１０　紹　　介

（雑誌等）

埼玉県衛生研究所の業務紹介 －食品検査（理化学，微生物及び放射能検査）を中心に－

石井里枝　島田慎一　吉田栄充

理化学分野，微生物分野及び放射能分野を担当している水・食品担当，食品微生物担当及び生体影響担当で実施している食の安全・安心に関わる取組みを紹介した．

それぞれの分野に共通する収去検査の実施内容について紹介したほか，理化学分野では埼玉モデルと言われる県内産農産物スクリーニング検査，保健所へ相談のあった苦情食品の理化学的原因究明のための検査，厚生労働科学研究費補助金事業及び産官学連携研究事業等の研究内容について述べた．微生物分野では食中毒の原因究明検査として，近年の発生は珍しいが，広域に発生した腸炎ビブリオ食中毒事例や全国的にも増加傾向にあるアニサキスによる食中毒事例等を含む平成30年度の発生状況等について概説した．放射能検査では日常食，加工食品，原木栽培ナメコ中の放射性セシウム濃度，梨の摘果果実と成熟果実中の濃度相関等の研究内容について紹介した．

Foods and Food Ingredients Journal of Japan: 225 (1), 12-20 (2020)

Selective media and real-time PCR assays for the effective enterotoxigenic *Escherichia coli* in vegetables

Kayoko Ohtsuka　Kozue Hoshino[*1]　Natsuko Kadowaki[*2]　Misa Ohsaka[*3]　Noriko Konishi[*4]　Hiromi Obata[*4]　Akemi Kai[*4]　Jun Terajima[*5]　Yukiko Hara-Kudo[*5]

This study aimed to evaluate ETEC detection methods focusing on the major serogroups (O6, O25, O27, O148, O153, O159, and O169) with steps of enrichment, isolation, and real-time PCR targeting genes encoding the heat-labile enterotoxin (LT) and heat-stable enterotoxin (ST). Twenty ETEC strains were formed colonies typically representing *E.coli* on sorbitol MacConkey agar and Shiga toxin-producing *E.coli* on CHROMagar STEC base agar. The minimum detection levels for real-time PCR assays targeting LT and ST genes were 1.9-3.1 log CFU/mL of vegetable modified *E.coli* broth (mEC) culture. Vegetables inoculated with 2.0 log CFU/g ETEC were cultured in mEC, and then ST and LT genes were detected in the culture by real-time PCR assays at low threshold cycle values; further, ETEC in the culture was isolated by plating on agars.

LWT-Food Science and Technology：114,108409 (2019)

[*1] present Kazo Public Health Center
[*2] present Meat Inspection Center
[*3] present Sayama Public Health Center
[*4] Tokyo Metropolitan Institute of Public Health
[*5] Division of Microbiology, National Institute of Health Science

A nationwide survey of volatile organic compounds including volatile methylsiloxanes in indoor air from Japanese residential houses using sorbent tube/thermal desorption GC/MS

Takekuma M　Horii Y[*1]　Motegi M[*1]　Kikuta K[*2]　Hasegawa K[*3]　Takeuchi J[*3]　Honma Y[*4]　Yan S[*4]　Yamada H[*5]　Hayashi M[*6]

Silicone products such as building materials, electronic devices, medical supplies, kitchen supplies and cosmetics are made of volatile methylsiloxanes (VMS), and are excellent in heat and cold resistance, electrical insulation, water repellency and defoaming properties. On the other hand, persistence in the environment, bioaccumulation, and toxicity of VMS have been reported recently. D4, D5 and D6 have been registered on the REACH SVHC candidate list in 2018. However, very limited information is reported on VMS in Japanese indoor air. To investigate occurrence and behavior of VMS in residential house, in this study, sampling method including sample transportation and storage and determination of VMS in indoor air using sorbent tube/thermal desorption (TD)-GC/MS were examined. Moreover, we investigated the occurrence of cyclic and linear VMS along with 45 common volatile organic compounds (VOCs) in indoor air collected from Japanese residential houses.

D4, D5 and D6 were detected at relatively high concentrations in the living rooms with the ranges of <0.33-30 μg/m^3, 0.60-1,042 μg/m^3 and <0.33-158 μg/m^3, respectively. The maximum concentration of VMS was in the order of D5 > D6 > D4 > D3 > L6. In some cases, the ratio of VMS to total volatile organic compounds, which is an indicator of indoor air quality level, tended to increase. In this study, several indoor air with the maximum concentration at 1,201 μg/m^3 exceeded the precautionary value of Germany, but lower than the health hazard value. The VMS measured widely varied in each house depending on the sampling date and time, even in the same house, suggesting the concentrations of VMS were influenced by the lifestyle and use of personal care products in each residence. Further investigations including daily variation of VMS in indoor air with the application of personal care products are needed.

Residents spend most of their lifetime in their house and can be exposed by indoor air. Based on the average staying time and corresponding inhalation volume for Japanese people and median concentrations of VMS, daily exposure rates of VMS in indoor air were preliminary estimated. Assuming 50 kg body weight for adult, the exposure rates of D4, D5, D6 and sum of VMS were 0.10, 4.1, 0.12 and 5.3 μg/kg body weight per day, respectively.

Organohalogen Compounds: 81, 542-545 (2019)

---

*1 Center for Environmental Science in Saitama

*2 Hokkaido University

*3 Akita Prefectural University

*4 Miyagi Gakuin Women's University

*5 Nagasaki Institute of Applied Science

*6 National Institute of Public Health