Consumer reactions to bird management practices on fruit crops

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Consumer interest in the practices embodied in food production is rising. As a result, there is increasing pressure for producers to provide more information about such practices, particularly those related to ecological impacts and animal welfare. Birds are animals that have greater charismatic appeal than other agricultural pests, such as insects, and may have larger market impacts as a result. Disclosing practices used to prevent bird damage in fruit crops may influence sales (or price premiums) positively or negatively, but the potential impacts are not well understood. To better understand public responses we conducted a series of four focus groups with consumers of fruit in the Lansing, Michigan metropolitan area. We found that they viewed some techniques much more positively than others (see table below), with concern for personal health and interest in protecting the welfare of the birds as frequent underlying concerns. The results may assist fruit growers to select bird management practices that will increase positive perceptions of their produce.

<table>
<thead>
<tr>
<th>Bird Management Practice</th>
<th>Typical Consumer Response</th>
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<tr>
<td>Falconry</td>
<td>+</td>
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<tr>
<td>Nest Boxes</td>
<td></td>
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<tr>
<td>Recorded Bird Calls</td>
<td>neutral</td>
</tr>
<tr>
<td>Netting</td>
<td>neutral</td>
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<tr>
<td>Visual Scare Devices</td>
<td>neutral</td>
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<tr>
<td>Loud Sounds (e.g. cannons, blanks)</td>
<td>neutral</td>
</tr>
<tr>
<td>Live Ammunition</td>
<td>-</td>
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<td>Methyl Anthranilate spray</td>
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Focus group participants showed substantial interest in the use of falconry as a bird management practice. This method involves the hiring of a falconer to fly a trained falcon on the farm in order to frighten birds away from fruit crops.

As a whole, participants reacted to falconry in a positive manner, with males in their twenties and thirties showing the most enthusiasm. A number of participants indicated an interest in visiting a farm utilizing falconry in order to watch the falconer and falcon at work:

"I wouldn’t mind actually going to a farm—a fruit farm on harvest time and watch them work the falcon. It would be another thing to draw people into the farm."

The above comment suggests that the use of falconry on a fruit farm could present an ecotourism opportunity. Promoting falconry as a unique and

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exciting attraction could draw consumers who might otherwise be uninterested in visiting a fruit farm. Utilizing falconry to protect fruit crops was attractive enough for some participants to state that they would seek out fruit grown using this technique for purchase. A number of participants expressed interest in a label informing potential consumers of the use of falconry.

Numerous participants felt that falconry was a sensible option because it is “natural” and minimally invasive. Participants also noted that the farmer would likely hire a falconer from a nearby community, which would support the local economy. A number of participants felt that falconry was inhumane due to 1) the fact that falcons would likely kill a small percentage of the birds attempting to eat the fruit and 2) the utilization of falcons by humans.

Attracting birds of prey through the placement of nest boxes near fruit crops was also well received by focus group participants. Commenters appreciated the fact that nest boxes invite interactions between predator and prey while promoting a “balanced” and “natural” approach to controlling unwanted birds. As with falconry, some consumers were concerned about the welfare of the birds being deterred, though in this case, most of the concern focused on the possibility that endangered species straying into the area could be harmed by the birds of prey.

Focus group participants reacted very negatively to the method of spraying Methyl Anthranilate directly onto fruit crops. Methyl Anthranilate is a common food additive often used as artificial grape flavoring used by some farmers to repel birds. Many participants expressed concerns about personal health, and the possibility of negative environmental effects. A number of participants showed concern that some members of the general population could be allergic to Methyl Anthranilate. Some expressed doubt that Methyl Anthranilate is truly safe for human consumption.

Overall, focus group participants viewed the use of Methyl Anthranilate on fruit crops to be one of most negative of the bird damage control techniques discussed. The majority of participants said that they would not buy fruit treated in this manner. Some exhibited strong negative feelings, using words such as “totally unacceptable”, “wary”, “definitely wouldn’t”, and “seems weird” to describe the use of the additive on fruit.

