OMICS Group Conferences
Accelerating Scientific Discovery
2nd International Conference and Exhibition on
Occupational Health & Safety
May 21-22, 2013 DoubleTree by Hilton Beijing, China

Hazard exposure of farmer during work in Korea

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Agriculture is one of the most dangerous industry like construction, mining. The high rate of agricultural injury and disease comes with various type of work hazard, type of which is musculoskeletal risk factor, slip/fall/trip, organic/inorganic dust, pesticide, ultraviolet ray, heat stress, vibration, agricultural machine, etc.

Musculoskeletal risk factor, organic dust, pesticide is most common hazard among these hazard and many institutes have conducted lots of research such as exposure assessment, epidemiology study, surveillance for injury and disease for musculoskeletal risk factor and organic dust. Rural development administration has conducted exposure assessment for these hazards for Korea farmers since 2006, using the method that has used by industrial hygienist.

About musculoskeletal risk factor, the assessed type of farm was potato, tobacco, peach, mandarin. The checklist like REBA and RULA was used after taking motion picture of farmer who works in each task. As result, posture of potato and tobacco farmer was more risky than other farm type. Especially, seeding and harvesting task was most dangerous with squatting posture. In orchard, all the tasks have risk factor with shoulder, neck.

The dust exposure for area sample and personal sample was assessed with the same farm type and task like musculoskeletal risk factor. The harvest task showed the highest exposure level and the exposure level of peach and mandarin was low comparing the task of potato and tobacco.

The personal exposure was higher than area exposure in Korea farm task. This result means that the main source of dust is not the environment sources but the farmer's action such as digging and stripping of potato during harvest, which is very different from dust exposure pattern of 2nd industry like shipbuilding, paper industry.

As a result, the exposure pattern of agricultural musculoskeletal risk factor and dust was very different from 2nd industry and suggest that the way for reduction of exposure of hazard should be designed unlike the way used in 2nd industry.

Acknowledgement: *This study was carried out with the support of "research program for agricultural science & technology development (Project No. PJ006483), National Academy of Agricultural Science, Rural Development Administration, Republic of Korea.*

Biography

Hyocher Kim has completed his MPH at the age of 28 years from Seoul National University School of Public Health. He has been the researcher of National Academy of Agricultural Science, one of the agricultural institutes of RDA (Rural Development Administration) since 2002. He has conducted research about exposure assessment of agricultural work hazard and intervention tool. As result, he published and joined more than 30 papers in journals related to occupational safety and health and have developed more than 20 ergonomic tools and personal protective equipments such as pesticide protecting cloths for orchard farmer and serving as an agricultural safety and health intervention advisory board member of RDA since 2006.

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