

Interactive comment on “Technical note: Methionine, a precursor of methane in living plants” by K. Lenhart et al.

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General evaluation In this manuscript the authors describe experiments designed to test whether methionine can be a source of methane production in plants. The experiments appear to have been well carried out, the presentation is clear and the results are convincing – when plants are incubated with labelled methionine the label does appear in released methane and more so during stress. The authors are also careful to make the point in the discussion that free methionine does not have to be the source in vivo, it could be protein-bound methionine (or probably both depending on conditions?) as previously suggested by Bruhn et al. (2012). Specific comments There is an unfortunate tradition to use the units ng, mg or g when talking about amounts of greenhouse gases. The only unit that makes chemical and biological sense, especially

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when comparing the amounts of two gases (e.g., CO₂ and methane) is moles. I can accept that the data are also given as ng or mg. The authors have recognized this as they use molar ratios when comparing CO₂ and methane emissions, but even here the results are given as “a pmol/μmol” (picomoles/micromoles) where it should be “a × 10⁻⁶” (and no unit), which I suppose could be called “molar ppm”? Technical corrections Page 16088 line 20 lavender should be written with lower case Page 16093 line 21 5-fold should be 4-fold Page 16094 line 20 “increase of CH₄ emissions” should be “increase in CH₄ emissions” Page 16095 line 18 5-fold should be 4-fold Page 16097 line 25 “we did not to scan” – delete “to”

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