

1770 Economics of Pinkbollworm Eradication

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Pink bollworm (PBW) costs Arizona cotton growers \$9.2 million per year from lost yields, insecticide costs, and technology fees. Long-run costs and benefits of PBW eradication were examined for: Bt cotton acreage, non-Bt cotton acreage facing regular PBW infestation, non-Bt cotton facing sporadic infestation, and acreage using in-field or embedded refuges. Dynamic simulations were used to estimate the year when the net present value (NPV) of the program becomes positive (i.e. the year program benefits outweigh costs).

On acreage regularly planted to Bt cotton, the NPV of the program becomes positive 5-6 years after program initiation. For external refuge acreage facing regular, PBW infestation is external refuge acreage, the allowance to plant 100% under the eradication program increase grower returns in the program's first year. For non-Bt acreage requiring treatments two out of five years, the NPV of the program becomes positive after eleven years. For growers planting in-field or embedded refuges larger than the minimum required, it takes from 6-16 years before the program achieves a positive NPV.