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**OB-01****New delivery of carrot vaccines : oral enteric diseases vaccine induces lactogenic immunity in swine**

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In the last decade, plant biotechnology has emerged as a promising strategy that combines innovations in medical science with novel protein biomanufacture as a means to create affordable protein pharmaceuticals. The plant-expressed antigen induces to generate protective antibodies in orally immunized animals. We had expressed a Pilin and FasG of enterotoxigenic *e. coli* K88ac and 987P, and also FljB of *salmonella choleraesuis* in carrot, and their efficiency as vaccines had been evaluated by applying them to mouse and piglet. The results suggested a possibility of the transgenic carrot as vaccine against enteric diseases. Due to the practical difficulties in oral immunization against the enteric pathogens in newborn animals, a lactogenic immunity is explored to test the passive immunization to protect new born mammals against pathogens by active immunization of their mother. The piglets fed with the transgenic carrot vaccine showed a decrease in diarrhea occurrence resulted from 987P and *salmonella choleraesuis* comparing to control piglets receiving non-transgenic carrot. The results indicated that an active immunization of the female parent through oral delivery of vaccine plant could induce a passive immunization of the offsprings. Thus, this vaccine candidate is effective at boosting lactogenic immunity and is appropriate to pursue through large-scale field trials preceding commercialization.

**OC-01****Development of prediction model of anthocyanin contents by NIRS in black colored soybean**

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Near infrared reflectance spectroscopy (NIRS) is a rapid and accurate analytical method for determining the composition of agricultural products and feeds. This study was conducted anthocyanin contents in black colored soybean by using NIRS system. Total 300 seed coat of black colored soybean samples previously analyzed by HPLC were scanned by NIRS and over 250 samples were selected for calibration and validation equation. A calibration equation calculated by MPLS(modified partial least squares) regression technique was developed in which the coefficient of determination for anthocyanin pigment C3G, D3G and Pt3G content was 0.945, 0.872, and 0.784, respectively. Each calibration equation was applied to validation set that was performed with the remaining samples not included in the calibration set, which showed high positive correlation both in C3G and D3G content file. In case Pt3G, the prediction model was needed more accuracy because of low R2 value in validation set. This results demonstrate that the developed NIRS equation can be practically used as a rapid screening method for quantification of C3G and D3G contents in black colored soybean.