Quinoa (*Chenopodium quinoa* Willd.) is a pseudo-cereal that is being cultivated in Andean region since 3000 BC. Increased interest has been recently shown in this plant species worldwide (and especially in Europe) since it was found that quinoa seeds represent very interesting functional food and nutraceutical due to lack of gluten, high protein content with abundance of all essential amino acids, and a wide range of vitamins and minerals. *Ch. quinoa* also belong to the limited number of plant species in human diet having capacity to produce phytoecdysteroids (PEs). These substances are considered as plant secondary metabolites, which protect plants against non-adapted insects and nematodes. Regarding mammals and humans, PEs attract great attention for their potent pharmacological and medicinal properties including antibacterial, antifungal, antidiabetic, antosteoporotic, performance-enhancing and wound healing effects. The aim of this study was to investigate the dynamics of PEs content in the selected twelve varieties of quinoa originating from Bolivia (9 varieties) and Peru (3 varieties) during early stages of its ontogenesis - the first four days of quinoa vegetative development - germination. It is known that this developmental process of plant, as well as other physiological processes *in planta*, are mainly driven by some plant signalling molecules like plant hormones. Plants’ intricate signalling networks are further complicated by links and interactions with synthesis and metabolic pathways of secondary metabolites. To study these interactions, we performed LC-MS based targeted profiling PEs as the representatives of secondary metabolites together with profiling gibberellins, a group of plant hormones playing indispensable role in seed germination. Presented work represents a pilot survey focused on crosstalk between these two groups of endogenous terpenoid compounds.