Lefschetz properties for q-polynomial rings

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The Lefschetz properties are defined for graded Artinian commutative rings, and they are studied actively by many researchers especially in the last twenty years. The q-polynomial ring is a non-commutative ring that has relations such as $xy = qyx$. Among important theorems of the Lefschetz properties this talk picks up, for example, "tensor product theorem", "subring theorem", "reduction of SLP to WLP", and we show their analogues in q-polynomial rings. We also give some comments on theorems that we can not prove their q-analogues.