A FARM FAMILY AND HAZARD SURVEILLANCE PROGRAM FOR CASH GRAIN FARMERS IN OHIO



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A multiple-phase, population-based health and hazard study of Ohio cash grain farmers and eligible family members is described. The project was designed as a five-year collaborative effort between Ohio State University, CDC/NIOSH, and the State of Ohio. In Phase 1 of the project period, which is now underway, a stratified random sample of 6,480 cash grain farms will be selected from a comprehensive statewide roster, with stratification by size of farm (in acres). A mixed-mode survey (i.e., a self-administered, mailed questionnaire, with telephone follow-up of mail non-respondents) will then be conducted to obtain relevant health and hazard data. The content of the questionnaire and its design will be modeled to a great extent after NCHS' National Health Interview Survey, a national health survey of the civilian non-institutionalized population of the United States. In Phase 2, a subsample of eligible Phase 1 respondents whose farms are located in the 20-county central Ohio area will be invited to participate in a program of nurse-conducted, in-home physical examinations and on-farm hazard assessments. Procedures employed for collection of the Phase 2 health data will be modeled after NCHS 's Third National Health and Nutrition Examination Survey (NEANES III). To the extent possible, the collection of the Phase 2 hazard data will be modeled after NIOSH's National Occupational Exposure Survey. With respect to the collection of the Phase 2 health data, attempts will be made to recruit 624 farm families. For each eligible and participating household member, the following procedures will be performed by a specially trained public health nurse according to a standardized protocol: spirometry, audiometry, and measurement of height, weight and blood pressure. With respect to the (concurrent) collection of Phase 2 hazard data from the same subsample of farms, a specially trained, two-person Hazard Technician team will conduct on-farm hazard assessments to obtain (qualitative and quantitative) information on work-related risk factors. In Phase 3, a sample of farm operators will be asked to participate in a program of personal exposure monitoring, with a focus on noise and airborne exposure to dust and selected pesticides. One data collection effort in Phase 3 will involve attempts to collect pesticide exposure data from all residents in the participating domiciles by monitoring levels of selected urinary metabolites. In addition to the urinary metabolite analyses, airborne levels of exposure experienced by the operator/applicator will be monitored by air sampling pumps as in Phase 2, and, in addition, by application of passive dosimetry techniques.

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