

Non-grafted and grafted seedless watermelon transplants: a comparative economic feasibility analysis[©]

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SUMMARY

Most commercial watermelon producers purchase transplants from commercial greenhouse plant propagators. This study evaluated the feasibility of producing greenhouse, seedless-watermelon transplants, both non-grafted and grafted, as well as using grafted transplants to produce seedless watermelon in Washington State. Results suggest that the production of grafted watermelon transplants can be economically feasible for commercial greenhouse propagators if the transplants can be sold at more than \$0.20 per plant. This break-even price is five times greater than the break-even price of non-grafted transplants. The higher price for grafted transplants is due to the additional capital investments needed for grafting as well as the additional labor needed for grafting transplants. The extra cost of grafted transplants can be acceptable to watermelon producers if using these transplants would provide a viable alternative to field fumigation and improve crop yield. From the watermelon producer's perspective, the field utilization of grafted watermelon transplants can be economically feasible. The producer breaks even if the price of grafted transplants is about \$1.38 per plant, but if the goal is to earn a profit that is at least equal to the profit of utilizing non-grafted transplants (\$1,473 per acre), the producer would be willing to pay no more than \$0.92 per plant. Watermelon producers will choose to use grafted over non-grafted transplants primarily based on the benefits gained from the effectiveness of grafted transplants as an alternative to chemical use in managing soil-borne disease. Benefits include reduced overall costs, improved yield and maintained or augmented profit relative to using non-grafted transplants.

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