Wide scale thickness and field-driven evolution of magnetization distributions in ultrathin magnetic films was recently studied. It was shown that the sinusoidal-like domains appearance shifts the reorientation phase transition (RPT) aside the smaller values of \(Q = \frac{K_1}{2M_s^2}\) the relation between anisotropy and demagnetizing energies. Here, by micromagnetic simulations and analytically we study the magnetic states of laterally infinite ultrathin films of different values of \(Q\) and \(K_2\) (the second anisotropy constant). We show that influence of positive \(K_2\) results in a prolongation of the stability region of the sinusoidal domain structure and in an additional shift of \(Q\) determining the RPT. The metastability states coexistence of the in-plane and perpendicular magnetic phases, were studied for negative values of \(K_2\). Domains sizes and domain phases liability boundaries were determined.