One participant found the idea of fruit being treated with the additive to be counter-productive:

*I mean, basically we buy fruit because it is supposed to be good for you. And, if we’re adding—we’re already adding artificial stuff in our bodies in every other food we eat, so...that’s defeating the purpose.*

This comment suggests that some consumers purchase fruit because they believe it to be healthy and minimally processed. As highly processed foods become a larger percentage of the average American’s diet, many consumers consider fruit to be one of the
few “natural” items left in the grocery store. The comments and attitudes displayed by focus group participants suggest that fruit farmers to consider bird management practices other than the use of Methyl Anthranilate if there was the possibility of consumers becoming aware of it.

Focus group participants also reacted negatively when asked for their opinions regarding the use of live ammunition as a bird management practice. In this case, farmers fire guns with live ammunition at flocks of birds to kill a few and frighten the rest. A number of participants felt that a farm using firearms in this manner would heighten the risk of the accidental shooting of humans. Some participants stated that due to their negative feelings towards guns in general, they would “definitely not” buy fruit from a farmer who used live ammunition in any way to deter birds.

Numerous people voiced concern that farmers might purposefully aim at birds, again suggesting that some consumers are concerned with the humane treatment of birds. Some participants also expressed concern that certain farmers may be using lead shot, which could end up in the soil near the fruit crops causing environmental and health issues.

Though a majority of commenters exhibited negative reactions towards the use of live ammunition, some expressed ambivalence towards the technique. A number of individuals recognized the issues of safety and animal welfare discussed above, but also spoke of empathy towards the farmer, citing the fact that it could be one of the more inexpensive options discussed. Others said that the use of live ammunition might deter them slightly, however overall quality and price would figure more heavily into their fruit purchasing decisions.

Consumers were asked about their opinions towards two varieties of bird management practices that utilize sound to frighten the birds: propane-fired cannons or firing shotgun blanks, and recorded bird distress calls or predator calls. Overall, consumers did not display strong reactions towards the use of propane-fired cannons or the firing of shotgun blanks in order to frighten birds, though some individuals did voice concerns about noise pollution. These participants felt that the amount of noise produced by cannons and shotguns might be appropriate in rural areas, but would be unacceptable in more highly populated areas where neighbors could be disturbed. Participants exhibited a more favorable reaction towards the use of recorded bird distress calls or predator calls with many feeling that the technique was a humane way to deter birds. As with nest boxes, participants saw the above method as an unobtrusive way in which to mimic the natural environment. Though participants exhibited a somewhat positive reaction to the above method, noise pollution was again mentioned as a possible negative issue.

The use of netting to keep birds away from fruit crops also elicited moderate and mixed reactions from participants. Many participants believed netting to be a minimally invasive and effective method. Another commented that it seemed to be “low-tech [and] sustainable.” A number of participants questioned the feasibility and high cost of covering a large farm or orchard with netting, while others were concerned that birds could become tangled or caught in the nets.

Another technique included in focus group discussions was the use of visual scare devices, such as fake plastic hawks or streamers made from plastic or polyester. Participants had no strong negative or positive comments in this case, however, many
expressed doubts that this technique would be effective.

Overall, focus group data suggests that consumers may view certain bird management practices more positively than others. Participants perceived the use of falconry and nest boxes to be particularly favorable while the use of Methyl Anthranilate and live ammunition were largely viewed negatively. Concern for personal (human) health and interest in protecting the welfare of birds were frequent underlying themes in focus group discussions. In the coming months, we will conduct a nationwide survey in order to better determine if consumers would be willing to pay a price premium for fruit grown using certain bird management practices. The results may be useful for fruit growers interested in adopting practices that will increase positive perceptions of their produce.

This research was conducted as a component of a larger project to study ways to limit bird damage to fruit crops. Funding was provided by the USDA Specialty Crops Research Initiative.

For more information see:
http://birddamagetofruitcrops.info/