**Table** **5.5.** The advantages (left column) and disadvantages (right column) of RNA interference in the context of controlling invasive alien species

Summarized from information in Vogel *et al*. (2019)

|  |  |
| --- | --- |
| Advantages | Disadvantages |
| Exogenous RNA interference does not use a genetically modified technology (free of genetically modified regulatory requirements in most jurisdictions) | Endogenous RNA interference use required genetically modified targets (Subject to genetically modified regulations); exogenous RNA interference may require regulatory review in some jurisdictions |
| Highly- specific and yet adaptable to many species | Limited to one target invasive alien species for each application |
| Wide range of potential target genes could be targeted | Requires an annotated genome of target for gene selection |
| Non-chemical (biological) and hence negligible impact on the environment | Poorly stable in the environment so requires an effective encapsulation and delivery mechanism |
| Likely social and has market acceptability | Likely to be expensive until biotech develops low-cost production systems |
| Target resistance development can be quickly countered through realigning RNA interference sequence to the resistance gene | Sequence homology in other species, |
| Can improve, facilitate or supplement existing strategies when used in the context of an integrated pest management strategy | Lack of uptake by some species |