

Analysis of Pork Extracts by Taste Sensing System and the Relationship between *Umami* Substances and Sensor Output

Keisuke Sasaki*, Fumio Tani¹, Katsushi Sato², Hidekazu Ikezaki³,
Akira Taniguchi³, Tadasu Emori⁴, Fumiyuki Iwaki⁵,
Koichi Chikuni and Mitsuru Mitsumoto

National Institute of Livestock and Grassland Science
2 Ikenodai, Tsukuba, Ibaraki 305-0901, Japan

¹Tokushima Livestock Hygiene Service Center
5-94 Minamishomachi, Tokushima, Tokushima 770-0045, Japan

²Anritsu Co., 1800 Onna, Atsugi, Kanagawa 243-0032, Japan

³Intelligent Sensor Technology, Inc., 1800 Onna, Atsugi, Kanagawa 243-0032, Japan

⁴Chiba Prefectural Livestock Experimental Station,
16-1 Yachimata-He Yachimata, Chiba 289-1113, Japan

⁵Hyogo Prefectural Agricultural Institute, Befucho, Kasai, Hyogo 679-0103, Japan

(Received October 2, 2004; accepted May 9, 2005)

Key words: taste sensor, pork extract, *umami*-related substance

We investigated the application of a taste sensing system to the analysis and evaluation of a water extract prepared from the *longissimus* muscles of six breeds of pork. We selected sensor probes that discriminate among the different pork breeds and applied the output data from selected sensor probes to principal component (PC) analysis. Then the PC scores were used in a correlation analysis with the concentrations of the *umami*-related substances in pork extracts. We found that sensor output was related to the concentrations of the *umami*-related substances.

*Corresponding author, e-mail address: ksuk@affrc.go.jp