

Title Drying condition and qualities of rapeseed and sunflower
Author Kanai G.,Kato H.; Umeda N., Okada, K. and Matsuzaki M.
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Abstract

We examined drying condition and its effects on qualities of rapeseed and sunflower, especially on oil qualities as measured by POV (peroxide value), AV (acid value) and color of oil. Initial moisture contents for rapeseed (Norin-48, Kirariboshi) were 38.7% w.b., 31.1% and 15.1% and for sunflower (Pioneer 63M80, Harurinzo) 31.5% w.b. and 15.8%. Each sample was dried unheated in a ventilation dryer for 24 hr, dried in an oven at 45degC, 55degC or 65degC for 24 hr, or dried in a circulating dryer (capacity: 1t) at unheated-55degC for 11 hr. Samples were expressed for oil with a small expeller. The oil samples were examined for POV, AV and the color of oil. POV of rapeseed oil was from 0.8 meq/kg for 45degC drying with 15.1% initial moisture content to 10.8 meq/kg for 65degC with 38.7% initial moisture content. POV of sunflower oil was from 1.9 meq/kg for 45degC drying with 15.8% initial moisture content to 6.8 meq/kg for 65degC with 31.5% initial moisture content. The early harvested rapeseed dried under higher temperature conditions had not only low oil quality measured by POV but also a green color stemming from chlorophyll. For AV a tendency that grain with higher moisture contents had higher AV was implied. According to the results, to avoid the degradation of oil quality the grain should be mature and initial moisture contents low enough to prevent deterioration; if the harvested rapeseed or sunflower grain have high moisture content, drying at lower temperatures is better to maintain the qualities of oil.