For a smooth projective algebraic variety $X$, $\alpha(X) > 0$ is a measure of the size of the dual to the cone of effective divisors on $X$. If $X$ is a surface, $\alpha(X)$ measures the size of the nef cone of $X$. Manin’s conjecture predicts an asymptotic expression for the number of rational points of bounded height on $X$, in which the constant $\alpha(X)$ appears. Values of $\alpha(X)$ were found by Derenthal for split Del Pezzo surfaces, and also for split generalized Del Pezzo surfaces using a computer calculation. We reproduce and extend these results without a computer both via an inductive method and by using the action of the Weyl group on the nef cone. (Received September 18, 2006)