give a complete service from anhydrous or acid tank car to the delivery of fertilizer to the crop roots.

We have the personnel available to work with your group in producing and marketing liquid fertilizers. We are staffed to conduct realistic market evaluation of your area, as well as to carry through on the design, construction, erection, and operation of plant or application equipment.

Our service starts with an inspection of the proposed plant-site and marketing area. Following this, alternate *plans* for plant-layout and distribution programs are submitted. These will include a construction program scheduled to take advantage of local facilities and off-season labor forces. The construction period is utilized for the training of your operating personnel.

Our service includes financing. You can buy or lease our plant and application equipment on either of two plans. We offer a "Do-it-Yourself" package consisting of the essential plant elements, upon which there are patents pending. The converter or cooler, reactor assembly, transfer equipment, necessary valves and fittings are shipped on one truckload direct to your site—anywhere in the United States.

Our second plan, which we call our "Turnkey Job," provides all designs, engineering, construction, and installation for the manufacture of both aqua and neutral mixes. In addition, to the essential elements listed in the "Do-it-Yourself" package, the "Turnkey Job" provides storage, scrubber system (if necessary), aqua loadout station, neutral mix loadout, acid storage, site preparation, wiring, fencing and warehouse facilities. Heavy storage tanks are usually bought at the nearest point or on the lowest market. Your labor can be used in off-seasons for construction work under Fabricated Metals' engineers' direction.

F.M. plants require little space (a 50′ × 50′ area is usually adequate); the conversion and manufacturing processes require little storage; the methods employed utilize liquid flow rather than pressure, therefore no expensive pressure vessels are necessary; stainless steel fittings and parts are used and a special plastic liner is substituted for a costly stainless steel vat for corrosive liquid storage. One man can operate the plant and handle the shipping. All liquids are moved by pump; solids are moved by conveyor, lift truck or loader.

Neutral liquid fertilizer can be sprayed or injected; plowed-down; side-dressed; top-dressed; or run in with irrigation water. Our liquid fertilizer placement equipment has been engineered to meet every need. This equipment allows you to select the best method of application for every situation. It fits in with accepted farming practices in your area, and extends your fertilizer selling season.

Write today, on your letterhead, for our detailed booklet entitled, "NEUTRAL LIQUID FERTILIZERS." It is available without charge.

FABRICATED METALS, INC.

2400 Merced Street, San Leandro, California

(ADVERTISEMENT)

Research Newsletter . . .

Organic Phosphate Prevents Cattle Grub

USDA finds cattle grub can be prevented from developing within cattle by **feeding Dow ET-57** (*O,O*-dimethyl-*O*-2,4,5-trichlorophenyl phosphorothioate). The organic phosphate is not the first to control cattle grub, which costs the livestock industry some **$100 million a year,** but it is the first to prevent grub emergence. Next step: research on toxic effects of ET-57 on the animals, and determination of residues in milk and meat.

Freeze Drying and Enzymes for Beef Tenderness

American Meat Institute Foundation, under Quartermaster contract, is studying feasibility of **combining freeze dehydration of beef with application of proteolytic enzymes during rehydration.** Specific objective: to determine whether frozen-dried beef steaks can be brought to **high tenderness through application of enzymes.**

Research Grants

Oregon State College's new $35,000 forest insect laboratory **to be completed this fall** has $19,000 grant for five-year study of **forest insect control.** Grant came from Foundation for American Resource Management... Nutrition Foundation will supply $4000 a year for the next three years to Virginia Polytech's Agricultural Experiment Station for research on **mineral imbalance in animals,** with particular reference to alleviating molybdenum toxicity by inorganic sulfate and copper.

Progress in Research Techniques

Dyes that fluoresce under ultraviolet light are being used at University of California to study action of weed killers. Chief aim of research is to find most efficient **surfactants for formulating herbicides**... Also from University of California comes statement (from William Moje, assistant chemist at Citrus Experiment Station) that: "Instead of haphazardly screening chemical compounds for nematode, fungi, and bacterial controls, we are now in a position to select soil fumigants on the basis that **toxicity is primarily a function of reactivity.**"

- Herbicidal activities reported for a variety of *N*-substituted α-chloroacetamides, which as a class show outstanding effectiveness and selectivity for control of annual grasses (**p. 518**)
- Pilot plant work with quick curing process for normal super shows process can be continuous and can produce product suitable for direct application or for formulation into mixed fertilizers (**p. 532**)
- Lard oil found to increase yield of penicillin in pilot plant, lengthen productive phase of the fermentation, and maintain pH at a more favorable level (**p. 556**)
- Sources of economic and marketing information on pesticides are discussed (**p. 560**)