

Supplementary Materials for

The Efficacy of Interventions to Protect Crops from Raiding Elephants

Appendix 1: Literature review

The 95 studies published between 1993 and 2019 that met our criteria for inclusion in this analysis of the efficacy of interventions designed to reduce elephant crop raiding.

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Appendix 2: References featured in Table 1

The intervention techniques that were cited to be effective at reducing elephant (*Loxodonta spp.* and *Elephas maximus*) crop raiding, as determined by quasi-experimental, direct observation, human perception surveys, and elephant movement path designs. These techniques were reported among 79 of 95 studies that tested the efficacy of elephant crop-raiding interventions. As numerous techniques could have been tested among any given study, the same study may appear across multiple intervention techniques.

Intervention Technique

Chili pepper approaches

- ¹Pozo, R.A., Coulson, T., McCulloch, G., Stronza, A. and Songhurst, A., 2019. Chilli-briquettes modify the temporal behaviour of elephants, but not their numbers. *Oryx*, 53(1), pp.100-108.
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- ¹⁰Von Hagen, R.L., 2018. *An Evaluation of Deterrent Methods Utilized to Prevent Crop Raiding by African Elephants (Loxodonta africana) in the Kasigau Wildlife Corridor, Kenya*. In Partial Fulfillment of the Requirements for the Degree Master of Science, Western Kentucky University.
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- ¹³Sitati, N.W. and Walpole, M.J., 2006. Assessing farm-based measures for mitigating human-elephant conflict in Transmara District, Kenya. *Oryx*, 40(3), pp.279-286.
- ¹⁴Branco, P.S., Merkle, J.A., Pringle, R.M., King, L., Tindall, T., Stalmans, M., Long, R.A., 2019. An experimental test of community-based strategies for mitigating human–wildlife conflict around protected areas. *Conservation Letters*, 13(1), p.e12679
- ¹⁵Chang'a, A., Souza de, N., Muya, J., Keyyu, J., Mwakatobe, A., Malugu, L., Ndossi, H.P., Konuche, J., Omondi, R., Mpinge, A. and Hahn, N., 2016. Scaling-up the use of chili fences for reducing human-elephant conflict across landscapes in Tanzania. *Tropical Conservation Science*, 9(2), pp.921-930.

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- ²⁰Le Bel, S., La Grange, M. and Drouet, N., 2015. Repelling elephants with a chilli pepper gas dispenser: field tests and practical use in Mozambique, Zambia and Zimbabwe from 2009 to 2013. *Pachyderm*, 56:87-96.
- ²¹Osborn, F.V. and Rasmussen, L.E.L., 1995. Evidence for the effectiveness of an oleoresin capsicum aerosol as a repellent against wild elephants in Zimbabwe. *Pachyderm*, 20, pp.55-64.
- ²²Osborn, F.V. and Parker, G.E., 2002. Community-based methods to reduce crop loss to elephants: experiments in the communal lands of Zimbabwe. *Pachyderm*, 33(32), p.e38.

Crop guarding

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