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David Irwin (irwin.315@osu.edu) and **Tao Jiang*** (jiangt@miamioh.edu), Dept. of Mathematics, Miami University, Oxford, OH 45056. *Turan numbers of linear sunflowers.*

An s -sunflower with core C is a collection of sets A_1, A_2, \dots, A_s such that $\forall i, j, i \neq j, A_i \cap A_j = C$. A linear s -sunflower is an s -sunflower whose core has size 1. Let $f(n, r, s)$ denote the largest size of a r -uniform set family on n elements that does not contain a linear s -sunflower. For all $r \geq 5$ and $s \geq 2$, Frankl and Füredi determined $f(n, r, s)$ asymptotically, leaving open the asymptotics of the 4-uniform case. Chung and Frankl determined the exact value of $f(n, 3, s)$, for all sufficiently large n . Here we solve the problem completely for all sufficiently large n , that is, we determine the exact value of $f(n, r, s)$ for all $r \geq 4, s \geq 2$, and sufficiently large n . Like in Frankl and Füredi, our main method is the delta system method. However, the 4-uniform case requires a combination of different methods. (Received August 11, 2015)