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Podcasting

How to Create and Promote a Science-Based Podcast

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Producing a science-based podcast can be a great way to foster relationships and share helpful information related to your research or program. Review the content below to learn about steps and tools required to turn research or field innovations into relevant content for your audience.

Why a Podcast?

Increase reach: Podcasts are easily accessible, and your audience can listen at their convenience. For example, listeners can tune in on their commute to work, walking to class, or while in the field.

Further opportunity for engagement: Podcasts can serve as a resource for your audience to connect with you regularly. Episodes can address frequently asked questions, provide reminders, tell stories related to science, share research findings, or your in-person programming.

Define Your Audience

Who are they? What audience do you aim to reach? From K-12 teachers and community gardeners, to agricultural or natural resource professionals, consider who would benefit from hearing about your research or program.

Audience needs and familiarity with the topic:

Determine if you should use industry jargon or simplified language. The tone you use along with the amount of background context you provide can shape the conversations you have on your podcast.

Craft Your Focus

Choose a theme: Depending on your area of expertise and intended audience you should choose the theme of your podcast and stick to it. Themes can be broad like Tennessee Cow-calf Operations or more specific such as Best Management Practices for Greenhouse Growers.



AI generated image of a podcast microphone with computer showing audio waveforms on screen.

Episode length: This can vary, especially when you are getting started. You do not want to overwhelm your audience. Instead, earn their attention through shorter episodes. Typical science-based podcasts are about 15–30 minutes long.

Frequency: Will you produce an episode weekly, bi-weekly, monthly? This can change over time, but be consistent so your audience can consistently rely on and come back to your content.

Equipment & Software

Minimum required to produce a podcast: Podcasts can be recorded on a phone's voice memo app and uploaded to free software for editing. While this will not give you high sound quality, it will produce a usable podcast. For example, creators can use a cellphone and free audio editing software (Audacity, GarageBand, Riverside) within a limited budget. Creators should consider purchasing a mic to connect to their phone.

Higher level podcasting equipment: Higher-level equipment will produce better sound quality, leading to a better experience for your audience.

Some examples of higher end equipment include: TASCAM Mixcast 4 Podcast Mixer and Recorder (\$399) Polsen DM-USX1 Dynamic Microphone (\$50), TASCAM TH-02 Studio Headphones (\$20), and Adobe Audition for editing (\$99).

Hosting platform: You will need to “host” or stream to a platform so your audience can find your episodes. Spotify for Creators, Buzzsprout, Podbean, and Acast all have free hosting capabilities. If you have room in your budget, some platforms require a subscription fee and offer more features. Select a platform before you start recording, so you are ready to post after editing.

Recording & Editing Workflow

Content outline: Write a script or outline to keep the conversation in line with the focus of the episode. The conversational should be a relaxed interview style, but focused and informative.

Consider audio levels and talking speed: Speak clearly into the phone speaker or microphone at a comfortable and even volume, ensuring you are loud enough to be clearly understood. Avoid being too close to the microphone to prevent crackling or distortion. As a podcast host, it is also helpful to practice recording yourself beforehand to gauge your talking speed.

Record: Monitor for unwanted noise (clacks, hums), keep the conversation flowing and do not be afraid to stop if you mess up and restart your thought. You can edit those mistakes out!

Edit: You can elevate the sound quality of your podcast using editing software. Trim silences and unwanted mistakes, tighten or shorten pauses if necessary, and equalize voices.

Additional audio elements: Intro/outro music (ensure its royalty-free to avoid any licensing issues) are a great way to elevate the brand recognition of your podcast and get your audience ready for another great conversation. Nature sounds can also be added to enhance your audience’s experience.

Export: Prepare to upload your podcast by exporting your audio file as an MP3 with the best possible audio quality from your chosen editing software.

Tip: Always record in a quiet space whenever possible and use editing software to reduce room tone. This helps remove any distracting sounds that could cause you to lose your audience’s attention.

Publishing & Promotion

Upload your MP3 and add your episode title, description, and keywords to your hosting platform.

Share show notes with links to resources. Transcribe episodes using tools like OtterAi. Transcriptions can be helpful for your audience to refer to after listening and helps maintain ADA compliance.

Promote your podcast episodes through communication channels such as relevant social media pages, industry newsletters, and your department’s website to reach your audience.

Evaluation & Sustainability

Assessment metrics: Episode reach can be assessed through analytics from most hosting platforms such as number of downloads, listens, and subscribers, as well as listener demographics.

Listener feedback: It is helpful to ask for listener feedback to shape future conversations for your audience. Invite listeners to participate in a survey, checking social-media comments, and engage with listeners at conferences to gather feedback.

References & Further Reading

Loizzo et al (2023). Streaming Science #4: Using Podcasts for Engagement with Your Target Audience. <https://edis.ifas.ufl.edu/publication/WC432>

Weldon, G. (2021). NPR’s Podcast Start Up Guide: Create, Launch, and Grow a Podcast on Any Budget. Ten Speed Press.

Science-based podcast example- Working in the Weeds: Herbicides 101.

<https://podcasts.apple.com/us/podcast/herbicides-101-2-4-d/id1604459734?i=1000691434482>



AI generated image of female scientist podcasting.