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The Effects of Liquid-coating Mulch Spray on Growth and Undersoil Temperature in Komatsuna Greens (*Brassica rapa*)

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This experiment was intended to examine the effects of a black liquid mulch spray on the growth and yield of Komatsuna greens. Four treatments (1, 0.5, 0.2, and 0.1 g/m²) were tested in combination with seeding date (Sep. 21st, Oct. 10th, and Nov. 10th in an open field and the Jan. 22nd in a plastic film house). As a result, we

mulch increased yields of Komatsuna greens, unrelated to the spray daily highest soil temperature (–5 cm) under the mulching exceeded treatment however the daily lowest temperature were less than control seeding at Sep. 21st. These phenomena were remarkable in the early the differences in temperature between the control and mulch treatment during the growth. There was no significant difference in the hourly- during the first 10 days between the 4 treatments on same seeding date suggest that the expansion of the daily soil temperature range contributed to the yields of Komatsuna greens.

Key Words: [daily temperature range](#), [heat radiation](#), [cumulative temperature](#), [undersoil temperature](#), [minimum undersoil temperature](#)

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