

content was not significantly different, pH of *Doenjang* made with *P. japonica* was lower than control group and decreased continuously according to the fermentation time. Amino nitrogen continuously increased till 60 days and decreased slightly on 90 days. Value of L, a, b in Color decreased with proportion to fermentation period and L, a, b value of *Doenjang* made with *P. japonica* was lower and in particular that of *Doenjang* made with *P. japonica* powder was lowest. From the result of sensory evaluation test, the color of control group was similar to “yellow” but that of *Doenjang* made with powder of *P. japonica* was close to “dark brown” and that of *Doenjang* made with extract of *P. japonica* was darker than that of control group and the preference of dark color was low. Texture was “glossy and smooth” in all and preference was high. In salty taste, *Doenjang* by *P. japonica* addition was stronger and *Doenjang* made with extract was stronger than that made with powder. *Doenjang* made with powder of *P. japonica* was weaker than other groups in sweet taste. In flavor and overall preference, *Doenjang* made with *P. japonica* was scored lower slightly in than control group and *Doenjang* made with powder of *P. japonica* was the lowest in score.

Key words : *Paecilomyces japonica*, *Doenjang*, Quality Characteristics, Extraction, Sensory evaluation

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누에 동충하초(*Paecilomyces japonica*)를 첨가하여 제조한 고추장의 품질특성 변화에 관한 연구

방혜열 · 박무현* · 홍은영 · 김연경 · 김건희
덕성여자대학교 식품영양학과, *한국과학기술정보연구원

Change in quality properties of the *Kochujang* prepared with the powder of *Paecilomyces japonica* and extract of *P. japonica* by different solvents were investigated during 90 days of fermentation at 20°C. The moisture content was not significantly different, pH of *Kochujang* made with *P. japonica* was lower than control group and decreased continuously according to the fermentation time. Amino nitrogen continuously increased till 60 days and decreased slightly on 90 days. Amino nitrogen of *Kochujang* made with *P. japonica* was higher than control group and was highest on 30 days and 60 days by 179.2mg% and 282.2mg% respectively. Value of L, a, b in Color decreased with proportion to fermentation period and L, a, b value of *Kochujang* made with *P. japonica* was lower and in particular that of *Kochujang* made with *P. japonica* powder was lowest. From the result of sensory evaluation test, the color of control group was similar to “clear red” but that of *Kochujang* made with powder of *P. japonica* was close to “dark reddish brown” and that of *Kochujang* made with extract of *P. japonica* was darker than that of control group and the preference of dark color was low. Texture was “glossy and smooth” in all and preference was high. In salty taste, the *Kochujang* by *P. japonica* addition was stronger and *Kochuung* made with extract was stronger than that made with powder. In hot taste, the *Kochujang* made with *P. japonica* was weaker than control group and the *Kochujang* made with *P. japonica* was scored higher in flavor than control group and *Kochujang* made with powder of *P. japonica* was the highest in score. In overall preference, the *Kochujang* made with *P. japonica* was better than control group like the result of flavor but especially *Kocujang* made

with water extract of *P. japonica* among the extract was best one unlike the result of flavor.

Key words : *Paecilomyces japonica*, *Kochujang*, Quality Characteristics, Extraction, Sensory evaluation

[P-104]

유통쌀의 품질유지를 위한 포장기술에 관한 연구

김훈, 이세은, 김동철, 김상숙, 금동혁¹
한국식품개발연구원, ¹성균관대학교

본 연구는 국내 유통쌀의 포장재로 널리 이용되고 있는 지대포장재와 합성수지계열의 PE 및 AL포장재의 저장기간에 따른 품질특성을 구명하고, 포장재의 투습도 5~700g/m²범위의 4수준에 대하여 함수율, 중량 및 지방산가의 변화를 측정하여 포장재의 적정 투습도를 결정하는데 목적이 있다.

지대, PE 및 AL포장재의 저장 4주 후의 중량은 7.8, 0.1 및 1.5%감소하였으며, 함수율은 지대포장의 경우 3.7%(w.b.)감소하였다. 지방산가는 저장 4주 후에 지대포장은 9.4, PE포장재는 42.0, AL포장재는 16.8(mg KOH/100g)로 나타났다. 저장온도 20 및 30℃에서의 포장재 투습도에 따른 중량, 함수율 및 지방산가의 변화를 고려했을 때 130~210g/m²이 적절한 것으로 나타났다.

[P-105]

가정용 냉각쌀통을 이용한 쌀의 저온저장특성

김의웅, 김 훈, 김동철, 이세은
한국식품개발연구원

가정에서는 쌀을 소비할 때 외기 조건 특히, 하절기와 같이 외기 온도가 높을 경우 함수율 감소, 지방산가 증가 및 해충발생 등 품질 손상이 급격히 발생한다. 따라서, 가정에서 쌀을 소비할 때 쌀의 품질을 가능한 낮춰 안전하게 저장하는 방법이 필요하다.

본 연구는 가정용 냉각쌀통을 이용하여 저온에서 쌀을 저장하면서 저장기간 중 품질변화를 측정하여 저온저장특성을 구명하는데 목적이 있다. 가정용 냉각쌀통은 매직 쌀장고(MRH-2501, Tongyang)를 이용하였으며, 대조구로 상온(25℃)에서 쌀을 14주간 저장하면서 1주일 간격으로 시료를 채취하여 함수율, 지방산가, 색도 및 표면변화를 측정하였다. 저장기간이 경과함에 따라 쌀의 함수율은 냉각쌀통의 경우 1.5%(w.b.), 상온저장의 경우 2.1%(w.b.)가 감소하였다. 지방산가는 냉각쌀통에서 저장 14주 후 15.1(mg KOH/100g)로 나타났고, 상온저장에서는 8주 후 24.2, 14주 후에는 40.9(mg KOH/100g)로 급격히 증가하였다. 쌀의 색도는 저장기간이 경과함에 따라 증가하는 경향으로 나타났으며, 상온저장이 냉각쌀통에 비해 현저히 높게 증가하였으며, 저장 8주 후부터는 유의적인 차이를 나타내었다. 쌀의 표면에 세포벽은 냉각쌀통에 비해 상온저장에서 저장기간이 경과함에 따라 뚜렷하게 나타났다.