

## DISCUSSION BY PAUL E. HOUGH

This paper, describing the steps leading to a revised classification scheme for workers' compensation farm risks in California, represents an important contribution to the California farm industry. However, in a more general sense the work is significant as an illustration of how several disciplines can come together to create an improved product. The efforts of the government, the farm industry and the insurance industry, as well as survey specialists, have been merged to create a result greater than each participant's separate contribution.

I was pleased to note the use of talent external to the insurance industry in the development of a new insurance rating structure. Too often, it seems we in the insurance business take the narrow view that only our industry or our company should perform the necessary data gathering and analysis when in fact that may be the most inefficient approach to take. How many times have we burdened our statistical plans with added information requests when that was the most cumbersome and disruptive way we could have satisfied our data needs. In this case, a mail sampling of risk information provided the necessary additional data for a change in an existing rating system.

I was surprised to note that none of the reasons cited for conducting the revision in farming classifications—the movement to larger farms, new methods of farming, and new farm machinery—were directly reflected in any of the new classifications. This is partially because, and as the paper states, the designers of the study expected that crops would remain as the basis for the revised farm classes. Also there were credibility and sample response concerns that required a limitation on the extent of research into additional classification criteria. With our mandatory workers' compensation experience rating plan for larger risks we can hopefully count on it to respond to those criteria we might have lost by necessarily limiting the study's scope.

I could not help but wonder if we were not looking at an approach that is only feasible in workers' compensation with its centralized and individual risk files of experience. Certainly the general methodology is applicable to other compensation states whose classifications are of sufficient size to justify the expense of this kind of an undertaking and hopefully the paper will spur this kind of activity. It would seem that for other lines, where we must link up individual risk experience with risk characteristics not recorded, we must look to the individual companies to pool their results for the good of an im-

proved industry classification plan. I believe this approach will work in a few remaining lines but with the shift to independence in private passenger automobile, homeowners, and commercial package insurance, workers' compensation remains as one of the few lines of sufficient volume where the use of survey data in conjunction with insurance statistics can be a viable method for the development of the new classification plans.

There are a few concerns that I have noted that taken together would not have changed the resultant California farm classes and their pure premiums with the extensive averaging and judgment involved in their selection. However, they are worthy of comment.

1. The conclusion is drawn that "there is no serious bias in the insurance characteristics of the sample of responding farms, beyond the inherent bias that results from the disproportionate stratified sampling plan" and it is supported by the fact that the difference in pure premiums between the responding and non-responding farms is a mere 3%.

It is apparent that a greater difference would have been evident had some correction been made for the fact that a higher questionnaire return rate was generated through a telephone follow-up on three of the five farm classes under revision. Their combined average pure premium was nearly double that of the classes where no telephone contact was made and thus the responding farms' pure premiums are correspondingly higher. Had some correction been made for this artificial high frequency of response in the high pure premium classes more of a response bias would have been indicated.

2. The authors note that the disproportionate sampling plan did not create a true cross-section of California farms and though one could have been statistically constructed it was "not essential for comparing the relative hazard among classifications".

There is an unwarranted assumption that I believe we tend to make in the audited lines, and it is that pure premiums tend to be independent of exposure size. It is observed in the workers' compensation line that results on a standard basis for the smaller risks are relatively poor and although it may be that the non-application of the experience rating plan to these small risks may contribute to this fact, it seems that in the main what we are seeing is a real difference in the risk. Just because one risk has one-tenth the pay-

roll of another within the same classification, it is not necessarily a small scale replica of the large one. My point here is that by not restructuring a true cross-section with each class, we may very well be adding further bias to the study.

3. No mention is made of whether the separate policy year losses of the various hypothetical classification systems were put on a common benefit level. If this were not done, the distortion would only exist in those classes whose exposure is either increasing or decreasing much more rapidly than all the farm classes combined.

In conclusion, I would like to thank the authors for taking time to write up the step-by-step approach taken to respond to the concerns of a growing industry. It is a reminder to all of us to be cognizant of the dynamic society within which the insurance industry plays its part and have us in turn respond with new and imaginative approaches to society's ever-changing needs.