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# Letters . . .

## Never Underestimate . . .

DEAR SIR:

I greatly enjoyed reading your excellent editorial, "Have a Chat with Your Wife" in the September issue.

As you pointed out in your article, the National Agricultural Chemicals Association has been keenly aware of the "woman's angle" in the important issue of the use of chemicals in food production.

As chairman of the health and safety committee for the State Federation of Business and Professional Women's Clubs, I had the opportunity to bring our program to the attention of the health and safety chairmen of many clubs, and was agreeably surprised to find so much interest in the subject.

In order to add impetus to the program, pattern talks, based on NAC's experience addressing women's clubs, were prepared for use by member company personnel in addressing women's groups. A slide program has just been completed, again to aid in the dissemination of correct and factual information on this vital subject. This program will shortly be made available to service clubs everywhere, through members of our association.

We appreciate, indeed, the thought-provoking comments in your editorial. It is our intention to call it to the attention of all of our membership.

LEE H. GROBE  
Asst. Treasurer

NAC, Washington, D. C.

## Solubility of Potassium Nitrate

DEAR SIR:

We find most of the staff articles in the "Ag and Food Interprets" section quite helpful. However, the September issue contains one—"New Sources of Fertilizer N"—which is somewhat confusing to us. The statement is made that solubility is the limiting factor in liquid fertilizers based on ammonia and potassium chloride, and that "to get around the solubility problem, although at higher cost, urea and potassium nitrate are used."

Since potassium nitrate is less soluble than potassium chloride under many conditions of liquid fertilizer use, this appears to be a questionable statement. From information in the literature, plus our own studies, we would consider potassium nitrate a material with little or no advantage as a constituent of liquid mixes, rather than "a boon to liquids manufacturers" as claimed by your writer.

Potassium nitrate has a high temperature coefficient of solubility. Be-

cause of this it gives higher solubility than potassium chloride at summer temperatures for some formulations. However, the industry generally considers 32° F. as the criterion for salting-out temperature. At this temperature potassium chloride is superior in practically all systems reported in the literature.

It would be helpful to have data on the system  $\text{CO}(\text{NH}_2)_2\text{-NH}_3\text{-H}_3\text{PO}_4\text{-KNO}_3\text{-H}_2\text{O}$  to compare with the standard system  $\text{CO}(\text{NH}_2)_2\text{-NH}_3\text{-H}_3\text{PO}_4\text{-KCl-H}_2\text{O}$ . As far as we know such data are not available. If you know of such a study we would appreciate information on it very much.

Potassium nitrate has another serious handicap. Since it supplies nitrogen, it raises the minimum  $\text{N:P}_2\text{O}_5$  ratio in liquid mixes. In neutralizing phosphoric acid, the amount of ammonia required gives a 1:3  $\text{N:P}_2\text{O}_5$  ratio in the neutralized solution. If more nitrogen is added as potassium nitrate, then a 1:3  $\text{N:P}_2\text{O}_5$  solution cannot be made. In fact, some 1:2 ratios would be ruled out; for example, a 5-10-10 could not be made.

Potassium compounds which have more promise are potassium hydroxide and potassium phosphate. These do give higher solubility than potassium chloride, and potassium hydroxide is used currently in making grades higher than can be made with standard materials. The cost is high, however.

There may be some confusion from the use of potassium nitrate in water-soluble solid mixtures. These are made up and sold as specialties, mainly to the home and garden trade. The potassium nitrate helps in getting a high analysis mix; any reduction in solubility is not a handicap because the buyer uses a large excess of water in dissolving it.

A. V. SLACK, Chief  
Program Development Staff  
TVA, Wilson Dam, Ala.

## Lemmon Profile Well Done

DEAR SIR:

You are to be congratulated on the Personal Profile on Allen B. Lemmon. Mr. Lemmon is held by the agricultural chemical industry in such high esteem that a profile written on him must indeed be well done. You have certainly met the test in your very human, kind, and favorable report on him. I consider this an example of the highest type of journalism.

R. L. LUCKHARDT  
Supervisor, Technical Service  
Collier Carbon & Chemical Corp.  
Brea, Calif.