An $s$-sunflower with core $C$ is a collection of sets $A_1, A_2, \ldots, A_s$ 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 Furedi 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 Furedi, our main method is the delta system method. However, the 4-uniform case requires a combination of different methods. (Received August 11, 2015)