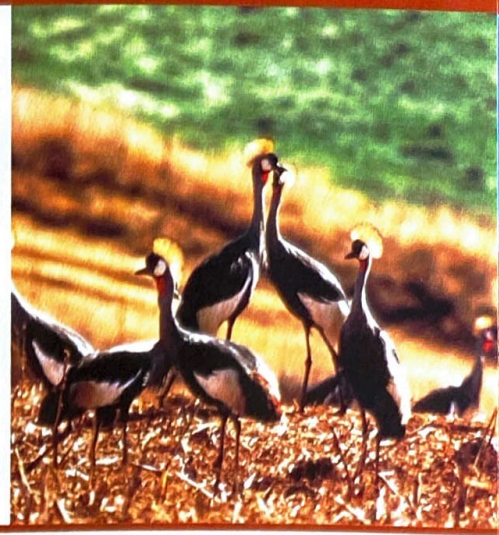


Crop Damage by cranes

6 of a 9 part brochure series



The crane conservationist not only has to contend with the negative impact of agriculture on cranes but also the negative impact cranes can have on agriculture.

The damage caused to crops by cranes can constitute an actual or perceived economic loss to agriculture.

Birds damage small grain crops, resulting in conflict between farmers and the birds. Cranes have been shot and poisoned in the past when found to be eating crop seedlings. They have often been viewed as a pest, along with crows and other wildlife. As the pressure on farming to be more profitable increases, even minor crop losses caused by birds could become a serious problem.

Finding new crane friendly solutions to prevent crop damage is therefore a priority.

When does crop damage occur?

In general, crop damage by cranes only takes place when:

- A large flock of cranes, not less than 50 cranes, is present as damage by one or two birds is seldomly significant
- A crop is seen as an easy, readily available source of food by the cranes
- The crop is reasonably close to the flocks' roost sites and water
- It is winter and there is very often little other food available. *Cover pic*

What damage is done?

- Cranes often frequent newly planted cereal crops, particularly maize, pulling out the newly sprouting seedlings to forage on the nutritious kernel
- Vegetable crops are often trampled by cranes, e.g. cabbage plants. *Pic 2*



- Cover** Grey Crowned Cranes frequently forage in agricultural lands at certain times of the year, potentially causing damage to crops
- 2 Cranes often forage in cabbage fields, feeding on the nutritious heart of the vegetable

- Cranes forage in large numbers at sheep and ostrich feed troughs, often excluding the livestock from the feed. *Pic 3*
- Large flocks of cranes foraging for insects in lucerne fields may trample the pasture, preventing the landowner from baling it

It is not always cranes

1. Realise that the crop damage does not carry on forever as the cranes are normally only in the area for a few weeks.
2. Make sure you know that it is the cranes that are doing the damage. Cranes seen in lands are not necessarily eating the crop. In many cases the cranes are beneficial to the farmer by eating insects, old seeds and weeds such as nutsedge or eintjies. This is why they are often seen in newly ploughed lands, prior to planting.
3. Other factors that cause crop damage include cutworm, black maize beetle, poor germination, variable soils, Egyptian and Spurwing Geese and Crows.
4. Put the damage in perspective by estimating what percentage the damage makes up of your entire crop, not just that particular land.

- 3 Large flocks of Blue Crane congregate around sheep feed troughs in the Western Cape

Solutions for crop damage

There are various methods employed to control crop damage by focusing either on the crops or on the cranes themselves. Control efforts may be more complicated with more, smaller subsistence farms where damage will have a greater impact on each farmer.

Once you have determined that it is the cranes that are damaging the crop, you need to apply an effective solution before the damage gets too great and before the birds establish a feeding pattern as they will then become more difficult to deter.

The four methods for reducing crop damage are:

1. Chemical methods

Several substances serve as bird repellents when added to the seed. Research has been done around the world on a variety of bird species and the results are that methiocarb and thiram are effective non-lethal repellants that can reduce crop damage. Anthraquinone has also shown promise as a deterrent. Anthraquinone is less toxic than thiram and methiocarb and so should be favoured. The downside of using these substances is that they require an adhesive (which requires some research) and their use would add to the planting costs of the crop.



4 Chevron tape may be placed in small fields to scare cranes

2. Lure crops

This involves planting a suitable crop that will not be used for harvesting, in order to attract the birds away from the commercial crops. In most of the international examples, they are generally paid for by governmental wildlife departments, particularly where protected species are concerned.

3. Compensation

Compensation to landowners for damage is generally very expensive and often leads to fraudulent claims. In addition, it is almost impossible to prove which bird species present (e.g. cranes or Egyptian Geese) caused the damage. It also does not address the root of the problem.

4. Scare techniques

A host of scare techniques have been invented for scaring birds from crop lands. These include gas cannons; scarecrows; revolving scarecrows; inflated scarecrows; mirrors; predator simulating kites; and taped vocal screeches. Most of these are very effective but are not permanent solutions as birds gradually become accustomed to them. Since most of them have been developed in the UK and the US, they are relatively expensive in this country.

4.1. Human scarecrows

Possibly the most effective method of deterring birds from croplands is the use of human scarecrows – people in the fields physically chasing the birds out of the lands. Obviously as the volume of a particular vulnerable crop on a farm increases, this becomes less practical because the individuals have to cover too great an area.

4.2. The chevron tape method

This involves tying two to three metre strips of red and white 'chevron tape' to droppers and pegging these throughout the land. The plastic is light enough to be blown by the slightest breeze and also makes a rustling sound. On average 10 of these streamers are used per hectare of crop, and this takes 15 to 25 minutes per hectare to set up. On smaller lands the streamers are put closer together since the more streamers there are, the more effective they are. The method does become impractical on large lands of 25 ha or more, unless more than one person is available to set it up. Although the birds become accustomed to the streamers, it can take at least two weeks before they venture back into the land. For maize crops this is generally



- 5 Gas cannons have proven to be highly effective in scaring cranes out of agricultural lands, thereby reducing potential crop damage

long enough to cover the vulnerable period. Factors affecting the effectiveness of the method are the concentration of the streamers and the degree of wind. This method has also been used very successfully in the Free State to deter geese in lucerne lands. *Pic 4*

4.3. Gas cannons

The gas cannon is probably the most effective deterrent. The gas cannon consists of two separate cannons that fire independently. The intervals between explosions is determined by the speed of the gas flow into each cannon, so by setting this gas flow the intervals can be set differently, thereby introducing a degree of variability. It is effective over large areas and birds are scared off from lands at far distances from the cannon. It also does not need to be used for long periods as the birds are frightened away immediately and then may return in the late

afternoon again. Switching the cannon on in the early morning and again in the late afternoon is sufficient. Apart from the capital cost it appears to be relatively cheap if used intermittently as it does not use much gas. *Pic 5*

At present there is no quick fix solution to prevent cranes from damaging crops. The most important thing to do is to ascertain whether cranes are in fact causing the damage, and what the extent is. As situations will differ from farm to farm, the solutions will also differ. It is best to experiment with the different suggested methods. Most have proven to be cost effective solutions and will most certainly prove to be cheaper than poisoning or shooting, both of which are illegal.

Contact

Contact the crane field coordinator in your region, or the EWT head office for further assistance should you experience crop damage.

This brochure series has been developed for farmers and the public to use in conserving the three cranes species and their habitats. For more information about EWT and cranes, call (011) 486 1102 or email crane@ewt.org.za

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