Effectively Conducting Field Days While Responding to Unprecedented External Restrictions

Jacqueline Comito  
*Iowa State University*

Elizabeth Ripley  
*Iowa State University*

Mark A. Licht  
*Iowa State University*

Adam K. Janke  
*Iowa State University*

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Abstract
Despite external influences such as societal restrictions imposed during the 2020 COVID-19 pandemic, farmers continue to work, and needs for outreach and education have not waned. Extension professionals must continue to support these needs by using media and channels not typically employed when more traditional vehicles, such as on-site consultations and field days, are not practical or safe. The Iowa Learning Farms team from Iowa State University Outreach and Extension has developed a successful Virtual Field Day program using available online tools that can be easily adopted by other Extension organizations to facilitate outreach.

Keywords: field day, virtual field day, COVID-19 restrictions, interactive online engagement

Introduction
Iowa Learning Farms (ILF), a conservation education and outreach program from Iowa State University Extension and Outreach, regularly hosts field days delivering conservation best practices and research results to farmers and landowners across Iowa. Field days are an indispensable tool for farmer and landowner engagement, allowing for site- and region-specific conversations and demonstration of conservation practices. It is generally accepted that farmers tend to prefer learning through their own and peers' experiences. Many eagerly accept and study research reports but frequently want the additional measure of proof that the published outcomes are relevant to their farms. Field days often serve as the venue for offering such assurances.

Regular and repeated involvement in field days has been shown to have a progressive positive influence on adoption of conservation practices and increased influence on peers. We refer to this as the field day success loop (Comito et al., 2017).

Seeking to maintain the continuity of field day impacts while responding to restrictions related to the 2020 COVID-19 pandemic, we, the ILF team, developed a simple formula for virtualizing field days that has been successful and could be easily adopted by other Extension professionals.
Virtual Field Day Objectives and Challenges

Primary objectives for virtual field days include (a) maintaining in-field content, (b) enabling simple access for every skill level of technology user and via most internet access configurations, and (c) offering interactive programs facilitating conversations and question-and-answer engagement similar to those that occur during traditional field days. Fundamental challenges have included (a) scripting compelling and interesting programs within a reduced program time frame, (b) recording and editing video segments for integration with live elements during each session, (c) selecting an effective delivery platform, and (d) conducting regular evaluation and revisions for ongoing improvement.

Scripting and Planning

To maintain audience interest and facilitate interaction, we interwove short video segments with live commentary and discussion among the virtual meeting host, presenters, and audience. This sequencing (Figure 1) keeps the audience engaged and involved while somewhat emulating the typical back-and-forth nature of in-person field days. This format also helps maintain an adequate pace and offers opportunities for surveys, feedback, and ongoing interaction among participants and between presenters and the audience.

Figure 1.
Sample Virtual Field Day Sequence

We designed the virtual field days to occur in a 1-hr time slot, addressing the anticipated limitations in attention span of an audience watching on a computer screen versus one gathered on a farm. Prerecorded videos enable speakers to demonstrate as they would in person and allow the audience to be transported to multiple locations.

Interviewing and Recording with Social Distance

We used an easily transported iPhone 11 Pro, a mounting tripod, and a wireless microphone system to record the field videos. We used a second smartphone to capture different shots of the speaker, making the videos more engaging and professional. The wireless microphone also minimized handling of microphones and enabled social distancing between the interviewer and subject. We used each camera to shoot extensive b-roll footage to supplement the video.

Video Editing

Just like agenda items for an in-person field day, each video segment should purposefully contribute to the flow of the field day. Cutting together audio of the speaker with close-ups or b-roll showing what they are talking about visually reinforces the messages. We selected Movavi editing suite (https://www.movavi.com/) for its ease of use, affordability, and features.
Delivery Platform

We selected the Zoom (https://zoom.us/) videoconferencing platform. Benefits include (a) simple participant access with links, (b) proven performance across different network connections and equipment, (c) support of interactive audience participation, and (d) integrated registration features providing a ready-made list for follow-up evaluations.

Technical Lessons Learned

For others interested in conducting virtual field days, we offer here some technical guidance and a rundown of the advantages of such programming.

A key to ensuring that a virtual event is as similar as possible to the face-to-face version is smooth delivery of video segments. Steps for avoiding choppy playback of video segments are as follows:

1. Record high-definition video and compress it to 720p during export and upload to YouTube.

2. Embed each YouTube video into a PowerPoint slide.

3. Share the PowerPoint screen via Zoom by using a dual monitor configuration, which allows a presenter to see both audience members and the slides.

