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Sommario/riassunto	The new millennium has seen a major paradigm shift in insect endocrinology. Great advancements are being made which establish that nutrition and growth play a central role in diverse cellular and physiological phenomena during insect development and reproduction. Nutrition affects rates of growth and is mainly regulated by the function of the pathway of insulin/insulin-like growth factor signalling. This pathway is highly conserved across species and ultimately regulates rates of cell growth and proliferation in growing organs. Insulin and insulin-like peptides (ILPs) are some of the best studied hormones in the animal kingdom and all share a common structural motif and initiate a wide range of closely similar physiological processes in higher organisms. In insects, nutrition, via circulating sugar, promotes release of ILPs from brain neurosecretory cells into the haemolymph, which act on peripheral tissues and stimulate protein synthesis and cell growth. Therefore, insect ILPs are common mediators between nutrition and growth in insects and are functionally analogous to mammalian insulin. The 1980s and 1990s witnessed great progress in elucidation of the

physiological and molecular mechanism of action of numerous insect hormones involved in regulation of growth, development, reproduction and metabolism. But the signals for the initiation or termination of controlled events remained largely unknown. ILPs were first identified from the silkmoth Bombyx mori and were named bombyxins, but related peptides were soon found in numerous species and their functions elucidated. The insulin signalling pathway is now recognized as a central factor in the timing of cell proliferation, growth, longevity, reproduction, and reproductive diapause, as well as social behaviour. Recent work has revealed that the insulin signalling pathway is closely integrated with that of various other hormones, including ecdysteroids, the juvenile hormones and neuropeptide(s) such a prothoracicotropic hormone. In addition, the pathway is also linked with both circadian (daily) and photoperiodic (seasonal) clocks potentially providing a basis for its timing function. This Research Topic aims to provide the only current collection of recent advances on insect ILPs.