NOTES

COMMENTS ON THE QUESTION "DO LEGUME LEAVES HASTEN THE CURING PROCESS BY PUMPING MOISTURE FROM THE STEMS?"

I note that the question, "Do legume leaves hasten the curing process by pumping moisture from the stems?" has been discussed by C. J. Willard in the May, 1926, issue of this Journal. Since the author questions a statement in my book on "Crop Production and Soil Management"1 I would like to raise the following points:

1. In a discussion, from the physiological standpoint, of the continued loss of moisture through the leaves, attention should be given in addition to a continuance of transpiration through the stomata. A very considerable loss of moisture also takes place through the entire leaf surface and, of course, the leaf surface is much greater than the stem surface—another reason for maintaining the leaves.

2. When fresh leaves or stems are clipped, the stubs continue to exude moisture or "bleed." This is, of course, not representative of field conditions for no mowing or raking machinery treats the leaves in this fashion. If leaves and fine stems are allowed to dry rapidly, does not a practical sealing occur at the base of the leaf or in the stem under field conditions? Apparently Mr. Willard does not make allowance for losses from the fresh cuts.

3. Conditions existing in the ordinary laboratory are not representative of field conditions.

4. Five stems is an unusually small number on which to base conclusions.

5. A study of the data presented shows such confliction of results that a definite conclusion is impossible, except that the field offers room for much additional work.

6. From a practical standpoint there is no doubt that the curing of alfalfa, sweet clover, and practically all legume hays in windrows or cocks retains the leaves and gives a much better quality of hay of much higher feeding value.

7. There are now three makes of left-hand, side-delivery rakes which work against the heads of the stems in the swath, throwing the