We identified the following advantages of the online format:

- capacity to transport the audience to multiple field locations in one event;

- simple and timely distribution of handouts and supplemental materials;

- ability to deliver a richer experience and a guide map to additional learning through articles, websites, upcoming events, or other resources via shared links;

- streamlined question-and-answer process whereby the host can review and organize questions submitted through the chat channel;

- broad opportunity to use transitional and supplemental materials that are not always available during in-field events; and

- reduction of overall paper usage due to the electronic distribution of materials.

Evaluation and Feedback

Evaluation is at the heart of our outreach program (Comito et al. 2017); thus, it was important to compare effectiveness of virtual field days with past in-person field days. Immediately following session completion, an email survey was sent to each virtual field day participant. With traditional field days, participants who completed a comment card were mailed surveys 2 weeks after the event. Survey results are tabulated and reported annually by our team (Comito et al., 2020). Response rates to virtual event surveys have been similar to annualized 2019 results (Table 1).
Table 1.
Survey Response Rates: Comparison of 2020 Virtual Field Day Events to 2019 Field Days/Workshops

<table>
<thead>
<tr>
<th>Event type</th>
<th>Attendees</th>
<th>Sent</th>
<th>Returned</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual field days</td>
<td>777</td>
<td>635</td>
<td>304</td>
<td>48%</td>
</tr>
<tr>
<td>2019 field days and workshops</td>
<td>957</td>
<td>430</td>
<td>190</td>
<td>44%</td>
</tr>
</tbody>
</table>

Note. Number of 2020 virtual field days = 10; number of 2019 field days/workshops = 20.

Participant satisfaction ratings have been similar between virtual and traditional field days (Table 2).

Table 2.
Overall Participant Satisfaction Ratings: Comparison of 2020 Virtual Field Day Events to 2019 Field Days/Workshops

<table>
<thead>
<tr>
<th>Rating</th>
<th>Virtual</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Excellent</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Good</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>Average</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Fair</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Poor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Number of 2020 virtual field days = 10; number of 2019 field days/workshops = 20.

Virtual field days have provided additional value through enabling postevent viewing and participation. Archival views for the events continue to rise (Table 3). Although one can surmise that some views are from original participants looking for reminders or clarification, it is likely that many are from new viewers who were not able to attend the live events.
Table 3.
Virtual Field Day Live Attendance and Archival Views (YouTube)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Live attendees</th>
<th>Archival views</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/16/20</td>
<td>Managing cereal rye ahead of corn</td>
<td>100</td>
<td>162</td>
</tr>
<tr>
<td>4/24/20</td>
<td>Farming for the future</td>
<td>60</td>
<td>161</td>
</tr>
<tr>
<td>5/14/20</td>
<td>Riparian forests and wildlife habitat</td>
<td>94</td>
<td>86</td>
</tr>
<tr>
<td>5/28/20</td>
<td>Celebrating Iowa’s wetlands</td>
<td>55</td>
<td>148</td>
</tr>
<tr>
<td>6/11/20</td>
<td>Exploring Bear Creek saturated buffer</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>6/18/20</td>
<td>Digging into soil health</td>
<td>79</td>
<td>62</td>
</tr>
<tr>
<td>6/25/20</td>
<td>Farmer partners share experiences as part of 10-year cover crop project</td>
<td>66</td>
<td>79</td>
</tr>
<tr>
<td>7/9/20</td>
<td>Prairie strips—small footprint, big impact</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td>7/23/20</td>
<td>Urban stream and riparian conservation management</td>
<td>78</td>
<td>29</td>
</tr>
<tr>
<td>8/6/20</td>
<td>Increasing wetland opportunities with Iowa Department of Agriculture and Land Stewardship</td>
<td>78</td>
<td>42</td>
</tr>
</tbody>
</table>

Conclusion

Delivery of engaging virtual field days by our ILF team has been successful. Live audience feedback and that gathered through follow-up surveys and contacts has been positive. Leveraging the virtual format to engage with more participants live and through archival views, we will continue to produce virtual field days to augment in-person events after restrictions are lifted. Informal networking that occurs at field days is a critical component of their success (Comito et al., 2017), and, unfortunately, virtual field days cannot replicate this experience. However, results of the evaluations suggest that all other aspects of successful field days have been met.

We have honed the virtual process through regular review of the programs and adjustments to the production and delivery techniques. From April 16 through August 8, 2020, we aired 10 virtual field days, and we continue to produce new content at a regular cadence. Archived events can be viewed at https://www.iowalearningfarms.org/page/events.

Author Note

Correspondence concerning this article should be addressed to Jacqueline Comito. Email: jcomito@iastate.edu

References
